



Site Allocations Plan

Leeds Local Development Framework

Development Plan Document

Submission Draft Infrastructure Background Paper

February 2017

Introduction

- 1.1 The term 'infrastructure' has a very wide meaning and relates to all facilities and services which are necessary for successful communities to function. Infrastructure is essential to support social, economic, and environmental objectives. It includes a very wide range of aspects within transport, such as roads, railways, buses and public transport systems, cycle and pedestrian provision, parking, and less visible measures such as travel cards or real-time information. It also includes education and health facilities, greenspaces, leisure and cultural facilities, and utilities.
- 1.2 The purpose of this paper is to explain the process of identifying the infrastructure requirements arising from the proposed allocations set out in the Site Allocations Plan (SAP) and the Aire Valley Leeds Area Action Plan (AVLAAP) processes. Details are provided of the methodology used, infrastructure organisations and City Council services involved, and how this has informed the process of identifying site requirements for the proposed site allocations.
- 1.3 Appendices to this Infrastructure Background Paper from the:
 - 1) The Leeds Infrastructure Delivery Plan (IDP) .
 - 2) School Provision and the Implications for School Places Background Paper
 - 3) Transport Background Paper
- 1.4 The IDP forms an update of the previous April 2013 IDP which supported the Core Strategy Submission Draft. The IDP is inherently a 'living' document which means it is necessary to review it over time. It identifies as far as possible the currently planned infrastructure provision in the Leeds District, including the critical infrastructure necessary for the delivery of the SAP and Aire Valley Leeds Area Action Plan (AVLAAP) processes based on the Core Strategy up until 2028. It provides an overarching framework for other service providers' plans and programmes, to bring them into one place and to ensure that all providers are planning for the predicted locations of future growth as set out in the SAP and AVLAAP. For the AVLAAP a separate schedule has been prepared as the Aire Valley development plan is at a more advanced stage, the schedule update provides the latest position on Infrastructure projects in the Aire Valley, (Aire Valley Leeds Area Action Plan-Infrastructure Delivery Plan Background Paper Update – Dec 2106)
- 1.5 The schools provision background paper provides an outline of the implications of the proposed site allocations for school places in Leeds, including reference to sites identified for new schools, in order to inform the final decision on site allocations.
 - 1.1 The transport background paper sets out the work undertaken to understand the impacts of the proposed development sites contained within the Site Allocations Plan and Aire Valley Leeds Area Action Plan 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.

Legal Requirement

- 1.7 The requirement to reflect infrastructure requirements arising from future growth is recognised in the National Planning Policy Framework (NPPF):
- “Local planning authorities should set the strategic priorities for the area of a Local Plan, including the provision of infrastructure” (Para 156).
 - “Local Plans should plan positively for the development and infrastructure required in the area to meet objectives, principles and policies” (Para 157).
 - “Local planning authorities should work with other authorities and providers, to;
 - assess the quality and capacity of infrastructure for transport, water supply, wastewater and its treatment, energy (including heat), telecommunications, utilities, waste, health, social care, education, flood risk and coastal change management, and its ability to meet forecast demands; and,
 - take account of the need for strategic infrastructure including nationally significant infrastructure within their areas” (Para 162).
- 1.6 The NPPF also states that for good infrastructure planning the local planning authority should work collaboratively with private sector bodies, and utility and infrastructure providers.
- 1.7 The Core Strategy embeds the requirement to plan for infrastructure needs arising from the planned growth within the Spatial Vision and Objectives, and Spatial Policies 1, 6, 8, and 11. The Key Diagram identifies the key elements of the Leeds Transport Strategy, which is also shown in Map 9 of the Core Strategy. Policy ID1 summarises the methods for delivery and implementation of the Core Strategy.

Process of Involving Infrastructure Consultees

- 1.8 From the early stages of the SAP and AVLAAP preparation, infrastructure consultees have been involved in the process of assessing infrastructure issues and requirements arising from the sites which were considered for their suitability for development. Section 1 of the IDP explains this process in detail.
- 1.9 This includes a summary of the process involved in working alongside colleagues from the Council’s Children’s Services department, and the outcomes in identifying sites for school provision. Appendix 2 of this Background Paper is a separate paper setting out more detail on school provision and the implications for school places planning, including a detailed schedule of each school planning area.
- 1.10 Appendix 3 forms a Transport Background Paper which summarises the forecast impacts of the proposed developments in the SAP and AVLAAP on the transport network in Leeds. A number of 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 West Yorkshire Plus Transport Fund.

Site Specific Requirements

1.12 The most appropriate sites for SAP and AVLAAP allocations have been proposed having regard to planning, highways, environmental and other considerations. This site selection process has been informed by the consultee comments of infrastructure providers or technical planning consultees. A key way in which the Plans aim to ensure or promote infrastructure delivery is that some site allocations contain site specific requirements relating to infrastructure. These set out where sites cannot come forward without delivering infrastructure improvements or contributing land or payments towards locally identified priorities. These sites have been identified as set out above and in the appendices.

Mechanisms for Delivery

1.13 The IDP sets out a range of mechanisms for delivery of the SAP and AVLAAP, including developer contributions through the Community Infrastructure Levy and Section 106 or 278 Agreements, the Leeds City Region Deal and the West Yorkshire Plus Transport Fund. This includes bidding to a range of national and European sources or Government supported borrowing and grants, grants from other external bodies, Council tax, generation of capital receipts, the New Homes Bonus, and other innovative sources of funding and borrowing such as TIF and the Leeds City Region Enterprise Zone. The Councils Capital Programme also seeks to invest in major infrastructure recognising the needs of Leeds as a growing city.

APPENDICES

- 1) Leeds Infrastructure Delivery Plan (IDP)**
- 2) Schools Background Paper**
- 3) Transport Background Paper**

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1. **INTRODUCTION**

i) **Purpose of the Infrastructure Delivery Plan**

- 1.1 The previous version of this Infrastructure Delivery Plan (IDP) dated April 2013 supported the Core Strategy through Examination. This current version is targeted to support the next stages of the Site Allocations Plan (SAP) and the Aire Valley Area Action Plan (AVLAAP). The IDP is inherently a 'living' document which means it is necessary to review it over time. All future references to the SAP in this IDP also refer to the AVLAAP unless specifically drawn out separately.
- 1.2 This IDP identifies as far as possible the currently planned infrastructure provision in the Leeds District, including the critical infrastructure necessary for the delivery of the SAP as based on the Core Strategy up until 2028. It provides an overarching framework for other service providers' plans and programmes, to bring them into one place and to ensure that all providers are planning for the predicted level and locations of future growth as set out in the Core Strategy. The schedule within the IDP sets out strategic infrastructure which is needed to make sure that changing circumstances, timetables and funding sources are accounted for.
- 1.3 The Core Strategy embeds the requirement to plan for infrastructure needs arising from the planned growth within the Spatial Vision and Objectives, and Spatial Policies 1, 6, 8, and 11. The Key Diagram identifies the key elements of the Leeds Transport Strategy, which is also shown in Map 9 of the Core Strategy. Policy ID1 summarises the methods for delivery and implementation of the Core Strategy:

POLICY ID1: Implementation and Delivery Mechanisms

The Council will undertake to ensure the delivery and implementation of the Core Strategy through a variety of mechanisms, initiatives, and investment decisions, including:

- Partnership working,
- Working with communities, including through neighbourhood planning,
- Use of Council assets,
- Supporting evidence,
- Further guidance and development management,
- Bidding for funding sources and promoting the City for this purpose,
- The use of innovative funding opportunities (such as Tax Incremental Financing to help stimulate local investment, Business Improvement Districts (BIDS), European Development Fund, New Homes Bonus, Community Infrastructure Levy, Asset Leverage - either directly using City Council assets or through an Asset Liquidity Vehicle / Joint Venture),
- Linking greenfield and brownfield development,
- Recognising the need for contingency planning,
- Allowable Solutions.

- 1.4 The IDP also helps to further embed the relationship between the Vision for Leeds and the Leeds Local Development Framework (LDF). Although the IDP seeks to identify the key infrastructure items which are required to meet the growth objectives set out in the Core Strategy and the SAP, it does not capture every project being planned by each Council service or external provider. The IDP recognises there are

numerous other plans and strategies which provide more detail on what, how and when those services are to be delivered.

ii) Developing the SAP Infrastructure Requirements

- 1.5 From the early stages of the SAP preparation, infrastructure consultees have been involved in the process of assessing infrastructure issues and requirements arising from the sites which were considered for their suitability for development. This has included external organisations and relevant departments within Leeds City Council. This approach included a focus on the duty to co-operate, as evidenced throughout this IDP in the range of schemes and interventions that are cross-boundary, and for instance in the development of the West Yorkshire Plus Transport Fund. Such a duty is integral within the consultation processes already undertaken, for instance Highways England and Network Rail are just two examples of providers which have a strategic view and are inherently 'cross boundary' in their input. Please see the 'Duty to Co-operate Background Paper' for more information.
- 1.6 The process agreed for both topic areas was to send a list of the sites being assessed to the infrastructure contacts, for their individual site comments (and proposed mitigation measures where necessary) to then be provided to the officers involved in the SAP process. These infrastructure comments and responses were incorporated into the SAP database which logs all information relevant to every site. The information was then used to inform the site selection process and Sustainability Appraisal of sites. The sites were assessed for housing, employment and mixed use (housing, and employment). This has been an iterative process throughout the preparation of the SAP. In addition to the separate contact made with infrastructure consultees, all statutory consultees were consulted as part of the formal consultation stages of the SAP and representations received have been considered, which has informed the process of site selection. Where the representations resulted in changes to the documents, revisions or new site requirements have been provided.

iii) Developing the Aire Valley Leeds AAP Infrastructure Requirements

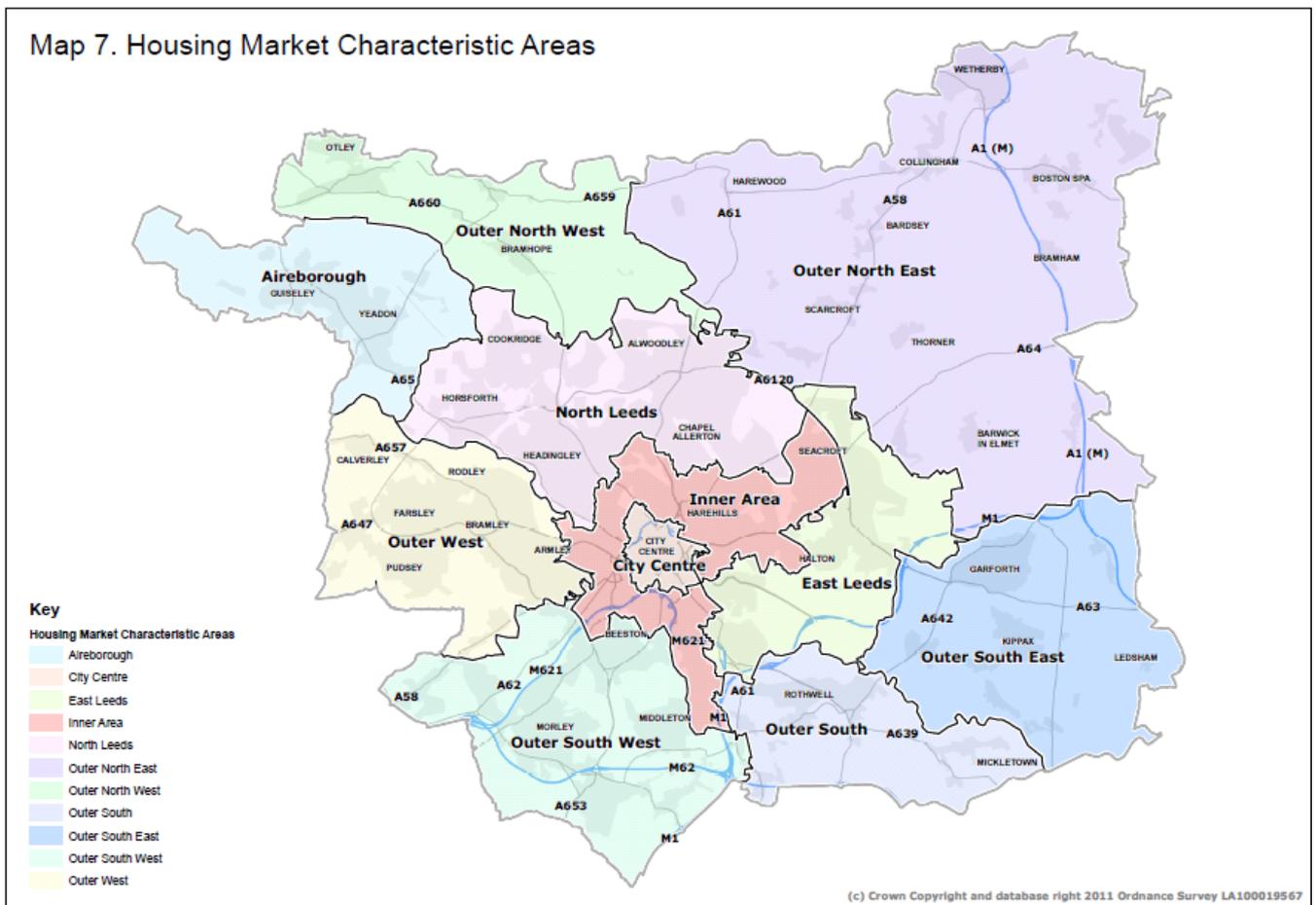
- 1.8 The update of the IDP as set out below was an iterative process that included the emerging Aire Valley Leeds AAP proposals. This is also discussed further in the AVL Infrastructure Background Paper. The IDP schedule update for AVLAPP includes the position, timescales and phasing of the key infrastructure projects in relation to Aire Valley Leeds.

iv) Developing the IDP

- 1.9 The initial IDP (April 2013) followed the following methodology in its development:
- a) Identification of partner service providers and setting up of an infrastructure group.
 - b) Review of providers' published plans, asset management strategies, and projects.
 - c) Information gathering through targeted questionnaire, group meetings, and information review in order to share emerging plans and priorities.
 - d) Assess infrastructure proposals and capacity, standards and deficits, against the emerging Core Strategy policies and growth targets.
 - e) The above steps enabled the preparation of the schedule and the Draft IDP,

although due to the long timescales involved in the Core Strategy preparation dating from 2006, it was an iterative process which required regular updating and review.

- f) The infrastructure planning outlined above also helped to refine the Core Strategy, identify requirements, and shape its policies.
- g) Wider public and partner consultation on the draft IDP, alongside the Publication draft of the Core Strategy in March 2012.
- h) Further informal consultation throughout 2012 with infrastructure providers and LCC departments to support the evidence base for the CIL Preliminary Draft Charging Schedule.
- i) Final refinement and preparation in early 2013.
- j) The IDP was then subject to public Examination in October 2013 as part of the evidence to support the Core Strategy, including a specific examination session on infrastructure and monitoring (plus another session on infrastructure issues relating to certain community areas).
- k) The IDP is a 'live document, and since the adoption of the Core Strategy has been periodically updated to reflect changing circumstances in relation to infrastructure. As the SAP and AVLAA site identification process and consultations have progressed, an iterative update of the IDP has been carried out.



1.10 The IDP also informed the emerging Community Infrastructure Levy infrastructure evidence as tested at the CIL Examination in June 2014, and development of the Regulation 123 List. The IDP was then iteratively reviewed and updated in order to prepare this update, to take into account the processes and comments made for the SAP and AVLAA as outlined above.

v) **Infrastructure Delivery**

a) **Site specific requirements**

1.11 As described above, the most appropriate sites for SAP and AVLAAP allocations have been proposed having regard to planning, highways, environmental and other considerations. This site selection process has been informed by the consultee comments of infrastructure providers or technical planning consultees. Some allocations contain site specific requirements relating to infrastructure. These set out where sites cannot come forward without delivering infrastructure improvements or contributing land or payments towards locally identified priorities.

b) **Neighbourhood Plans**

1.12 Neighbourhood Plans prepared by community groups also elaborate on the infrastructure requirements and priorities from their own viewpoint, and will/do work in tandem with the Site Allocations Plan and other Council support to help deliver the necessary infrastructure at the right time. The Council has designated 35 neighbourhood areas, and 13 Neighbourhood Forums. Many areas are progressing, one draft plan has been supported at referendum, two have successfully passed examination, two others have been submitted for examination and two are expected shortly. A number of groups have undertaken pre-submission consultation on their draft plans or have well defined policy intentions. A few areas are at earlier stages or are re-focusing their activities.

1.13 The Council is working closely with many of these communities to support and guide them in the neighbourhood plan process. It has established an overarching Neighbourhood Planning Steering Group to coordinate and guide neighbourhood planning at a strategic level across the City as well as individual officers assisting specific communities at a local level. The Council secured funding for four Frontrunner Pilot areas. These areas have been making good progress with the benefit of the money available and support.

1.14 Further work is underway in order to assist communities (both within and outside of neighbourhood planning areas) to identify their local infrastructure needs and priorities. This is to help inform future infrastructure spending decisions, and particularly for those pots of money which are locally managed or for local funding bid processes.

c) **The Community Infrastructure Levy and S106 Agreements**

1.15 Local authorities can charge a Community Infrastructure Levy (CIL), a tariff system on new development to help contribute to new infrastructure. It is a non-negotiable charge on new buildings in £s per square metre on gross internal floor area. A development generally becomes liable on the grant of planning permission, and the CIL is paid in instalments from when the scheme commences on site. The Leeds CIL Charging Schedule was adopted in November 2014 and charges were implemented from April 2015. The rates underwent various stages of public consultation and a public examination, and the Examiner considered that the CIL charges are a cautious but realistic approach, at levels that will not put the overall development of Leeds at risk. The Council “ must not apply CIL to funding the provision.

replacement, operation or maintenance of infrastructure to support the development of its area.”

- 1.16 The CIL aims to support and incentivise sustainable growth, because it will directly meet some of the infrastructure needs created by new growth, although it is important to note that the Government’s intention has never been for the CIL to pay for all necessary local infrastructure. Planning Policy Guidance explicitly states that “the Government recognises that there will be uncertainty in pinpointing other infrastructure funding sources, particularly beyond the short-term.” A wide range of other funding sources will continue to be necessary and will be fully investigated by the Council.

CIL and Section 106 Agreements

- 1.17 From April 2015 the previous method of gaining pooled developer contributions through ‘Section 106 Agreements’ has been greatly limited due to national CIL Regulations. This was the key reason for introducing the CIL in Leeds. The CIL replaces the previous method of S106 pooled contributions (via Supplementary Planning Documents) for:
- Off-site greenspace
 - Public transport improvements
 - Education
 - Public realm in the Holbeck Urban Village
- 1.18 However, the CIL is intended to provide infrastructure to support the development of an area rather than to make individual planning applications acceptable in planning terms. As a result, S106s still have an important role in mitigating on-site or very local impacts in order to make an individual development acceptable. To ensure that individual developments are not charged for the same infrastructure items through both S106s and the CIL, the Regulations require the Council to publish a list of those projects or types of infrastructure which may be funded by the Council’s strategic proportion of the CIL, called the Regulation 123 List. A S106 contribution (or a S278 Highways contribution) cannot then be required towards the same item on the List.
- 1.19 A further restriction on the use of S106s is that there is now a limit of five separate obligations which can be pooled towards an individual infrastructure project or type of infrastructure, as it is intended that the CIL becomes the main mechanism for pooled contributions. This is discussed further below in relation to the implications for infrastructure planning in the SAP. The Reg 123 List does not signify a commitment to fund the projects listed or identify spending priorities.
- 1.20 The List will be reviewed as necessary, subject to appropriate local consultation and justification. For clarity therefore, there are a number of matters which will continue to be addressed through S106 or S278 Agreements:
- Affordable housing
 - Employment and skills agreements e.g. local employment or apprentice contracts
 - Site specific matters needed to make the development acceptable in planning terms, including:
 - New bus connections or services and cycle / pedestrian routes and connections if directly required by the development
 - Local junction / highways improvements and access into the site
 - Primary and secondary schools as a direct result of large sites

- On-site greenspace as required by Core Strategy Policies G4 and G5 (which include requirements for a financial contribution in lieu of on-site provision in certain circumstances).
- Public realm improvements on-site, and off-site where this is required as a direct result of an adjacent development.
- On-site drainage and flooding solutions
- On site sustainable energy requirements
- Metrocards, travel plans and monitoring fee / co-ordinator posts

CIL Spending

- 1.21 In terms of spend of CIL 70% to 80% of receipts are directed towards the strategic fund whereby priorities for strategic CIL spending will be decided annually as part of the budget setting process. This will be in line with the Reg123 List, and taking into account the impact of specific and cumulative infrastructure needs arising from new development. Up to 5% CIL receipts are to be retained for administrative costs.
- 1.22 The Council is also required to pass over a % of the CIL as a 'meaningful proportion', known in Leeds as the 'neighbourhood fund':
- Town or Parish Council area: 15% if no neighbourhood plan or 25% with neighbourhood plan, given to that Council.
 - Non-parished area: 15% of the CIL generated in that area if no neighbourhood plan or 25% with neighbourhood plan. The Council has determined that spending decisions will be made by LCC Community Committees in consultation with the relevant community.
- 1.23 There is more discretion over spending of the neighbourhood fund than the City Council's strategic fund, as not only can it be on "the provision, improvement, replacement, operation or maintenance of infrastructure", it can also be on "anything else that is concerned with addressing the demands that development places on an area." Spending does not have to be towards projects on the Reg123 List. For instance, the neighbourhood fund could be used towards additional school capacity if this is identified as a local issue. Community Committees will direct local spending decisions, with overall guidance/protocols. In order to align infrastructure planning, communities need to consider the relationship between potential sites, phasing, infrastructure needs and mitigation, and CIL income.

Viability

- 1.24 The CIL was tested against the cumulative impact of all the Core Strategy policies on the development viability of a range of hypothetical sites, as specific sites were not known at the point the CIL evidence was generated. The Economic Viability Study (GVA, Jan 2013 and update May 2014) was the key piece of evidence. It undertook an iterative process in balancing for instance how much the authority wants to collect under the CIL, against the amount of affordable housing. Ultimately, the CIL rates were set after all the other policy considerations had been taken into account.
- 1.25 The Government is clear that the CIL must strike a balance between providing sufficient infrastructure funding, whilst not having a detrimental impact on the economic viability of development as a whole across the area. The NPPF also states in paragraph 173 that "pursuing sustainable development requires careful attention to

viability and costs in plan-making and decision-taking. Plans should be deliverable. Therefore, the sites and the scale of development identified in the plan should not be subject to such a scale of obligations and policy burdens that their ability to be developed viably is threatened. To ensure viability, the costs of any requirements likely to be applied to development, such as requirements for affordable housing, standards, infrastructure contributions or other requirements should, when taking account of the normal cost of development and mitigation, provide competitive returns to a willing land owner and willing developer to enable the development to be deliverable.”It is not the intention to stop development coming forward by requiring sites to provide unreasonable levels of on-site infrastructure or other contributions.

d) Leeds City Region Deal and the West Yorkshire Plus Transport Fund

1.26 The City Deal for the Leeds City Region was agreed by the Government and the Local Enterprise Partnership in September 2012. It brought together a range of funding sources to create an investment framework that has a number of components including a commercial revolving fund that will lend on projects that the banks are unwilling to lend on, along with EU Funds, a potential single capital pot, and Enterprise Zone income. The investment framework began funding projects in 2013. Working as a City Region allows greater potential in bidding for infrastructure funding.

1.27 The Leeds City Region achieved a very positive outcome from the Local Growth Fund settlement. Over the 6 year period (2015/16 – 2020/21) of the Deal, the Leeds City Region secured £572.9 million, which is the largest settlement in the Country. The settlement also included the previously accepted Department for Transport ‘legacy’ schemes, such as Leeds Station Southern Entrance and NGT.

1.28 In July 2014, the Government announced that the WYCA had, uniquely, secured funding to establish a £1bn West Yorkshire Plus Transport Fund. The Fund will comprise £600m of Government funding government over 20 years, £183m of other devolved transport funding previously secured through the City Deal, and local contributions.

Period	Funding Available	£m
2015/16 – 2020/21	LGF - 6 years @ £30m per year	180
2015/16 - 2024/25	Devolved DfT Major Scheme Funding	183
2021/22 – 2034/35	LGF - 14 years @ £30m per year (subject to independent assessment of satisfactory delivery and economic impact)	420
2015/16 – 2034/35	Public Sector match funding including committed levy	217
Total		1,000

1.29 The Fund has the potential to generate significant additional economic investment that would deliver jobs in the short and longer term, enhance connectivity to, from and within West Yorkshire, and establish a fully integrated transport system for the region. In addition, it would substantially reduce dependence on central funding to include significant devolution of spending decisions and give local communities and businesses surety over a 10 year programme of Major Transport Schemes. All projects will be tested through a single appraisal framework. A fund of this scale will support a transformation of the transport network, develop it in a way that is not

constrained by District boundaries and support future economic growth. By committing to and publishing a plan and a Fund to deliver it, West Yorkshire will be in good position to attract investment and economic growth as the UK moves out of recession. The WYCA will use the £1bn West Yorkshire Plus Transport Fund targeted at reducing congestion, improving the flow of freight and making it easier for people to commute to and from expected major growth areas.

- 1.30 A £1.4bn programme and funding strategy for the West Yorkshire Plus Transport Fund was approved. The agreed programme contains 21 schemes to be delivered in full by 2021. In addition, there are another 12 schemes (or phases of schemes) to be on site by 2021 and a further 6 schemes to be delivered by 2025. This programme is periodically reviewed as development proceeds. Sitting alongside this Leeds City Council has prepared a Transport Investment Programme of bus and rail investment for the £173.5 million earmarked by the Government in May 2016 in recognition of the need for a public transport scheme in the city.
- 1.31 All of the schemes in the programme have been devised and assessed for impact on unlocking economic benefits in terms of, employment and housing growth across West Yorkshire and York. These objectives are in line with the Strategic Economic Plan drawn up by the Leeds City Region Enterprise Partnership (LEP) and adopted by the Combined Authority. As part of the Growth Deal settlement announced in July 2014, West Yorkshire and York secured a 20-year settlement of £30m per year to support the West Yorkshire plus Transport Fund. This will deliver a further £420m in government funding from 2021-22 to 2034-35. The full list of the schemes to be delivered is included in the Transport Section below.
- 1.32 Along with the Leeds City Region Enterprise Partnership (LEP) the West Yorkshire Combined Authority is also committed to seizing the economic benefits of high-speed rail and the pan-regional Northern Powerhouse Rail for the region. HS2 is expected to directly benefit Leeds City Region to the tune of £1bn a year in extra economic growth, and Transport Fund investment will ensure the key towns and cities in this large and diverse City Region have fast, efficient access to the high-speed network.

e) Other Funding Sources

- 1.33 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. As a consequence of this, the Department for Transport (DfT) have earmarked £173.5M in recognition of the need to for public transport investment in the city and the Council submitted a strategic case for the 'Leeds Public Transport Investment Programme' to DfT in December 2016. This package also includes an additional private sector investment of up to £100M.

The Council makes all attempts to gain a range of funding, including through bidding to the Local Enterprise Partnership, national and European sources and programmes. The Council also progresses programmes and development incentives in order to advance and prioritise aspects including infrastructure, improvements to the environment, and business promotion. This includes promoting Leeds as a City at a wider level within the national and international arena in order to attract investment and fulfil the Vision for Leeds and Core Strategy, SAP, and AVLAAP ambitions.

- 1.34 Some of the infrastructure planned for Leeds is essential for the proper delivery of the SAP and AVLAAP whereas other infrastructure is less critical. These delivery strands

have been identified in the IDP Schedule, to enable funding streams to be prioritised. As much certainty as possible at the present time regarding funding has also been indicated. Should key projects not receive funding, then the Council can respond at that time as necessary through other mechanisms, such as changing the type of infrastructure proposed, safeguarding land for the future for when funding does become available, or looking for funding from a different source such as developer contributions or a partnership with, the private sector. Monitoring is an important aspect of contingency as it provides up to date evidence and feedback to enable review of policies and progress.

- 1.35 The use and development of Council owned land, or the sale of that land, will be essential in some areas in order to promote growth, and to achieve the most sustainable forms of development. The Council undertakes to use its assets wisely and at the appropriate times in order for this to occur. Protection and improvement of environmental assets on Council owned land is a similarly important aspect of the delivery of the SAP.
- 1.36 As outlined in the IDP Schedule, the Council will continue to seek funding through a wide range of sources to provide the necessary infrastructure to support the District. For instance, this may be provided by central Government in the form of supported borrowing and grants (normally for specific purposes, and particularly from the Department for Transport and the Department for Education), in the form of grants from other external bodies, or from developer contributions. Funding sources investigated for LCC services also include the capital programme including council tax, generation of capital receipts, the New Homes Bonus, the City Centre Business Improvement District and other sources of funding and borrowing associated with the Leeds City Region Enterprise Zone, such as £8.57m Building Foundations for Growth Fund from central governments and potential to reinvest business rates retained by the City Region to further facilitate delivery of the Enterprise Zone.
- 1.37 The New Homes Bonus (NHB) was introduced in 2010 as a grant paid by central government to local councils for increasing the number of houses built in their area. It is paid as a match of the council tax raised on each new home (new-build homes, conversions and long-term empty homes brought back into use) currently for the following 6 years. There is also an extra payment for providing affordable homes. It aims to offer a clear incentive and reward for councils and communities to agree to new housing. The Leeds allocation for 2016/2017 was £3,487,578. Central government are introducing two key reforms in 2017/18. The number of years funded will reduce from 6 years to 5 in 2017/18 and to 4 from 2018/19. A new national baseline is also being introduced, so that authorities will only be rewarded for homes built exceeding 0.4% of existing stock. Due to these reforms, the provisional Leeds NHB allocation for 2017/18 is £2,503,347.

2. PHYSICAL INFRASTRUCTURE

i) Transport

- 2.1 The West Yorkshire Integrated Transport Authority (WYITA) was the Local Transport Authority for the West Yorkshire area from 2009-2014, comprising the five district local highway and traffic authority areas of Bradford, Calderdale, Kirklees, Leeds and Wakefield. It had the sole statutory responsibility for the development and oversight of the West Yorkshire Local Transport Plan; 'My Journey West Yorkshire – Local Transport Plan 2011-2026', which was prepared for the WYITA by the former Metro (the West Yorkshire Passenger Transport Executive) working in partnership with Leeds City Council and the other West Yorkshire District Councils. The Authority funded the implementation of its policies and raised its money through a levy on the relevant councils. The councils received part of that cost from Government grants and raised the remainder from their council tax and other sources.
- 2.2 On 1 April 2014, the WYITA and the West Yorkshire Passenger Transport Executive were dissolved and the West Yorkshire Combined Authority (WYCA) was created (N.B. the 'Metro' brand name still exists for its public transport function). It has wider transport and economic regeneration functions, while still working alongside the five District Councils. It sets policies, and maintains the public transport network through promotion (e.g. providing information or pre-paid tickets), and through subsidy (e.g. through subsidising non-profitable but socially necessary routes). It also manages and maintains the majority of bus stations and stops. This has been a step change in devolved decision making affecting the delivery of transport investment across the Leeds City Region. The WYCA was set up 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.
- 2.3 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.
- 2.4 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.
- 2.5 Local Authorities in England produce and regularly update Local Transport Plans (LTPs). LTPs identify priorities for maintaining and improving local transport systems, based on the needs and wants of residents and organisations in the region, and put forward plans for how they will be achieved. These improvements are then given funding to be put into action. The WYCA has published and consulted on a draft West Yorkshire Transport Strategy 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 (SEP) for sustained and healthy economic growth, especially for jobs and housing. The Transport Strategy¹ updates the current West Yorkshire

¹ Formerly known as the Single Transport Plan

Transport Plan (LTP3) and sets out a step change in the quality and performance of the transport system within West Yorkshire, and its connections with the rest of the UK.

The Bus Strategy sets out the how local bus services should contribute to the achievement of the growth ambitions set out in the SEP. It includes 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.

- 2.6 The draft West Yorkshire Transport Strategy has three objectives:
- Improve connectivity and reduce congestion- thereby increasing business productivity and providing access to wider labour markets
 - Have a positive impact on our built and natural environment -increasing longer term resilience against climate change
 - Create a 'sense of place' – encouraging walking and cycling for health and other benefits and increasing access in a safe way

In addition, it identifies a range of policy proposals, collected across five cores themes and a cross-cutting theme. They address the challenges and opportunities facing West Yorkshire and those issues identified as being most important in consultation with stakeholders and the public.

- Road Network - A road network that enables users to move around more efficiently, and that balances the competing demands for road space
- Places to Live and Work - To make our cities, towns and neighbourhoods more attractive places to live, work and visit
- One System Public Transport - A transformational public transport system that connects different modes of transport into one network
- Smart Futures - To use technology to better plan and manage the transport system and improve the experience of the people using it
- Asset Management and Resilience - To ensure that we make the best use of our existing and future transport assets and that they are fit for the future and properly managed in a sustainable, environmentally friendly and cost effective way
- Environmental Health, Wellbeing and Inclusion - To improve the transport system of West Yorkshire in a way that it makes a significant contribution to improving the health and overall wellbeing of people living and working here

- 2.7 As outlined in the funding section, the following projects comprise the agreed programme for the West Yorkshire Plus Transport Fund in Leeds (September 2016):

Projects directly affecting Leeds to be delivered in full by 2021

- Rail Station parking expansion programme across West Yorkshire
- Aire Valley - Leeds Integrated Transport Package (phase 1 park and ride only)
- Leeds Station Gateway – New Station Street
- Highways network efficiency (UTMC) across West Yorkshire strategic highway network

Other projects directly affecting Leeds to be on site by 2021

- East Leeds Orbital Road (ELOR) and northern outer ring road junctions
- Aire Valley - Leeds Integrated Transport Package (Phase 2 north-south link road)
- West Yorkshire Corridor Improvement Programme - package of highways efficiency (all vehicles) and bus improvements (Phase 1)
- A653 Mirfield to Dewsbury to Leeds corridor
- Leeds City Centre Package
- East Leeds Parkway (Thorpe Park)
- A65 Leeds Bradford Airport Link Road

Further projects directly affecting Leeds to be delivered by 2025

- Leeds Station Street – Yorkshire Hub
- West Yorkshire Corridor Improvement Programme - package of highways efficiency (all vehicles) and bus improvements (Phases 2 & 3)
- A6110 Leeds Outer Ring Road Route Improvement (Stanningley Bypass to M621), Leeds

Transport Background Paper

- 2.8 The IDP is supported by a separate Transport Background Paper (Appendix 2). This includes an overview of the current key transport projects and funding sources, and summarises the forecast impacts of the proposed allocations in the Site Allocations Plan (SAP) on the transport network in Leeds. Therefore only the key headlines will be included in this chapter, in order to avoid duplication.
- 2.9 The population increase and increased car ownership is considered to result in an increase in traffic of between 14-24% across the District by 2028. 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.
- 2.10 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 earmarked £173.5M in recognition of the need to for public transport investment in the city, First Group are to invest in a new fleet of buses, while Highways England and the rail industry are also investing in additional capacity on the strategic road and rail networks.
- 2.11 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 the draft West Yorkshire Transport Strategy and the Leeds Core Strategy.

- 2.12 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. As well as sites that have a direct impact upon specific junctions, sites have also been identified where the additional traffic generations are lower, but in combination with other sites have a cumulative impact at these junctions and along corridors. It is expected that contributions will also be obtained from these sites to support appropriate improvements.
- 2.13 It is proposed that support for public transport, walking and cycling schemes will be sought through the Community Infrastructure Levy and the Leeds Public Transport Investment Programme.

a) **Public Transport Major Schemes**

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. The system was planned as a two line trolleybus network with associated park and ride sites that would link Stourton (M1 Jn 7) and Holt Park/Bodington with Leeds city centre. 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.

Nevertheless, the DfT have allocated their planned £173.5M contribution to NGT towards public transport schemes in Leeds and the Council submitted a strategic case for the Leeds Public Transport Investment Programme to DfT in December 2016. This package includes an additional private sector investment of up to £100M and comprises proposals for:

- A new high frequency bus network
- A comprehensive package of bus priority measures across the city to improve journey times on some of the most congested corridors
- Investment by First Group in 284 environmentally clean buses
- Provision of real time information at 1000 more bus stops
- Three new rail stations serving Leeds Bradford airport, Thorpe Park² and White Rose and the provision of additional parking at New Pudsey station
- Two additional park and ride sites at Stourton and the north of the city together with further expansion of the existing Elland Rd site
- Accessibility improvements at Cross Gates, Morley and Horsforth stations
- New improved bus hub interchange facilities in the city centre and district centres

² Previously referred to as East Leeds Parkway

In addition the WYCA are rolling out the provision of a Leeds City Region smartcard (Mcard) which would be similar to the Oyster Card in London, and allow use across all modes of transport, and electronic top up and payment.

b) Buses

- 2.14 The majority of public transport journeys in Leeds District are made by bus, and this mode will continue to perform a significant role during the plan period. There are a number of bus companies operating within the Leeds district, now coordinated and monitored by the WYCA. The majority of bus services are run on a commercial basis, however, the WYCA does provide financial support for some evening and weekend services.
- 2.15 A number of improvements to the bus network have been made in recent years, and these are detailed further in the separate Transport Background Paper. Key priorities have been to reduce journey times by creating more dedicated bus lanes and bus priority junctions, and improved enforcement of these lanes to ensure that they are not used by other vehicles. Enforcement of bus priority measures is important to ensure that they deliver the desired outcomes. In the next few years all bus lanes/gates in Leeds will be enforced by the use of camera technology. In addition, a programme of traffic light priority measures has been implemented in Leeds to reduce delays for buses at some of the busiest junctions. The Leeds Public Transport Investment Programme includes proposals for a new Leeds High Frequency Bus Network with over 90% of core bus services running every 10 minutes between 7am and 8pm; the provision of real time information at a further 1000 bus stops; and a commitment by First Group to introduce 284 brand new, comfortable, and environmentally clean buses with free Wi-Fi and contact-less payments by 2020. This will mean the entire Leeds High Frequency Bus Network will be operated using Euro VI or Zero Emissions buses by 2020.
- 2.16 The Transport Background paper (Appendix 2) lists a variety of schemes, including park and ride proposals across the City. Some of these fall under the umbrella of the WYPTF Corridor Improvement Programme (CIP) or may be funded from the Leeds Public Transport Investment Programme. The CIP interventions are in the very early stages of development and may be subject to change, however, the corridors include a dozen or more junctions that have been identified in the site requirements and therefore the Council will be seeking S106/278 money for these. To avoid double counting the CIP schemes will therefore only be added to the CIL Regulation 123 list as more detail becomes available and they can be broken down into individual elements.

Bus schemes:

- Elland Rd park and ride expansion
- Stourton M621 Junction 7 park and ride
- An additional bus based park and ride in the north of the city at a location to be determined³.
- A61(N) Bus Corridor enhancements
- A58 (N) Bus Corridor enhancements
- A64 Bus Corridor enhancements
- A639 Bus Corridor enhancements
- A61(S) Leeds – Wakefield Bus Corridor
- A653 Leeds – Dewsbury Corridor
- A62 Bus Corridor enhancements
- A58 (S) Bus Corridor enhancements
- A647 Leeds – Bradford Corridor
- A65 Bus Corridor enhancements
- A660 Bus Corridor enhancements
- Transport hubs and gateways:
 - Leeds City station
 - Leeds bus station
 - Corn Exchange
 - Headrow
 - Albion St
 - Infirmary St
 - Woodhouse La
 - Cross Gates

³ This will include consideration of a number of potential locations including the previously identified sites at Bodington, Alwoodley and Grimes Dyke.

c) Railways

- 2.17 Network Rail provides, operates and maintains rail infrastructure on behalf of train and freight operating companies. Leeds is on the national rail network and acts as a hub with lines radiating from Leeds City Station to nearby towns and cities. Local freight facilities are located at Whitehall Yard, Marsh Lane, Stourton, Balm Lane Hunslet, Neville Hill South, and Hunslet Riverside. The major train maintenance depot is located at Neville Hill, with smaller depots at Hunslet and Holbeck.
- 2.18 Please see the Transport Background Paper (Appendix 3) for details of the proposed rail improvements over the Plan period. The Infrastructure Schedule also provides further detail on specific schemes.

East Coast Rail Franchise

- 2.19 In November 2014 the award of the East Coast rail franchise was given to InterCity Rail (Stagecoach/Virgin). The franchise is set to see more than £140m invested in delivering an improved service including the following proposed improvements:
- Faster journey times – regular services to Leeds in two hours.
 - New trains from 2018 with multi-million pounds train refresh programme for existing fleet.
 - Direct links / more trains to:-
 - Huddersfield, Dewsbury – 1 train per day each way
 - Bradford/Shipley - 7 trains per day each way
 - Harrogate/Horsforth – 7 trains per day each way
 - Leeds – an additional 5 services per day each way
 - New technology such as new website, smartphone apps and free Wi-Fi on trains and stations.
- 2.20 The additional through links proposed reflect the strong case made by WYCA and dialogue with the three bidders to improve connectivity to/from places not currently well-served by the East Coast Main Line. The new franchise commenced in March 2015.

Northern and TransPennine Franchises

- 2.21 In December 2015 the Northern and Trans-Pennine franchises were awarded to Arriva Rail North and First TransPennine Express respectively. These commenced in April 2016 and will be managed by a Rail North/DfT partnership.

The new franchises will deliver additional and new rolling stock on services into Leeds. Rail commuters into Leeds will benefit from an almost 52% increase in the number of seats in the morning peak on TransPennine Express trains and a 40% increase in the number of passengers that can be carried on Northern trains by the end of 2019. This is equivalent to capacity for an additional 13,000 passengers – a 50% increase above current (Autumn 2015) levels.

All long distance TransPennine Express services will operate with 44 new intercity 125 mph trains; refurbished 185 units will operate the stopping service. Northern will provide 98 new trains (281 carriages). New diesel trains will be introduced on the Northern Connect⁴ services. New electric units will be introduced on the Airedale and

⁴ Including Chester-Warrington-Manchester-Bradford- Leeds via Calder Valley; Nottingham-Sheffield-Leeds-Bradford; Blackpool-Preston-Bradford-Leeds-York

Wharfedale Lines. Existing rolling stock remaining in the Northern franchise will be refurbished to improve the customer experience and all Pacer units will be withdrawn by 2020.

As well as increased capacity on most routes, passengers travelling to/from Leeds will benefit from an increased service frequency to Manchester, additional hourly TPE services to Newcastle and Edinburgh and an additional hourly fast service to Sheffield.

Leeds Rail Infrastructure Projects

- 2.22 A number of major schemes affecting Leeds have been recently completed. A new station at Apperley Bridge, with associated 300 space park and ride facility, opened in December 2015 and the new Leeds station southern entrance opened in January 2016. A second new station at Kirkstall Forge with a further 300 park and ride spaces opened in June 2016. An expansion to the car parking at New Pudsey station was completed in 2014 and further schemes affecting Morley and Horsforth stations are contained within the WYPTF. Electrification of the TransPennine rail line from Manchester to York via Leeds is planned to be completed in the early 2020s.

In addition, three new stations are included in the Leeds Public Transport Investment Programme at Thorpe Park (East Leeds Parkway), White Rose and a parkway station at Leeds Bradford Airport. A further expansion of parking is also planned at New Pudsey station and accessibility improvements are to be carried out at Cross Gates, Morley and Horsforth.

High Speed Rail (HS2)

- 2.23 The Secretary of State for Transport announced in early 2012 the Government's intention to proceed with the development of a high speed rail network (HS2). High speed rail is considered by the Government to be a way of providing for the country's inter-city mobility needs in the future (as the existing "classic" network is becoming full), in a more sustainable way than aviation and motoring, that will also help rebalance the national economy by bringing economic centres closer together. The policy proposal known as High Speed 2 (HS2) is for a 'Y' shaped network from London to Birmingham (for which the route has been confirmed), then legs to the north to both Manchester and Leeds using separate alignments with anticipated completion by 2033. Although still the subject of further study, and outside of the Core Strategy time period, development and preparatory work is ongoing to ensure the High Speed Rail facilities and anticipated station are fully integrated with the public transport and road networks, especially in the City Centre. The detailed route from Birmingham into Leeds including a new City Centre HS2 station to the south of the existing City station was announced in January 2013, and in November 2015 Sir David Higgins recommended that the new HS2 station be located adjacent to the existing station in the form of a T-shaped configuration. More recently in November 2016 it was confirmed that the proposed HS2 route at Woodlesford would be in the form of a tunnel rather than a viaduct as originally proposed.

d) Cycling

- 2.24 A number of infrastructure items help to improve safety for cyclists, and attract people to using a bike as an effective means of transport for commuting, or for leisure rides. These include cycle lanes, advanced stop lines, toucan crossings, contraflow cycle lanes and access control exemptions, and traffic calming to slow down the speed of motorised vehicles.

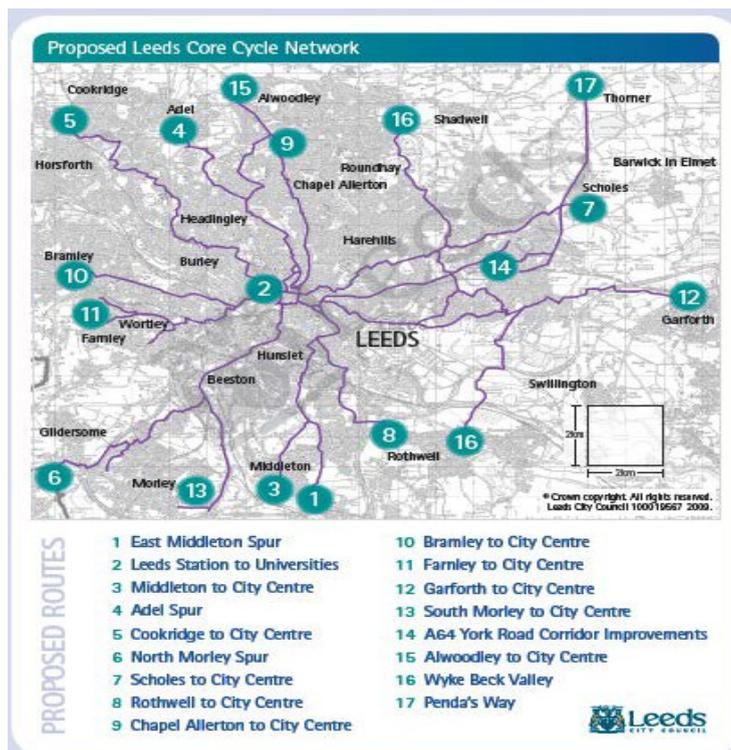
The CyclePoint at Leeds City Station is a key piece of cycle infrastructure, with secure and staffed storage, a rapid service, repairs, equipment sales, and cycle hire.

City Connect

2.25 The City Connect Cycle Superhighway scheme provides 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 superhighway scheme opened in June 2016 with the eastern section substantially complete in autumn 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.

Leeds Core Cycle Network

2.26 The Council is developing a network of 17 core cycle routes across the city, which provides safe and direct routes for commuters into the City Centre, school children and university students to education facilities, and leisure cyclists. Associated maps and signage have been developed to encourage activity and increase visibility and attractiveness. Six routes have been completed into the City Centre; from Alwoodley, West Park, Middleton, Armley, and Garforth. The most recent section is Meanwood Road to Quarry Hill which opened in May 2015. The Wykebeck Woods/Wykebeck Way route is also completed, (and forms part of the Core Cycle Network) with funding approved and work underway on progressing others identified in the Schedule. The Wykebeck Way route is also an important phase in the wider city vision of creating a continuous greenway connecting Roundhay Park to Temple Newsam Park. Other potential cycling routes, especially on disused railway lines, have been identified for protection and are discussed further in the Transport Background Paper.



e) Pedestrians

- 2.27 The provision of facilities for pedestrians is explicitly considered during the development of all transport schemes and where appropriate opportunities for enhancing provision are included in scheme designs. In addition, there is a regular programme of new pedestrian crossings, with typically around ten being delivered each year in response to local needs and safety issues.
- 2.28 Within the City Centre, provision for pedestrians is considered particularly important, and as part of proposals to reduce traffic levels and remove through traffic, opportunities will be taken to enhance and expand the pedestrianised areas. Improved linkages to neighbouring communities and across the River Aire will also be provided.
- 2.29 The network of Public Rights of Way (PROW) represents the arteries that help people access the countryside and urban greenspaces, linking people with places and linking urban to rural. The Leeds Rights of Way Improvement Plan (ROWIP) was launched in 2009 and forms a ten year management plan setting out areas for improvement across the public rights of way network within the Leeds District. The Plan should mainly be viewed as an aspirational document highlighting improvements (which in part) are over and above the basic statutory requirements. It provides an opportunity to bid for additional funding on an informed basis and will be reviewed again by 2017. If all of the identified projects were to be delivered over the next ten years, the City Council would need to seek funding between £2.3m and £3.9m, including through developer contributions, West Yorkshire Transport Plan and third party grants. The Definitive Map and Statement is a legal record that indicates the location and status of a public right of way. This is a key information source used by many different users, landowners, agents and organisations who require accurate public rights of way information for recreation, land management and business purposes.
- 2.30 The public rights of way network in Leeds is both extensive and varied and includes a number of key recreational routes. Key aspects include a total length of path network of 819km, plus permissive paths, which are not included in this figure and are very important as they enhance overall public access. There is 350 ha of open access land and Woodland Trust Sites. Key strategic and recreational routes are the Dales Way Link, Ebor Way, Leeds Country Way, Trans Pennine Trail and the Aire Valley Towpath. Local recreational routes include the Meanwood Valley Trail, Calverley Millennium Way, Pudsey Link Bridleway, The Linesway, Harland Way, Rothwell Greenway, Temple Newsam bridlepath, West Leeds Country Park and the Wykebeck Valley Way.

f) Airport

The Leeds Bradford International Airport (LBIA) makes an important contribution to the economic growth of Leeds and the City Region. It provides direct flights to 75 destinations, with flights via Heathrow and Schipol providing worldwide connectivity to a much larger range of destinations. LBIA had over 3.3m passengers in 2013, and has potential to grow to 7.1m passengers by 2030 (Dft Aviation Forecasts 2013). The airport employs over 2,700 people, and over £40m has been invested since privatisation including a £11m redevelopment of the existing terminal in 2012.

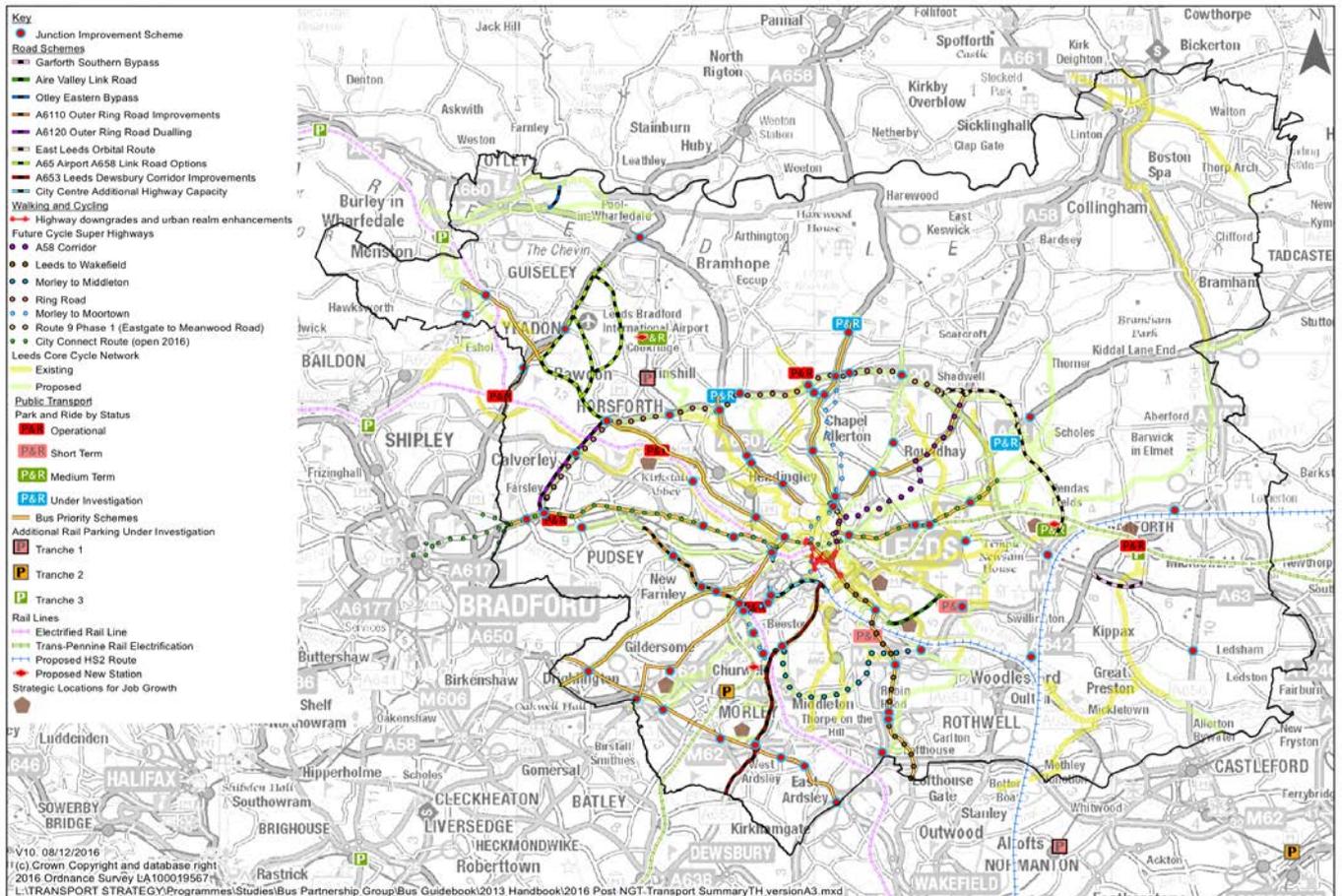
- 2.31 LBIA is developing a masterplan, currently in draft stage. The growth plan includes improved airport facilities, a hub for commercial development and inward investment, and having new road and rail connections. Its strategy aims to:
- i) Meet demand for Air Travel in the Region in areas of business and tourism
 - ii) Improve customer service with investment in the passenger terminal, improved airport facilities and better use of technology
 - iii) Establish a delivery plan for improved road and rail access
 - iv) Agree a planning strategy for expanding the airport as an economic hub in the Leeds Site Allocations Plan.
- 2.32 In parallel, LBIA is developing a Surface Access Strategy which looks at short, medium (to 2024) and long (up to 2030) measures to improve access to the airport. The main medium term measures are a new road link between the A65 at Rawdon and the A658 north of the Airport, including extension of the A65 and provision of an airport parkway station on the Leeds – Harrogate rail line. Core Strategy Spatial Policy 12 sets out that: “The continued development of Leeds Bradford International Airport will be supported to enable it to fulfil its role as an important regional airport subject to:
- i) Provision of major public transport infrastructure (such as Tram Train) and surface access improvements at agreed passenger levels,
 - ii) Agreement of a surface access strategy with identified funding and trigger points,
 - iii) Environmental assessment and agreed plans to mitigate adverse environmental effects, where appropriate,
 - iv) The management of any local impacts and implementation issues, including visual and highway issues.”
- 2.33 Proposals for an expansion of employment land provision at LBIA were formally made by LBIA to the Site Allocations Plan Issues and Options public consultation in July 2013. The case for growth at LBIA draws upon the independent study for the DfT in 2013 which looked at regional UK airports and concluded that LBIA had more potential than any other regional airport to grow, citing that LBIA could grow by 114% to 2030 with passenger numbers rising to 7.1m per year.

g) Highways

- 2.34 Highways England is responsible for operation and stewardship of the strategic road network, which in the Leeds District is the M1, A1(M), M62 and M621. The key interventions on the M1 and M62 are the Smart Motorway. The M62 improvement between junctions 25-30 was completed in 2013 and the M1 scheme (junctions 39-42) was fully opened in early 2016. In addition, M1 Jn 44 was signalised in 2015 and additional capacity is to be provided at M1 Jn 45. Leeds City Council is responsible for the local adopted road network.
- 2.35 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 SAP and AVLAAP. This has enabled the potential contribution of significant housing and employment sites to traffic growth and congestion at key junctions to be estimated. For the purposes of this exercise all residential development sites of 50 or more dwellings and significant employment sites have been assessed. In addition, locations where these is a cumulative impact have also been identified. 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.

2.36 The plan below shows these identified interventions, together with other major transport schemes, the planned WYPTF and Leeds Public Transport Investment Programme schemes, and those from Network Rail.



2.37 The Transport Background Paper (Appendix 3) of this document provides details of the proposed improvements to the strategic and local highways network, and how these link to the proposed allocations in the SAP and AVLAAP.

Aire Valley Leeds

2.38 The AVLAAP provides details of the proposed improvements to the local highways network within the AVL, and how these link to the proposed allocations. The AAP contains detailed policies and requirements for the development of specific sites.

ii) Utilities

a) Energy – Electricity, Gas, Renewable Energy, District Heating

- 2.39 The supply of energy for Leeds is a complicated process involving a number of different stages, suppliers/companies, scales, and provision which covers a much wider area than the Leeds District. Ofgem is the regulating body for the whole of the UK gas and electricity markets, and governs elements including the level of infrastructure investment and the prices charged by the private companies.
- 2.40 There is currently sufficient energy supply to adequately serve the Leeds Metropolitan District. The majority of the power comes from sources which are centrally generated and distributed, i.e. the national grid, power stations, and the distribution network. Responsibility for the physical infrastructure for gas transportation for Leeds is Northern Gas, for electricity it is Northern Power Grid. When developing new sites, developers normally pay directly for energy infrastructure necessary within their sites, and also the costs of the connections necessary to enable energy supplies to be provided from outside the site, including new sub-stations as necessary. A key scheme identified in the Schedule is the replacement of 190km of gas pipes across the District, a 23 year project.
- 2.41 The potential exists for a number of sources of renewable energy within Leeds, including electricity from wind power, water power (hydro-power), solar energy (active solar), landfill gas, electricity and heat from biomass treatment and waste plants, and combined heat and power (CHP). Heat network distribution is also expected to be extensively progressed during the plan period. As well as larger, more commercial projects for renewable energy (0.5 MW and above), potential also exists for smaller, community based projects where the benefits are fed back into the local area. The Leeds Natural Resources and Waste Local Plan (adopted January 2013) provides detailed information regarding the targets, location, and delivery of energy infrastructure, with a focus on low carbon and renewable energy.
- 2.42 For instance, the Council is progressing hydro-power schemes at Armley Mills and Thwaite Mill on the River Aire, and the other weirs also offer potential for new hydro power generation. Leeds has a huge resource of facades and roofs facing south, enough to produce several MWs of electricity if fitted with solar thermal systems. Through progressing a Local Development Order in the Aire Valley Leeds, the Council aims to promote the use of solar panels as they will no longer have a requirement to gain planning permission. The Natural Resources and Waste Local Plan also allocates strategic sites suitable for energy from waste (discussed further in the 'Waste Management' section below). Developments within a viable distance from these facilities are expected to connect into the heat distribution network.
- 2.43 By distributing heat to multiple users through a pipe network, up to several thousand homes and businesses can be connected to the same sustainable heat source. This is called a heat distribution network (district heating) and in Leeds a number of opportunities will present themselves across the Core Strategy time period. Developers will be encouraged to provide such networks, including through the setting of policy. Opportunities particularly exist around the City Centre, the Aire Valley (including as part of the Recycling and Energy Recovery Facility), the universities, and St James' Hospital, as a consequence of high heat loads, which offer the potential for low carbon energy for local communities. A heat network serving Leeds city centre and

Aire Valley will be developed in three phases. This will take low carbon heat from the RERF and other sources and distribute to homes and business in the AV and city centre. Detailed feasibility has taken place and the scheme is currently at tender stage to procure the first phase of the network.

- 2.44 A key role for the Council is to help create the conditions where connecting to district heating becomes very attractive to developers. This may require LCC enabling works (i.e. install sections of pipework when major road repairs take place on key DH routes), developing supportive planning policies, using well-being powers to support district heating, and showing strong leadership. There is to be further investigation as to how the Council can commit to underwriting significant district heating schemes e.g. through the City Deal process, and other elements such as developing an appropriate governance structure with the private sector.

b) Waste and Waste Water

- 2.45 Yorkshire Water (YW) is the Water and Sewerage Company for the Leeds District. Ofwat is the regulating body for the UK water industry, and governs elements including the level of infrastructure investment and the prices charged by the providers. YW is required to produce a five-year Asset Management Plan to set out the level of investment necessary to meet their customer and legislative obligations.
- 2.46 YW supplies clean water to the whole district (with the exception of rural sites on a private supply), approximately 760,000 people. This water is taken from a variety of sources, including reservoirs, groundwater and rivers. It is then treated at one of the Water Treatment Works (WTW); within Leeds these include Headingley, Reva, Eccup, Kirkhamgate, Bramham, and Thorp Arch.
- 2.47 YW has a statutory duty to provide clean drinking water to a minimum standard, this is set and monitored by the Drinking Water Inspectorate. Leeds is also connected to the Yorkshire Water Grid system which allows the pumping of water across the operational area, therefore mitigating the risk of limited public water supply during drought conditions.
- 2.48 YW are also responsible for the public sewerage network that transports foul and surface water flows from properties. Waste flows are also treated at the waste water treatment works (WWTW) across the district. There are 16 WWTW within Leeds, with the main works at Knostrop serving approximately 593,000 people. The waste is treated and the final effluent discharged to the local watercourse at a consent and quality standard agreed with the Environment Agency for both hydraulic level of flow and quality.
- 2.49 The necessary quality of final effluent has tightened over the last few years due to the Freshwater Fisheries Directive and Water Framework Directive. The WWTW meet the current standards required by the Environment Agency, and YW is given a series of measures and targets which it has to meet within a certain time period. YW, as will all Water Companies, works within five year investment periods known as Asset Management Plans (AMP); AMP5 began in April 2015, and Yorkshire Water is currently working on developing AMP6.

2.50 When developing new sites, developers pay directly for water and waste water related infrastructure necessary within their sites, and also the costs of the necessary connections to the wide water provision network. This includes taking care that surface water is adequately drained through the appropriate system.

c) Broadband

2.51 A £13.78 m agreement between the West Yorkshire Combined Authority and BT will make superfast fibre broadband available to tens of thousands more households and businesses in the second phase of a major digital infrastructure project. The funding will come from the Government's Superfast Extension Plan. This is the second phase of the project, building on the successful work of Superfast West Yorkshire and BT's own commercial roll-out of the high-speed technology whereby more than 60,000 homes and businesses in the City Region are now able to connect to high-speed fibre broadband as a direct result. The first phase of the project is to complete in September 2015, with the second phase to extend coverage of fibre broadband. By 2018 more than 98 per cent of homes and businesses in West Yorkshire and York are expected to have access to fibre broadband. Funding includes £6.89 million from the Government's Superfast Extension Plan £6.89m from the European Regional Development Fund 2014-2020 England Operational Programme (ERDF) , and £6.1 million from BT. Additional investment will also be made by the WYCA and local authority partners to support the delivery and resource for the day-to-day running of the project.

iii) Flood Defences

2.52 The 2009 Flood Risk regulations and the 2010 Flood and Water Management Act set out new responsibilities for authorities to manage flood risk. The Leeds Strategic Flood Risk Assessment (SFRA) (2007) collated and mapped information on all known sources of flooding, including river, surface water (local drainage), sewers and groundwater, that may affect existing and/or future development within the district. It informs the development of policy on managing flood risk and the allocation of land for future development, and recommends possible flood mitigation solutions that may be integrated into the scheme designs.

2.53 Leeds has suffered from localised flooding in recent years which has caused disruption to local residents, businesses and commuters. However, there is always the risk of a much larger flood, especially taking into account the impacts of climate change. The Leeds Flood Alleviation Scheme (FAS) for 19km of the River Aire from Kirkstall through the City Centre to Woodlesford, is being developed by the Environment Agency in partnership with the Council, and supported by a number of other parties e.g. Yorkshire Forward, Yorkshire Water, the Canal and River Trust (formerly British Waterways), and the Leeds Civic Trust. A number of potential flood risk management options have been considered including flood storage, channel improvements and/or raised defences.

2.54 The FAS is proposed in two phases:

Phase 1

- 2.55 Phase 1 will provide a 1 in 100 year standard of protection from river flooding between Leeds Central Station and downstream to Thwaite Mills. The FAS Phase 1 comprises 3 elements: i) Remove existing weirs and install moveable weirs at Knostrop and Crown Point ii) Provide raised defences between Leeds Train Station and Thwaite Mills iii) Remove Knostrop Cut to merge the Canal and River Aire.
- 2.56 The original project cost was £45m and this was to provide a 1 in 75 standard of protection with climate change to 2039. This comprised of £23.7m of DEFRA growth funding, £10m from LCC, £3.3m from the Regional Growth Fund and £8.5m from the Environment Agency - Flood Defence Grant in Aid (FDGiA). The Scheme has recently secured a further £3.8 million of funding which will help increase the standard of protection. The scheme will now provide a 1 in 100 years standard of protection with an allowance for climate change up to 2069. Phase 1 started in 2014 with works to reduce flood risk to the community of Woodlesford.
- 2.57 In 2015 Knostrop Weir was removed and it is currently being replaced with a new moveable weir. Two sections of the movable weir are now operational whilst work continues on the third and final section. A 600 metre length of Knostrop Cut island has also been removed to enable the River Aire and the canal to be merged. This merger, along with the movable weirs, increases the flow of water out of the city centre during a flood event.
- 2.58 To facilitate the island removal a length of the Trans Pennine Trail (TPT) shared footway and cycleway has been temporarily diverted onto the south side of the river. Plans showing the temporary diversion alignment of the trail can be found at www.leeds.gov.uk/fas and following the link to the 'Phase 1 page'. Works are now ongoing on the north bank of the river to install a high quality permanent TPT route. On completion this will cross over the top of the new movable weir at Knostrop via a new footbridge, linking with the old route and separating this section of the TPT from the highway.
- 2.59 Works to replace Crown Point Weir with a new moveable weir are also ongoing with the fish pass structure substantially complete and works on the first of the two movable weir sections well underway. The construction of the new flood walls in Leeds City Centre between Leeds Train Station and Thwaite Mills continued throughout 2016 with the majority of the works now complete and the remaining works locations programmed for completion early in 2017. Construction of the flood defences along the Hol Beck has commenced on the north side of the beck. Works on the south side will begin early in 2017 along Water Lane.

Phase 2

- 2.60 A contract has been awarded to undertake the feasibility and initial design stage for Phase 2 of the flood alleviation scheme. Work to develop a full business case, which will establish the appropriate standard of protection for Leeds, how this can be achieved, what it will cost and how long it will take to deliver, is now progressing. The business case is expected to be submitted in autumn 2017, following which the outline design will be progressed with a view to tendering and awarding a construction contract in summer 2018. The project is currently at the feasibility stage and as such the specific flood reduction measures that will form Phase 2 of the scheme are unknown. A catchment-

wide approach is being adopted. This means that although the primary aim of the scheme is to reduce the risk of River Aire flooding in Leeds including areas such as Kirkstall and Stourton (outside of the Phase 1 area). The upper catchment is being examined as part of this to identify cross Authority boundary opportunities to work with others to reduce flood risk along the River Aire beyond the Leeds boundary.

- 2.61 A mixture of natural flood management measures and engineered options which could include measures such as creating storage in the upper catchment, building woody debris dams to slow the flow and looking at land use and drainage are being considered. Engineered options could include raising and building walls and embankments, flood storage areas and bypass channels. Options for early interventions and quick wins, or possibly a further phased approach to the scheme will also be considered as part of the feasibility study.
- 2.62 It is useful to note that all Government funding for flood defence (delivered by the Environment Agency) is expressly provided to protect existing development, and so cannot be used for future redevelopment of 'at risk' areas.
- 2.63 Please see the separate Flood Risk background paper for further information.

iv) Waste Management

- 2.64 The way in which waste is managed is undergoing a rapid period of change, and Leeds is planning for a major reduction in landfill and a significant increase in more efficient forms of waste management capacity and recycling. The Leeds Natural Resources and Waste Local Plan (NRWLP) was adopted in January 2013 and sets out in detail how this will be achieved, and how the vision and objectives match those of the Council's Integrated Waste Strategy.
- 2.65 Leeds has more than sufficient existing landfill capacity for the plan period and beyond, however, land is needed for new treatment facilities for municipal waste and commercial and industrial waste. It is also likely that further provision will be needed for organic waste treatment such as anaerobic digestion.
- 2.66 It is realistic to expect that waste generated within the City will continue to be transported to other areas, particularly where there is substantial capacity at an existing facility or where an un-implemented planning permission for a new facility is already in place. This also works in the opposite direction. For example, Leeds is a net importer of liquid hazardous waste and also has an end of life vehicles processor, which imports vehicles from all over the north of England. Both Peckfield and Skelton Grange Landfill sites accept waste from both North and West Yorkshire.
- 2.67 At present, Leeds is heavily reliant on two major landfill sites at Skelton Grange and Peckfield for its waste management provision. With a declining amount of waste disposed through landfill new facilities higher up the waste hierarchy will be required. To achieve self sufficiency it is important that existing capacity within Leeds is maintained, and over 100 existing waste management sites are safeguarded by policies in the NRWLP.

2.68 Three strategic waste management sites have also been allocated within the Aire Valley; Skelton Grange (a former power station), Knostrop (an existing waste water treatment works), and the former Wholesale Market in the Cross Green Industrial Estate which was chosen through an extensive procurement process as the preferred location for a residual municipal solid waste treatment facility to serve the City. In late 2012 Veolia Environmental Services signed a 25-year Private Finance Initiative contract with the Council to install a high-tech recycling and energy recovery facility that will save £200 million compared with the cost of sending to landfill the Council's residual municipal waste. The Veolia Environmental Services contract is for £460m to deliver and run a residual waste facility (RERF) at Newmarket Approach in Cross Green. The facility opened in 2016 and is now in operation. It is designed to remove recyclable waste from black bins and recover energy from what is left over, and can accept 214,000 tonnes per annum (including some commercial waste). The remaining household waste will be used as a fuel to generate energy which will be used on the National Grid to power up to 20,000 homes. It is also designed to be enabled to produce power and heat via a future local heat network. Construction commenced in 2013 and the facility opened in 2016.

v) **Minerals**

2.69 Leeds contains resources of coal, sand, gravel, sandstone, limestone and various clays. These have been extensively worked in the past, but now tend to be of modest volumes. It is important to ensure that the growth of Leeds is not hindered by a restriction in supply of building materials and minerals. There are currently no surface coal working sites in the district. Sand and gravel extraction is a constant, but with declining overall permitted reserves. Hard rock quarries still have significant reserves and building stone production is steady, having recovered in recent years, however output is small compared with aggregates. Total aggregate production is around 430,000 tonnes per year, however, in order to meet demand Leeds has to import a lot of aggregates. There are two clay quarries and each contain large factories where some 80 million facing bricks are produced each year, making Leeds self-sufficient in bricks. The Council has identified Mineral Safeguarding Areas (MSAs) to protect proven deposits of coal, sand and gravel from developments that could jeopardise future working. Reserves of clay are sufficient to support the needs well beyond the plan period, such that a MSA for clay is not required.

2.70 The Natural Resources and Waste Local Plan (adopted January 2013) contains detailed information on the Council's strategy for infrastructure to supply minerals, including specific site allocations and the definition of Preferred Areas. Through the policies set out in the Core Strategy and the NRWLP to preserve and enhance the working of minerals deposits within the District, alongside the historic importation of aggregates from outside of it, it is not considered that there will be any significant issues with the minerals supply or infrastructure requirements within the Core Strategy timescale.

3. SOCIAL AND COMMUNITY INFRASTRUCTURE

i) Education

- 3.1 Please see the School Provision and the Implications for School Places Background Paper (Appendix 2 of the Infrastructure Background Paper) for further details of the proposed school provision as part of the Site Allocations Plan (SAP) and Aire Valley Leeds Area Action Plan (AVLAAP), including detailed data on location and size of new school provision.
- 3.2 An increasing school age population means that Leeds is facing significant pressure to ensure that there are sufficient local school places for all children that live in the City. A change in national education policy is leading to a greater diversity of schools with the development of academies and free schools in addition to a change of role for Local Government in relation to education matters. However, Local Authorities retain the statutory duty of ensuring the sufficiency of school and nursery places as well as the additional duties to promote choice and diversity of education, as well as responding to parental representation. In planning education places there needs to be consideration of local geography, travel distances and, as well as parental choice. This requires the authority to operate with a small surplus of places based on a recommended surplus capacity of between 5% and 10% of total numbers (National Audit Office estimate). Children's Services are responsible for ensuring the sufficiency of all school and early years provision, and work with a wide range of stakeholders to find appropriate solutions.
- 3.3 The context in which this work has been completed is challenging. The city is facing a rising demand for school places due to a rise in the birth rate from a low of 7,500 in 2000/1 to an average of just over 10,000 for the last 5 years. As a result the authority has been engaged in an extensive programme of expansion of provision, with the creation of over 1,500 reception places and over 10,000 primary school places as a whole since 2009. This has been met through expansions of existing schools, creation of new schools, and restructuring of existing schools. There is a rolling programme of further places coming forward for consultation.
- 3.4 As a result the capacity of the existing school estate to respond to significant new housing is limited, particularly in certain hotspots within the city, and new sites will need to be secured initially through the site allocations process and later through detailed planning applications.
- 3.5 This demand for school places in both the primary and secondary sectors arising from population growth is known as existing demand or 'Basic Need'. Central government provides some funding to local authorities to meet the building costs associated with these needs, but not for site acquisition costs. It also expects local authorities to continue to collect monies from developers for demand arising directly from new housing, and basic need grant allocations reflect this.
- 3.6 With new schools and with different school provider partners emerging, there is opportunity to co-locate other public services, particularly other children's services, alongside the school. Children's Centres and early years provision are already commonly co-located, and other opportunities such as inclusion and health care as well as workplace/office accommodation for support staff would also be considered.

- 3.7 Local authorities are already the providers of last resort for school places, and are dependent on working with partners to commission new provision. Any new school provision is assumed to be an academy or a free school and as such a sponsor or promoter will be required to be identified by the Authority. In addition, Free Schools are commissioned independently of the local authority. This can open up opportunities to acquire privately owned land and buildings which may not feature in this IDP. Given the long term nature of the housing strategy, and the likelihood of changes to the statutory and educational context of school place planning, as well as the possibility of further increases or decreases in the birth rate, it is therefore not necessarily an issue to progress with the SAP without fully sufficient school provision being identified at this stage. However these risks are highlighted for transparency and to enable an informed choice.
- 3.8 The School Provision Background Paper (Appendix 2 of the Infrastructure Background Paper) describes the context for the school planning areas in terms of current pressures for places, current scope of the existing estate to meet existing demand, and the needs arising from the housing allocations. It highlights the areas of concern where no solutions for school places have been found. Appendix 1 within the School Provision Background Paper summarises the number of houses approved, the pupil yield anticipated, and the sites identified as needing school provision as site allocations for school use or site requirement within housing allocations by planning area. Data is described in terms of forms of entry (FE). Schools are organised and funded around class sizes of 30 children, and a 1FE primary school has 1 class of 30 pupils in each year group, 2FE is 2 classes etc.
- 3.9 To ensure as far as possible that schools will be delivered alongside new housing, the SAP therefore includes a number of site specific policy requirements setting out the need for certain housing allocations to include the provision of a school site. The Council will then be able to confirm or decline that requirement as necessary at the time of the detailed planning application being brought forward, including the precise location of the school within the site.
- 3.10 Aside from site specific requirements for providing schools as part of housing allocations, there are also a number of sites proposed for school allocation. Two of these sites fall within existing Green Belt (HG5-7 Robin Hood West and HG5-1 at Victoria Avenue in Horsforth. The latter is proposed to allow for potential future extension of Newlaithes Primary School). Site HG5-8 Bradford Road, East Ardsley is an existing Protected Area of search.
- 3.11 It is generally inappropriate to name a specific scheme to meet the demand as this would need to be tested through the statutory process required by school organisation legislation. Naming of a site, and especially a particular scheme, does not presuppose that this will be supported by the consultation and statutory process. The situation at the time the school provision needs to be brought forward will need to be appraised afresh.
- a) **Early Years Education**
- 3.12 Leeds has a very wide range of provision of public and private early years, nursery, and Children's centres. Across the Plan period there will clearly be a need for increased services. There is also a sufficiency duty around early years provision, whereby the authority should ensure that all 2, 3 and 4 year olds are able to access

their entitlement to free education per week, and also that sufficient childcare exists for the needs of the local community to access work and education. There is a further entitlement to places for eligible 2 year olds many of whom live in the most deprived areas. There is an extensive private, voluntary and independent sector who can deliver this and the authority is the provider of last resort. This has different cost implications, and has therefore been excluded from the Schedule.

b) Primary Education

- 3.13 There are 224 primary schools in Leeds in 2017, including one free school. Bearing in mind the existing context of primary school place supply, demand arising from new housing presents a considerable challenge. Primary schools need to be located close to the communities they serve. When considering options for provision, the existing estate will always be considered for expansion, however, in many cases this may require relocation, or significant rebuilding. The Council is also active in considering its own assets especially prior to any disposals, to ensure that the potential for school provision on the sites is considered at an early stage.
- 3.14 In total approximately 80 FE of additional primary provision is needed as a result of the housing plans, equivalent to 40 new 2 FE primary schools. The SAP and AVLAAP have identified options for 50 FE. With safeguarded sites/land included, this rises to demand of 88FE and solutions for 60FE.

c) Secondary Education

- 3.15 There are 41 secondary schools in Leeds in 2017, including 2 free schools. Secondary school place delivery planning is more complex than for primary, with children more able and willing to travel longer distances to school, and schools working with local partners to deliver a broad curriculum off site as well as at the main school site. As well as opportunities for simple expansions or new schools, these partnerships offer opportunities for different types of solutions, in particular the opportunity for shared 14-18 year old provision. These relationships are relatively new, and so the method of delivering additional capacity would need to be developed in partnership with the schools in each locality.
- 3.16 A cautious approach has been taken when projecting the pupil yield for secondary school places. In total approximately 60 FE of additional secondary provision are needed as a result of the housing plans (SAP & AVLAAP), equivalent to 7-8 new secondary schools of around 8 forms of entry each. The plans have identified options for 28FE FE. With safeguarded sites/land included demand rises to 66 FE (with no further sites agreed).

d) Further and Higher Education

- 3.17 Leeds has a strong higher education sector with three universities; the University of Leeds, Leeds Beckett University, and Leeds Trinity University. The City is also home to Leeds City College, Leeds College of Building, Leeds College of Art, the Leeds College of Music, and the Northern School of Contemporary Dance. The raising of the participation age (Participation of Young People in Education, Employment and Training, DfE, 2013) will involve more young people considering a range of courses and training opportunities that require the Local Authority and the Colleges to plan together to ensure sufficient suitable options are available.

The University of Leeds is now the UK's second-largest, and is the third largest employer in the city, with Leeds Metropolitan University being the city's fourth-largest employer. The Universities have their own estates strategies and priorities identified in order to maintain and improve their built estate and infrastructure.

ii) **Health**

- 3.18 Local health facilities need to be accessible to all, therefore it is important that they are provided in sustainable locations. Town and local centres are considered to be sustainable locations as they have sustainable transport access and are the focus for other community facilities which in turn can encourage services to co-locate to enable linked trips.
- 3.19 This supports the decentralised approach of providing health and social care services closer to where people live and away from central hospital locations, unless that is appropriate. Wherever possible, health and social care services will be integrated, to give individuals more choice and control over the services they need to stay healthy or return to independent lives following recovery from illness.
- 3.20 In May 2010, the government announced the proposal to abolish Primary Care Trusts and replace them with Clinical Commissioning Groups, NHS England supported by Local Area Teams, Public Health England and the delivery of public health functions by Local Authorities. The Health and Social Care Act 2012 transferred substantial health improvement duties to local authorities from April 2013. In performing their public health functions Local Authorities must work with Clinical Commissioning Groups (CCGs) and representatives of NHS England and Public Health England (PHE). The Department of Health gives the Council a ring-fenced public health grant to target health inequalities to improve outcomes for the health and wellbeing of their local populations. Local authorities now have the key leadership role for public health locally.
- 3.21 The provision of health facilities falls within the remit of NHS England and at a local level, Leeds' 3 Clinical Commissioning Groups (CCGs) now have a greater responsibility for commissioning primary and dental services. The CCGs and partners work closely with GP practices, pharmacists, optometrists, dentists, hospital trusts, social services, mental health services and community and voluntary organisations to commission and fund the healthcare they provide to people in Leeds.
- 3.22 Infrastructure requirements are identified and planned through various plans and programmes. The Leeds Five Year Strategic Plan was submitted to NHS England in July 2014. It sets out how the NHS and the Council are working together to improve the health and wellbeing of local people, including the two key challenges in terms of sustainability; to bring the overall cost of health and social care in Leeds within affordability limits; and to change the shape of health provision so that care is provided in the most appropriate setting. Health and care service providers and commissioners have worked together across West Yorkshire to develop a Sustainability and Transformation Plan (WYSTP) which was published in October 2016. The WYSTP covers all of the six acute trusts (five in West Yorkshire plus Harrogate) and the eleven CCGs and will be delivered by local health and care organisations working together across the region to support changes needed to

improve services for the 2.6 million people who live here. The WYSTP aims to address the health and wellbeing gap across our local populations with a focus on supporting people to live longer, healthier lives, and ensuring a good and equitable service for all, no matter where they live. The WYSTP offers an initial view of how local and regional services can be improved, what this means for the health of people locally and how partners will need to collaborate to balance the books

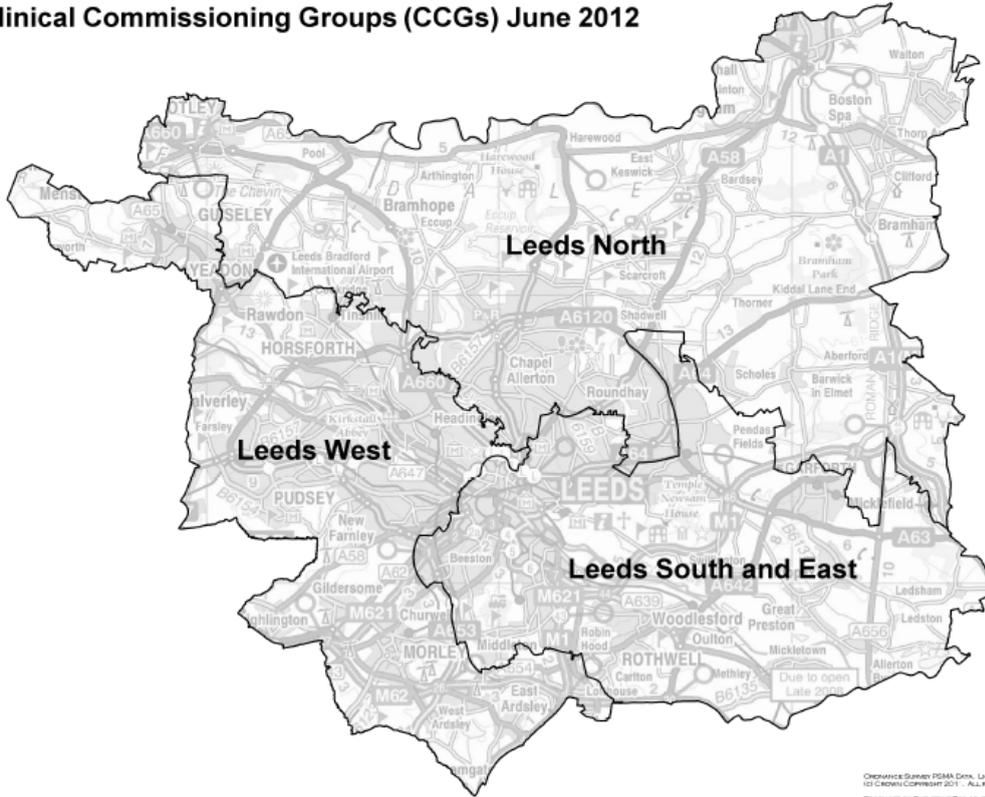
- 3.23 The Council and the Clinical Commissioning Groups also have a shared legal duty to prepare and publish a Joint Health and Wellbeing Strategy. The evidence on which the Strategy was based came in particular from the Joint Strategic Needs Assessment of 2012, which gave a detailed picture of the health needs and assets of the Leeds population, as well as other research and the opinion of multiple organisations, interested parties, and the citizens of Leeds.
- 3.24 The Leeds Joint Health and Wellbeing Strategy 2013-2015 is the result of partners coming together to provide the strategic direction. It sets out how they will make the best use of collective resources and help in decisions on bringing in the right level of resources for different needs across the city. The vision for health and wellbeing is that Leeds will be a healthy and caring city for all ages where people who are the poorest improve their health the fastest. The proposed outcomes include that people will live longer and have healthier lives, with active and independent lives, enjoying the best possible quality of life. They will be involved in decisions made about them, and will live in healthy and sustainable communities.

GP Practices

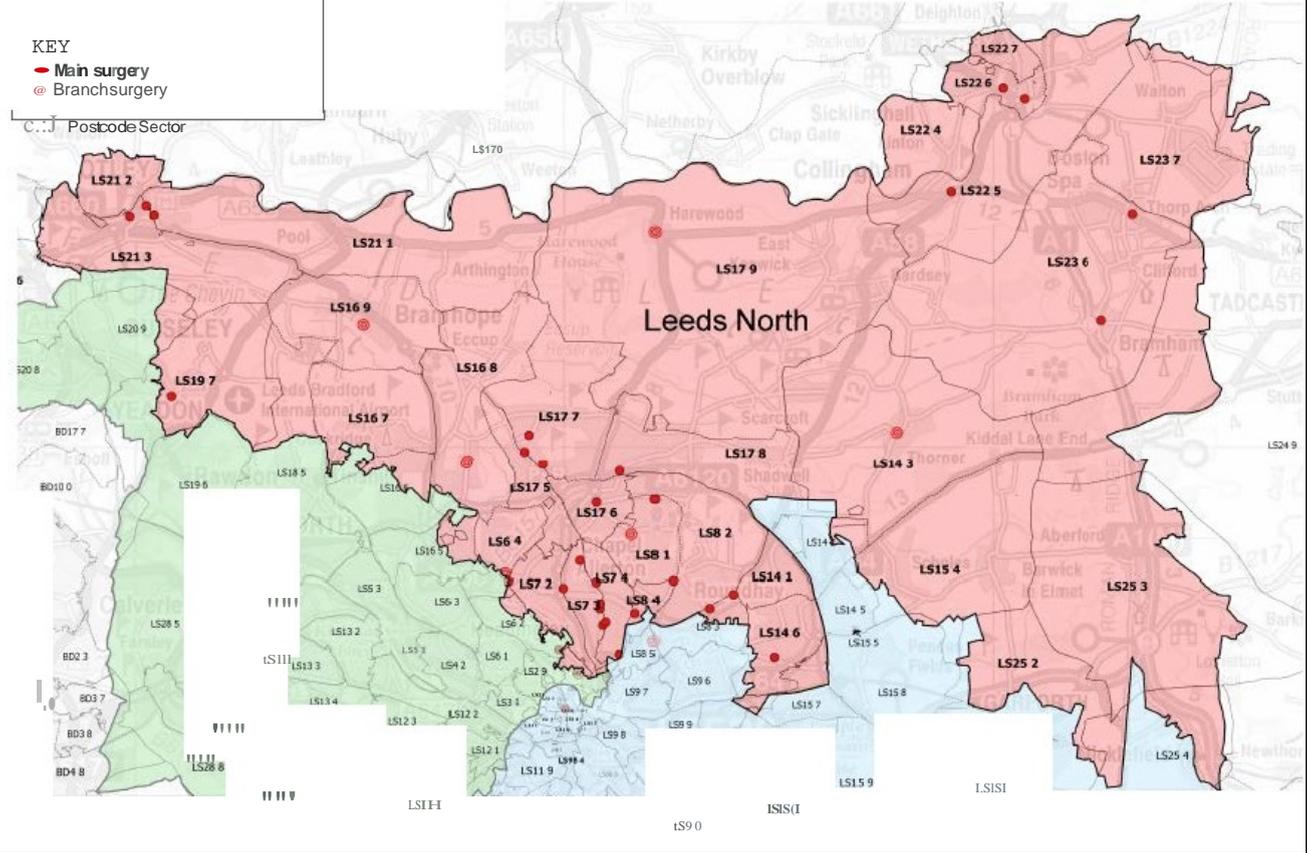
- 3.25 Clinical Commissioning Groups (CCGs) are groups of GPs responsible for designing local healthcare services (all GPs have to belong to a CCG). They manage local health budgets and ensure that the NHS continues to provide high quality healthcare for local people. Leeds has three CCGs: NHS Leeds West CCG, NHS Leeds North CCG, and NHS Leeds South and East CCG. They are committed to working together to ensure that high quality community, hospital, emergency, urgent care, learning disability and mental healthcare services are available throughout the City.
- 3.26 Leeds South and East CCG is made up of 43 GP practices covering around 258,000 people. Leeds West CCG comprises 38 GP practices and is responsible for an area covering a population of around 355,000. Leeds North CCG has 28 GP practices covering a population of around 211,000. Maps of the CCGs are included below, from the respective NHS websites.

Map of Clinical Commissioning Groups and GP Practices across Leeds

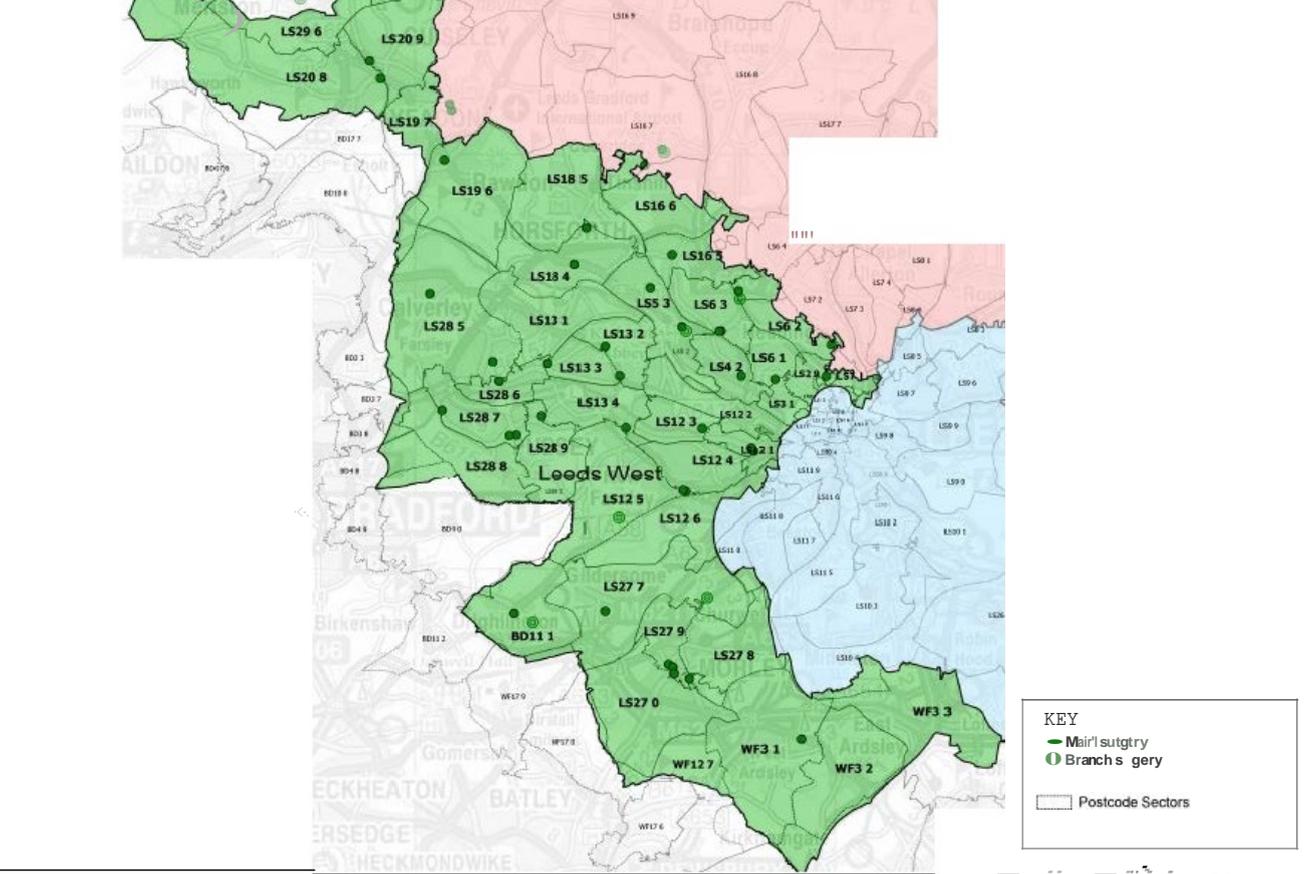
Leeds Clinical Commissioning Groups (CCGs) June 2012

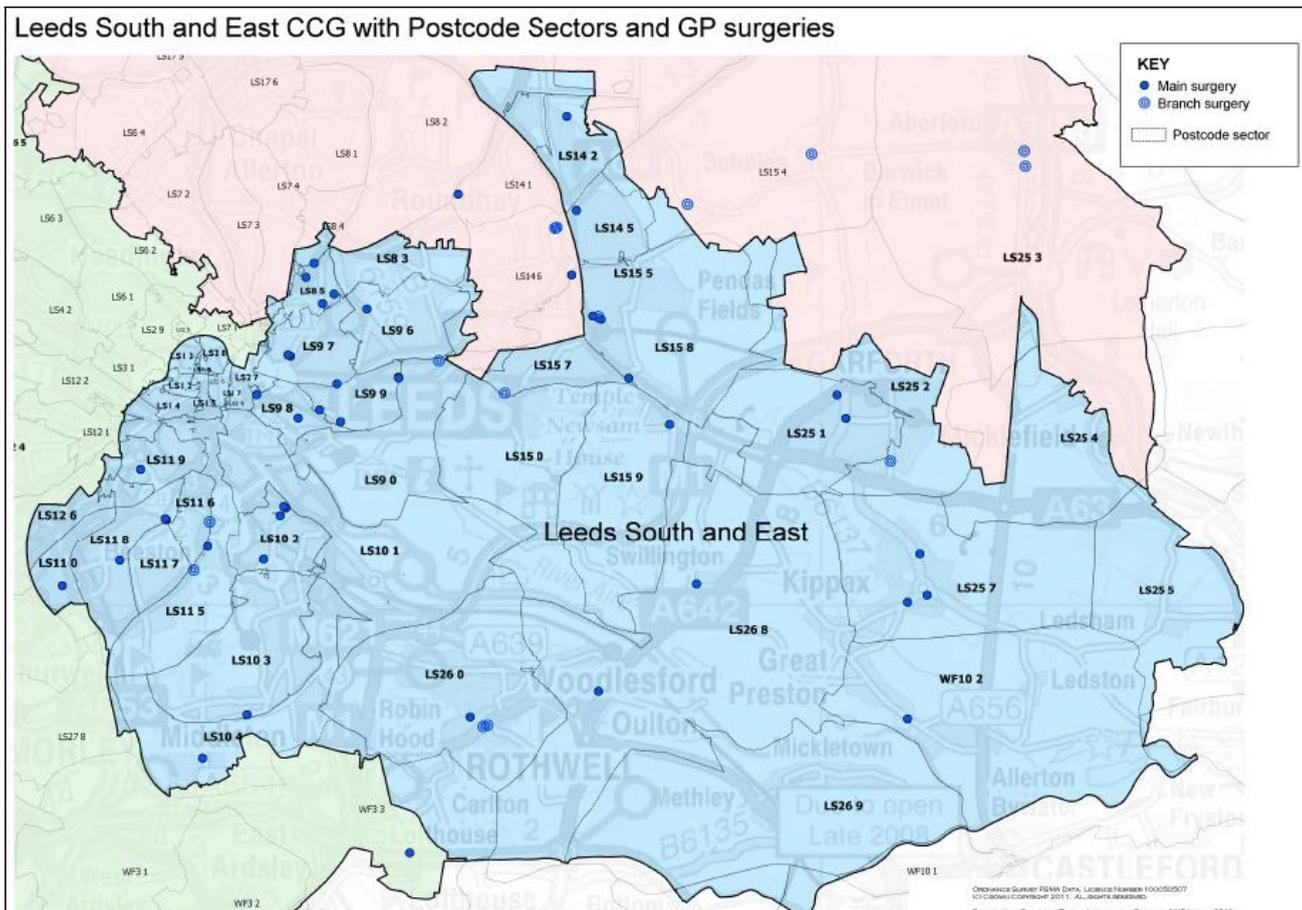


Leeds North CCG with Postcode Sectors and GP surgeries



Leeds West CCG with Postcode Sectors and GP surgeries





- 3.27 The amount of new housing identified for Leeds up to 2028 would equate to on average 5-6 new GPs a year across Leeds based on a full time GP, with approximately 1800 patients. Leeds already has over 100 existing practices of varying sizes, so the addition of 5-6 GPs a year is a relatively significant number for the population of Leeds.
- 3.28 The Site Allocations Plan cannot allocate land specifically for health facilities because providers plan for their own operating needs and local demand. New GPs do not necessarily require new physical buildings. Existing practices determine for themselves (as independent businesses) whether to recruit additional clinicians in the event of their practice registered list growing. Practices can also consider other means to deal with increased patient numbers, including increasing surgery hours. It is up to individual practices how they run their businesses to respond to increased patient numbers. Practices consult with the NHS about funding for expansion, albeit that funding is limited.
- 3.29 Notwithstanding this, in accordance with Core Strategy Policy P9 developers will be encouraged to consult with the relevant Clinical Commissioning Group to ensure consideration of health provision in association with proposed developments. The largest sites allocated in the SAP will be expected to include land for local facilities, which could include new GP surgeries. Proposals for health facilities e.g. doctors surgeries and dentists will be supported subject to need, site constraints and location in relation to planning policy.

NHS Trusts

- 3.30 There are three main provider NHS Trusts in Leeds: Leeds Teaching Hospitals NHS Trust runs the majority of acute hospital services in Leeds and is also a regional treatment centre; and Leeds Mental Health Trust which is in the process of becoming an NHS Foundation Trust. Leeds Community Healthcare NHS Trust provides a range of community-based health services across Leeds area in the most appropriate setting for patients, whether that is in their own home, a local health centre, or a community hospital and Leeds and York Partnership Foundation Mental Health NHS Trust (LYPFT) which provides specialist mental health and learning disability services to people in Leeds. LYPFT also provide specialist inpatient Child and Adolescent Mental Health Service (CAMHS) and Low Secure Forensic Service in York which serve the regional population. Their specialist services accept national referrals.
- 3.31 The teaching hospitals in Leeds are the Leeds General Infirmary (LGI) (City Centre), St James's Hospital (Burmantofts), Seacroft Hospital, Wharfedale Hospital (Otley), Chapel Allerton Hospital, and St Mary's Hospital (Armley). There are two accident and emergency departments, at the LGI and St James', and St George's one-stop centre in Middleton, Wharfedale Hospital, and the Burmantofts Health Centre also provide minor injury and walk in centres. There are 60 community bases spread across the whole Leeds District. Most services are specific to the needs of Leeds, however some specialises have a wider regional/national impact.
- 3.32 Health infrastructure provision undergoes frequent changes due to changing standards at the nation level, and the swift level of health intervention innovation and advancement. The current key change of emphasis is to focus on prevention rather than cure, alongside aiming to move provision out of hospitals and closer to people's homes. Particular infrastructure issues identified by the Leeds Teaching Hospitals NHS Trust are:
- Utilities protection of supply to hospitals
 - Access and travel for patients and staff
 - Impact of major infrastructure breakdown
 - Opportunities for joint working on infrastructure issues
 - Being included in consultations on major changes to the city profile to allow full consideration of health impacts.
- 3.33 Across the Leeds Teaching Hospitals, a clinical services reconfiguration is already underway, whereby LGI has become the main emergency department with children's services also centralised onto that site, elderly services centralised at St James', and elective orthopaedics, plastics, dermatology, and rehabilitation services at Chapel Alperton. The general estate rationalisation strategy aims to reduce the overall size of the estate by 25%, including a focus on ambulatory and local services at the other hospitals.
- 3.34 Of particular note, the LGI site is underused in terms of floorspace, and has been included in the SAP as a mixed use site primarily for residential and office. This does not mean that the clinical functions are relocating off the site or predetermine any specific proposals, it simply means that there is the opportunity to reduce the overall floorspace needed for the hospital.
- 3.35 The Foundation Trust for mental health and learning disabilities has units spread throughout the city catering to the different needs, with St Mary's Hospital being the most significant site. The current emphasis is for improved community services which in turn reduces the need for inpatient beds. Current high demand is being

managed within the existing resources and better crisis prevention whilst maintaining standards is the approach taken to mitigate the demands of an ageing population. The opportunities for joint delivery of services and also co-location are fully recognised by the Trust.

- 3.36 Rationalisation has been underway in the past few years to make better use of the estate, including using Local Improvement Finance trust (LIFT) schemes to provide new or rationalised provision of community health facilities. This has allowed the PCT to invest in new premises in new locations, not merely reproduce existing types of service, to provide patients with modern integrated health services in high quality, fit for purpose primary care premises. The one-stop-shop principle is an important component of NHS LIFT, allowing the patient to be treated in their locality in 'One-Stop-Centres' that are modern, convenient, and easy to access and staffed by a wide range of healthcare professionals.

iii) Community Centres and Libraries

- 3.37 The provision of existing and new social and community facilities is integral to creating sustainable communities. However, in planning for strategic infrastructure it is not possible to identify the need for and location of such centres. The Core Strategy sets out that community centres will generally be located in centres for ease of linked trips, and where proposals for development would result in the loss of an existing facility or service, satisfactory alternative provision should be made elsewhere within the community if a sufficient level of need is identified. Neighbourhood planning is expected to identify aspirations and need, potential locations, and funding solutions for new community centres. The Site Allocations Plan identifies that some allocations will need to provide a new centre as a requirement of their development, and these centres would be an appropriate location for new community facilities.

- 3.38 Leeds City Council provides 34 public libraries across the City including the major Central Library, as well as 6 mobile libraries, a Library at Home service, and a school library service. The service provides access to a wide range of books and electronic material recorded in the public access catalogue, and attracts around 3 million visitors each year. The service has also been innovative in its adoption of modern technology offering 24/7 access to a wide range of services, including an electronic reference library available at home, work and in the library, online loan renewals, and e-books and e-magazines which can be downloaded direct to portable devices.

- 3.39 Leeds Libraries have been faced with the need to deliver improved services, whilst at the same time maintain tight budgetary control. By implementing one of the UK's leading electronic supply chain services, Gateway, over the past 3 years, Leeds Libraries have streamlined existing services and delivered significant annual returns. All of these initiatives have helped to broadly maintain visitor numbers and book issues set against a trend of general decline in library use nationally.

iv) Emergency Services

- 3.40 The increase in the number of households across Leeds will place increased demands on emergency services resources, and as growth develops across the city there will be the further need for re-assessment of provision.

a) **Police**

3.41 Police services across the Leeds District are provided by West Yorkshire Police. The new City and Holbeck Police Divisional Headquarters at Elland Road became operational in 2014. The existing neighbourhood policing stations will remain in their present locations. There are no further major infrastructure schemes planned.

b) **Fire and Rescue**

3.42 The fire and rescue service is provided by the West Yorkshire Fire and Rescue Service. Following a major review of emergency cover and as part of West Yorkshire Fire and Rescue Authority (WYFRA) Integrated Risk Management Plan, the service agreed a range of measures including a new fire station in Killingbeck to replace fire stations in Gipton and Stanks, and a new station in Menston to replace ones in Rawdon and Otley. The Draft IRMP 2013-14 consulted on further changes including mergers of six existing stations into three new ones, but after extensive consultation revised plans were agreed whereby the only merger would be a new station in the Weetwood area to replace the ones at Cookridge and Moortown. Due to difficulties in identifying a suitable site for a new fire station in Menston, West Yorkshire Fire and Rescue Service has now revised its plans and Rawdon and Otley stations will remain as they are.

3.43 The new stations are part of proposals to enable WYFRS to deliver a first-class emergency service which meets community risk, protects firefighter safety and contributes significantly to addressing the financial gap West Yorkshire Fire and Rescue Authority faces. The changes also reflect a significant reduction in risk and demand experienced over the past ten years. The new site at Killingbeck is currently under construction and programmed to open in December 2015. The station will be staffed by 44 whole time firefighters delivering a 24 hour immediate response to the community, and will also accommodate the East Leeds Young Firefighters Scheme. This is an independent facility for students and is being relocated from Gipton fire station. This unique scheme will continue to flourish in its new home, enabling the youth of East Leeds access to a first class learning experience. An independent community room will also allow partner agencies to interact and share working experiences with WYFRS.

3.44 Rothwell's existing fire station was built in 1963 and the new plans involve replacing the existing fire station with a brand new station in the same location which opened in July 2015.

3.45 There is also the need for incremental provision of fire fighting water supplies and fire hydrants where new growth is to occur, and it is assumed that these would be provided directly on site by the developer where necessary.

c) **Ambulance Service**

3.46 Ambulance accident and emergency services and patient transport services are provided by the Yorkshire Ambulance Service. The Trust is currently working towards becoming a NHS Foundation Trust, which is a membership organisation free from central government control. Although data for the Leeds District has not been collated, the Service operates from 62 ambulance stations across the county, and 19 hospital based patient reception centres, and has a fleet of over 500 emergency vehicles and 460 patient transport service vehicles. The communication centres are based outside the District, in York and Wakefield.

4. GREEN INFRASTRUCTURE AND GREENSPACE

- 4.1 Green Infrastructure is the network of multi-functional greenspaces, both urban and rural, which includes protected sites, woodlands, nature reserves, river corridors, public parks and amenity areas, together with green links. It extends from urban centres through green corridors to open countryside and supports the natural, recreational and ecological processes which are integral to the health and quality of life of sustainable communities. A key function of Green Infrastructure is to help maintain and enhance the character and distinctiveness of local communities and the wider setting of places.
- 4.2 Two-thirds of the Leeds District is Green Belt, and one of the City's distinguishing features is also the way in which green corridors stretch from the surrounding countryside into the heart of the main urban area. Alongside these more natural spaces, the Council manages around 4,000 hectares of parks and greenspaces including 7 city parks which have achieved the Green Flag Award. Trees and woodland cover are also important components of Leeds' landscape character, with 4,450 hectares of woodland cover in the district, 1 European Site - South Pennine Moors SPA/SAC, 17 Sites of Special Scientific Interest (SSSI), 48 Local Wildlife Sites, 11 Local Geology Sites and 14 Local Nature Reserves. There are also 45 Candidate Local Wildlife Sites which will be assessed in the near future.
- 4.3 The SAP and AVLAAP will protect over 1660 greenspace sites serving the Leeds population. Each site has been recorded, plotted, assessed (quality and facilities available), and classified according to typology using the categories:
- Parks and Gardens
 - Amenity Space
 - Children and Young People's Play Provision
 - Outdoor Sport
 - Allotments
 - Natural Green Space
 - City Centre Civic Space
 - Cemeteries/Churchyards
 - Green Corridors
 - Private Gardens open to the public i.e. Harewood House
- 4.4 Please see the separate Greenspace Background Paper for detailed information on all the typologies of current and proposed greenspace in Leeds, and how the SAP and AVLAAP greenspace designations have been identified.
- 4.5 The greenspace needs of the District were comprehensively identified in the Leeds Open Space, Sport and Recreation Assessment (OSSRA 2011), which fed into the associated policies of the Core Strategy. The Core Strategy protects existing greenspaces where required and appropriate, and seeks to enhance their quality and accessibility. New development will contribute both to the amount of new greenspace in areas of deficiency, and to quality improvements on existing spaces, as set out in Core Strategy Policies G4 and G5. These new areas of greenspace will then have the same level of protection as for the designated greenspace sites in the SAP and AVLAAP. Furthermore, a number of housing sites have specific greenspace policy requirements.

- 4.6 The City Centre is a focus for both residential and economic growth which greatly limits the potential for provision of all greenspace types. Primarily the City Centre needs areas for circulation and to break up the townscape, both in terms of greenspace and public realm (hardstanding). There is the aspiration to create a network of improved greenspaces and public realm infrastructure throughout the City Centre, including improved links to the larger greenspaces located at the boundary of the City Centre. The new pocket park on Sovereign Street alongside new office development is an example of this. Also, one of the continuing priorities for green infrastructure in the City Centre is the proposed City Park along the South Bank of the River Aire, and support is being sought from developers and land owners in the form of land or financial contribution, as well as other funding sources.
- 4.7 A further assessment of the quantity of green space against the standards set out in Core Strategy Policy G3 was undertaken for each ward in December 2016 to establish which typologies had a surplus of provision and which were in deficit. All wards were in deficiency in at least one typology so none met the full standards. The findings of this re-assessment are set out in the updated Greenspace Background Paper. In summary, there is a great variety of provision across the typologies and wards with no ward meeting the standards of provision for all typologies. Provision of allotments is particularly poor and there is an under provision of natural green space in the main urban area (MUA) and major settlements in many wards. Those wards with areas beyond the MUA and major settlements generally have a good amount of green space in these areas. There has also been an assessment to determine whether the accessibility standards set out in Core Strategy Policy G3 are met. This will help to channel resources into meeting any deficiencies, and where surpluses exist, alternative typologies or uses may be an option.
- 4.8 Within the AVLAAP there are 130 hectares of greenspace on 21 sites, plus an additional 3.2 hectares of civic space across 7 sites in Leeds City Centre. Sites have been assessed using the standard criteria and provision has been assessed against the standards set out in Policy G3 using an estimation of the population of the Aire Valley area. A similar assessment exercise has been undertaken which has identified that there is a surplus of amenity, children's play and natural green space.

Cemeteries

- 4.9 Leeds City Council manages 75 cemeteries and churchyards within the Leeds District, including 24 cemeteries, 3 crematoria covering (Lawnswood, Cottingley, and Rawdon) and 51 closed and disused churchyards. Cemeteries are located at Armey Hill Top, Beckett Street, Beeston, Cottingley Hall, Garforth, Gildersome, Guiseley, Harehills, Holbeck, Horsforth, Hunslet, Kippax, Lawnswood, Lofthouse, Morley, New Farnley, New Wortley, Otley, Pudsey, Rothwell, Upper and Lower Wortley, Whinmoor, Whitkirk, Grange, and Yeadon.
- 4.10 Kippax and Whinmoor Grange cemeteries were opened in 2013 and improvements have been made to Garforth, Lawnswood, Cottingley and Rawdon Harehills and Cottingley cemeteries also have specific sections for Muslim burials and Harehills has a section for Jewish burials whilst Whinmoor Grange is a multi-faith cemetery.

Sports Facilities

- 4.11 Outdoor sports facilities are a wide-ranging category of open space which includes both natural and artificial surfaces for sport and recreation that are either publicly or privately owned. Facilities included within this category are playing pitches (including football, rugby, cricket, hockey), synthetic turf pitches, tennis courts, bowling greens, athletics tracks, and golf courses.
- 4.12 Outdoor sports facilities often function as a recreational and amenity resource, in addition to a formal sports facility. This is particularly true of public grass pitches, which often have a secondary function for walking and kick about area. Many recreation grounds double up as local parks.. When these pitches are not in formal use, which is for most of the week and over the summer months, they are available as open parkland, although this does impact on quality
- 4.13 In 2002 the Council undertook a Playing Pitch Strategy, for which a major driving factor was the need to identify a hierarchy of investment priorities for pitch improvement and development. Among other recommendations and priorities, since the publication of the Strategy the Council has sought to reduce the overall number of non-significant single pitch sites, and initiate and encourage the development of local networks of 'community clubs', which reflect local priorities for sports development, and provide for junior and senior teams, training, and competitive play. The Council is in the process of refreshing the Playing Pitch Strategy, which is anticipated for publication in 2017. Early outputs from the strategy suggests that Leeds has a good quantity of outdoor pitches but the quality could be improved. It should be noted that improving the quality of a pitch (for instance improving drainage) can change the number of times it is used in a period. This can act as cost saving to Leeds by mitigating the need to use more land.
- 4.14 The Leeds OSSRA recommends that the standard for outdoor sports (excluding golf courses) is set at the existing level of city wide provision, with a focus on improving quality of existing sites, and better access to them. For instance, the majority of outdoor sports facilities in Leeds are effectively private, being provided on education sites. For example, the university sports grounds concentrate large numbers of good quality outdoor sports facilities in North West Leeds. The influence of education controlled sporting facilities on the overall number of facilities is highly significant.
- 4.15 Provision of additional quality changing facilities is a capital intensive and longer term objective. As outlined above, the Council's policy resulting from the Playing Pitch Strategy is to encourage community hub sites for sporting facilities so that the provision of capital infrastructure such as changing accommodation can be shared and better utilised. Collective provision of pitches and facilities at some sites is already well established, such as Roundhay and Temple Newsam. Some sites, such as Stonegate Road in Moortown already exist and have previously provided formal sports provision, but due to drainage problems or lack of other facilities, their use was reduced or suspended pending substantial investment and improvement.

The existing and proposed hub site locations are Prince Phillips (Meanwood), Stonegate Road (Meanwood), Church Lane (Methley), Neville Road (Halton Moor), Middleton Leisure Centre, Queens Park (Pudsey), Tinshill Recreation Ground (Colton), Archie Gordon (Kirkstall), King George's Field (Horsforth), Whinmoor Cemetery, Roundhay Park, Fearnville (Gipton), and Temple Newsam.

- 4.16 Refurbishment of the Council's Leisure Centres, including swimming pool provision, is an ongoing process, and projects have been identified in the Infrastructure Schedule. Private provision of facilities such as gyms is also an important element of sports provision and is encouraged by the Council in appropriate locations.
- 4.17 Leeds also has a number of high profile sports venues that attract major events, and the Council supports ongoing improvements at the city's major sporting venues, such as Headingley Carnegie Stadium and Elland Road. The Universities also provide high quality facilities across a wide range of sports, and again improvements and additions to these are strongly supported.

Children's Play

- 4.18 Facilities for children and teenagers/young people across Leeds ranges across four types of formal equipped play space. Children's equipped play areas are for toddlers and young children and consist of equipment ranging from traditional swings and slides, to zip lines and more advanced play equipment for older children. This type of equipment also caters for disabled children. Multi-Use Games Areas are aimed at children aged 8 and above and consist of all-weather courts with multiple play functions, including goal ends and basketball hoops. Skate parks are aimed at children aged 12 and above and consist of a couple or a series of ramps depending on the size of the facility. Teen Zones are aimed at teenagers aged from 13 years and act as shelters where they can meet.
- 4.19 The Core Strategy recommends that the number of facilities provided across all four types is based at a rate of 2 per 1,000 children. This will bring about an improvement in the provision of play facilities across Leeds without dictating what type of facility is provided. The justification for grouping the facilities together is that child demographics vary between analysis areas and the decision about what type of facilities are provided should be in consultation with the local community.

Appendix 1

Leeds Infrastructure Delivery Plan (IDP)

THE LEEDS INFRASTRUCTURE SCHEDULE

- 7.1 The following pages set out the Infrastructure Schedule for Leeds. The base date of the Schedule is 2013, as it is considered to be important to show the history of the infrastructure planning process in relation to the Core Strategy and Site Allocations Plan (SAP). The Aire Valley Local Area Action Plan (AVLAAP) also has a separate schedule as the Aire Valley is at a more advanced stage (Aire Valley Leeds Area Action Plan - Infrastructure Delivery Plan Background Paper Update Dec 2016). A number of schemes have now been completed or are nearing completion. The delivery periods are organised into five year time bands dating from 2014, with the final 20 year band being outside of the Core Strategy timescale but included as being important to show the longevity of major infrastructure provision.
- 7.2 The Schedule includes identification of the projects which are critical for the delivery of the Core Strategy and Site Allocations Plan, alongside identifying those which are desirable but not essential. This includes consideration of the schemes which are funded, and those where the funding is more uncertain. Predicting future levels of funding beyond the short-term is difficult and it is particularly problematic in the current economic and funding climate, where funding has considerably reduced from the levels available in previous years. This is recognised in national guidance. Where exact levels of funding are unknown, the Schedule identifies the project alongside any funding information or estimates currently available.
- 7.3 The information in the schedule is organised into three levels of priority with green (1)/ amber (2) / red (3) colour coding. This coding is used to identify both the priority of a specific project, and the likelihood of its funding as set out below:

PRIORITY:	FUNDING:
1 Key Priority / Necessary to Support Growth	1 Definite / Very Likely
2 Desirable	2 Uncertain / Part Funded
3 Subject to Funding	3 None Currently Identified

INFRASTRUCTURE DELIVERY PLAN AREAS (Map in section 1)

D - DISTRICT WIDE

1 - AIREBOROUGH

2 - CITY CENTRE

3 - EAST LEEDS

4 - INNER AREA

5 - NORTH LEEDS

6 - OUTER NORTH EAST

7 - OUTER NORTH WEST

8 - OUTER SOUTH

9 - OUTER SOUTH EAST

10 - OUTER SOUTH WEST

11 - OUTER WEST

AVL – AIRE VALLEY LOCAL AREA ACTION PLAN

LEEDS INFRASTRUCTURE SCHEDULE – FULL SCHEDULE – Jan 2017**APRIL 2013 IDP PROJECTS NOW COMPLETED**

AREA	TOPIC	SCHEME	TOTAL COST	DELIVERY NOTES
D	Cycle	Leeds Core Cycle Network Route 10 Bradford – City Centre	£248,000	Implementation Plan 1: £223k 2011/12, £25k 2012/13. Phase 1 Complete.
D	Cycle	Leeds Core Cycle Network Route 12 Garforth to City Centre	£478,000	Phases 1 and 2 complete.
D	Highways (local)	Traffic light priority	£710,000	Enhanced priority for buses at signalised junctions. LTP scheme.
D	Transport (Bus)	Bus Lane Enforcement Cameras Phase 2	Neutral	LTP scheme
CC	Cycle	Leeds Core Cycle Network Route 2 – Leeds station to universities	£315,000	Opened spring 2014
CC	Cycle	Leeds Core Cycle Network Route 9 – Chapel Allerton to City Centre. Phase 1	£1,600,000	Opened May 2015
CC	Transport (Bus)	Leeds City Bus additional routes – route 70	Not known	Started operation April 2015
E	Highways (strategic)	M1 Jn 44 signalisation	Not known	Opened April 2015
I	Emergency Services - Police	City and Holbeck new Police Divisional Headquarters at Elland Road - Private Finance Initiative scheme	Not known	Home Office awarded £215.9 million for 3 new Police facilities including Elland Rd. Planning application approved 2012, completed April 2014. Site is up and running and has been for a number of years. Given that it is 2017 does this need to be deleted now ?
I	Highways (strategic)	M621 Junction 2 Islington roundabout	£325,000	Introduction of full-time traffic signal controls to address nose to tail collisions at roundabout entry points and manage traffic movement effectively along A643. Completed May 2013.
I	Public Transport	Roundhay Road Integrated Transport Scheme (Bayswater Rd - Harehills Lane)	£433,000	Outbound bus lane. Completed Dec 2013
I	Transport (Bus)	Elland Road Park and Ride	£2,550,000	Opened June 2014
N	Highways (local)	Horsforth Roundabout signalisation	£3,000,000	Completed Oct 2015
OS	Fire and Rescue	New replacement fire station on the existing Rothwell site	Not known	Opening July 2015
OW	Highways (local)	Thornbury Barracks roundabout	£3,400,000	Opened May 2015
OW	Highways (local)	Rodley roundabout signalisation	£3,200,000	Completed Aug 2015
OW	Transport (Rail)	New Pudsey park and ride extensions and access	£1,140,000	Opened Jan 2014
R	Highways (strategic)	M62 Jn 25-30 Smart Motorway	Not known	Completed September 2013
R	Transport (Rail)	Apperley Bridge station	£8,000,000	Opened Dec 2015

R	Water	Linking East Coast area to the grid, to pump water over a greater area to better allow for localised droughts	£6,700,000	Yorkshire Water £6.7m 2010 - 2015 to connect Scarborough and Filey area to the Yorkshire Grid.
CC	Transport (Rail)	Leeds City Station Southern Access	£14,400,000	Opened Jan 2016
R	Highways (Strategic)	M1 Jn 39-42 Smart Motorway	Not known	Completed Feb 2016
N	Transport (Rail)	Kirkstall Forge station	£8,000,000	Opened June 2016
CC	Highways (strategic)	A58(M) Leeds Inner Ring Road Major Maintenance Scheme.	£25,000,000	Completed Sep 2016
D	Cycle	City Connect cycle superhighway	£21,200,000	23km segregated cycle superhighway. Western section opened June 2016 and eastern section was effectively complete in October 2016
I	Transport (Bus)	Elland Road Park and Ride – expansion of surfaced car parking to 800 spaces and new visitor centre	£1,800,000	Opened Oct 2016 (visitor centre Dec 2016)
D	Waste	Residual Waste Facility (RERF), Newmarket Approach, Cross Green	Part of wider £460m contract	Part of 25 year £460m contract. The facility opened in 2016.

PLANNED INFRASTRUCTURE PROJECTS 2017 ONWARDS

AREA	TOPIC	SCHEME	TOTAL COST	PRIORITY	FUNDING SOURCES AND PARTNERS	DELIVERY NOTES	DATES				
							5 yr	10 yr	15 yr	20 yr	
D	Education	School requirement District wide resulting from SAP and AVLAAP allocations (Core Strategy housing growth)	Details being progressed.	1	1 Developer contributions including sites / CIL / LCC sites, LCC budget including Basic Need grant allocation	<p>In total approximately 80 FE of additional primary provision is needed as a result of the housing plans, equivalent to 40 new 2 FE primary schools. The SAP and AVLAAP have identified options for 50 FE. With safeguarded sites/land included, this rises to demand of 88FE and solutions for 60FE.</p> <p>In total approximately 60 FE of additional secondary provision are needed as a result of the housing plans (SAP & AVLAAP), equivalent to 7-8 new secondary schools of around 8 forms of entry each. The plans have identified options for 28FE. With safeguarded sites/land included demand rises to 66 FE (with no further sites agreed).</p>		✓	✓	✓	

AREA	TOPIC	SCHEME	TOTAL COST	PRIORITY	FUNDING SOURCES AND PARTNERS	DELIVERY NOTES	DATES				
							5 yr	10 yr	15 yr	20 yr	
D	Green Infra	Improvements to greenspace quantity and/or quality as result of new housing development	£86,722,628 from Policy G4/G5 funding. CiL contribution as yet unknown	1	1 £86,722,628 from Policy G4/G5 funding. CiL contribution as yet unknown	Calculations for period 2017-2028 (11 years). This is to the end of the Core Strategy plan period. Calculations factored in City Centre and Outside City centre split. Assume 60% delivery of new Greenspace through G4/G5. CiL contribution not included as this is currently unknown.					
D	Green Infra	District wide child's fixed play as a result of new housing development; play areas, MUGA, and skate/BMX	£19,360,376 from Policy G4/G5 funding. CiL contribution as yet unknown	1	£19,360,376 from Policy G4/G5 funding. CiL contribution as yet unknown	Calculations does not include laying out of Play Facilities as this is costed elsewhere (see above). Period is for 11 years and assumes a 20% child /adult split. (average ONS data 2014)					
D	Cycle	Leeds Core Cycle Network Route 16 - Wyke Beck Valley (phase 2)	£573,000	1	1 Sustrans, British Coal Residuary Authority, HS2	Connections to East Leeds Link, Aire Valley and Trans Pennine Trail. LTP scheme 2015.					
D	Cycle	City Connect 2 - Cycle super highway	£6,750,000	1	1 DfT/LTP	Scheme to extend current network of cycle superhighways within Leeds City Centre providing links to the City Connect 1 scheme.	2018	✓			

AREA	TOPIC	SCHEME	TOTAL COST	PRIORITY	FUNDING SOURCES AND PARTNERS	DELIVERY NOTES	DATES	5 yr	10 yr	15 yr	20 yr
D	Flood Defence	River Aire Flood Alleviation Scheme – Phase 2	£35,000,000	1	2 DEFRA growth funding	<p>A contract has been awarded to undertake the feasibility and initial design stage for Phase 2. Work to develop a full business case, which will establish the appropriate standard of protection for Leeds, how this can be achieved, what it will cost and how long it will take to deliver, is now progressing.</p> <p>The business case is expected to be submitted in autumn 2017, following which the outline design will be progressed with a view to tendering and awarding a construction contract in summer 2018.</p> <p>The primary aim of the scheme is to reduce the risk of River Aire flooding in Leeds including areas such as Kirkstall and Stourton (outside of the Phase 1 area) - we will also look at the upper catchment to identify opportunities where we can work with others to reduce flood risk along the River Aire beyond the Leeds boundary.</p>		✓	✓		
D	Highways (local)	20 mph limits and zones	Range of schemes	1	1 LTP IT Block	LTP scheme. Supported through LTP for next 3 years, likely to extend beyond this - ongoing work. Currently undertaking 15 schemes per year.		✓	✓		
D	Highways (local)	Pedestrian crossings	Range of schemes	1	1 LTP IT Block	LTP scheme. Supported through LTP for next 3 years, likely to extend beyond this - ongoing work.		✓	✓		

AREA	TOPIC	SCHEME	TOTAL COST	PRIORITY	FUNDING SOURCES AND PARTNERS	DELIVERY NOTES	DATES	5 yr	10 yr	15 yr	20 yr
D	Housing	Affordable housing initiatives including via S106	Not yet costed	1	2 Developers, LCC, Government grants	Delivered as result of new development providing S106 funding, LCC programmes, and Government grants		✓	✓	✓	.
D	Transport (Bus)	Investigation of Bus Quality Contracts/Partnership under consideration by WYCA	£300,000	1	1 LTP, WYCA and Bus operators	WYCA agreed in Sept 2014 to continue to develop and evaluate both the Quality Bus Contract and Partnership approaches.		✓			
D	Transport (Rail)	Provision of additional rolling stock	Not known	1	2 Rail operators	Northern and TransPennine franchise requirement to provide additional capacity for 13,000 additional peak passengers into Leeds	2017-19	✓			
D	Water	Water and sewerage pipe replacement District wide, plus modelling to investigate areas of deficiency	£8,000,000	1	1 Yorkshire Water	Currently spending £8 million replacing 40,000 lead pipes in Leeds to improve drinking water quality.		✓			
D	Education	Nursery and child care provision	N/A	2	2 Private, voluntary and independent sector	To be delivered primarily through private, voluntary and independent sector.		✓	✓	✓	
D	Energy	Gas pipe replacement district wide - 190km 20 yr project	Not known	2	1 Northern Gas Networks	20 year project, initial phases completed/underway.		✓	✓	✓	

AREA	TOPIC	SCHEME	TOTAL COST	PRIORITY	FUNDING SOURCES AND PARTNERS	DELIVERY NOTES	DATES				
							5 yr	10 yr	15 yr	20 yr	
D	Green Infra	Playing pitch and facilities improvements	Cost within overall cost of outdoor recreation	2	2 Sport governing bodies, developer contributions /CIL	In accordance with the existing Playing Pitch Strategy for Leeds there are on-going playing pitch facility projects at numerous sites.. Funded by Sport governing bodies including the FA, RFL, and RFU, and developer contributions/CIL.		✓	✓	✓	
D	Green Infra	Development of new woodland (location not yet determined)	Not yet costed	2	3 Grant funding, developer on-site/ contributions and CIL	.Part of overall green Infrastructure delivery through Core Strategy and possible CIL funding		✓	✓	✓	
D	Health	New health centres where necessary to support new population	Not yet costed	2	2 Generally funded by NHS/individual practices	To be assessed on a site by site basis as necessary through the planning system, and through the evolving national context of health care provision.		✓	✓	✓	

AREA	TOPIC	SCHEME	TOTAL COST	PRIORITY	FUNDING SOURCES AND PARTNERS	DELIVERY NOTES	DATES				
							5 yr	10 yr	15 yr	20 yr	
D	Pedestrian	Public Rights Of Way Network	£1,200,000	2	2 £800k from LTP, grants, and on-site provision	The Leeds ROWIP will be reviewed again by 2017. If all of the identified projects were to be delivered over the next ten years, the City Council would need to seek funding between £2.3m and £3.9m, including through developer contributions, West Yorkshire Plus Transport Plan and third party grants. The Plan should mainly be viewed as an aspirational document highlighting improvements (which in part) are over and above the basic statutory requirements. A cautious estimate has therefore been used of £1.2m (half the lowest estimate) to reflect that schemes are aspirational. The current PROW network is a LTP scheme, supported through LTP for next 3 years with £75k and likely to extend beyond this through ongoing work. An assumption of £75k LTP funding has therefore been assumed for each 3 year period = £300k. Additional 3rd party grants and provision on site as part of development schemes has assumed an additional £500k.		✓	✓		
D	Transport (Rail)	Local rail network electrification schemes	Not yet costed	2	3 -	Studies required to confirm costs, business cases and priorities			✓		
D	Community Centre	New community centres as necessary	Not yet costed	3	3 Via S106 / CIL / ward based funding / other grants	Increase in population may lead for need for new community centres, or enhanced use/reconfiguration of existing centres. Funded and delivered when necessary through S106 / CIL / ward based funding / other grants.			✓	✓	

AREA	TOPIC	SCHEME	TOTAL COST	PRIORITY	FUNDING SOURCES AND PARTNERS	DELIVERY NOTES	DATES				
							5 yr	10 yr	15 yr	20 yr	
D	Community Centre	New community centres as necessary	Not yet costed	3	3 Via S106 / CIL / ward based funding / other grants	Increase in population may lead for need for new community centres, or enhanced use/reconfiguration of existing centres. Funded and delivered when necessary through S106 / CIL / ward based funding / other grants.			✓	✓	
D	Cycle	Leeds Core Cycle Network Route 7 - Scholes to City Centre	£611,000	3	3 LTP IT Block	Connects to Penda's Way (17) and Wyke Beck Way (16).			✓		
D	Cycle	Leeds Core Cycle Network Route 8 - Rothwell to City Centre	£887,000	3	3 LTP IT Block	Connects to Route 3 and Aire Valley.			✓		
D	Cycle	Leeds Core Cycle Network Route 13 - Morley to City Centre	£932,000	3	2 LTP IT Block	Links to White Rose shopping centre and Holbeck regeneration area.			✓		
D	Cycle	Leeds Core Cycle Network Route 11 - Farnley - Leeds City Centre	£1,110,000	3	2 LTP IT Block	Links to Route 10.			✓		
D	Libraries	Libraries	Not yet costed	3	3 Ward based funding, LCC, other grants	Increase in population may lead for need for reconfiguration of existing libraries. Funded and delivered when necessary through LCC capital funding / ward based funding / grants.			✓	✓	
D	Transport (Rail)	Additional park and ride capacity local rail stations	Not yet costed	3	2 WYPTF	Additional park and ride capacity at West Yorkshire rail stations. Pontefract and Mirfield to be progressed through IP1 funded by LTP but are yet to be approved, further study required. Schemes for Horsforth, Morley and Garforth have been identified as priorities in the WYPTF although the Garforth scheme is dependent upon the location of East Leeds Parkway.	2021	✓			

AREA	TOPIC	SCHEME	TOTAL COST	PRIORITY	FUNDING SOURCES AND PARTNERS	DELIVERY NOTES	DATES	5 yr	10 yr	15 yr	20 yr
AVL	Education	2FE primary to the SW corner of the Copperfields site and 2FE primary / 4FE secondary through school at Skelton Grange	£19,600,000	1	1 Developer contributions / CIL / LCC sites, LCC budget	Education Funding Agency build rates: <ul style="list-style-type: none"> £12,320 per primary pupil, so £2.6m for 1FE and £5.2m for 2FE primary £15,400 per secondary pupil, so £9.2m for a 4FE (only implemented with a 2FE primary as a through school). 		✓	✓	✓	
AVL	Flood Defence	River Aire Flood Alleviation Scheme (FAS) – Phase 1	£49,300,000	1	1 £23.7m of DEFRA growth funding, £10m from LCC, £3.3m from the Regional Growth Fund, £8.5m from the Environment Agency - Flood Defence Grant in Aid (FDGiA) and £3.8m LEP funding.	Phase 1 - Create flood defences protecting the city from flooding along a 4.5 kilometre stretch of the River Aire between Leeds Central Station and downstream to Knostrop Weir. The FAS Phase 1 will provide a 1 in 100 years Standard of Protection from flooding with climate change to 2069. The FAS Phase 1 comprises 3 elements: i) Remove existing weirs and install moveable weirs at Knostrop and Crown Point ii) Provide defences: embankments, terracing, setting back of defences, walls as required between Leeds Train Station and Granary Wharfiii) Remove Knostrop Cut to merge the Canal and River Aire . Under construction. Completion summer 2017.	2016	✓			
AVL	Green Infra	Child's fixed play as a result of new housing development; play areas, MUGA, and skate/BMX	£3,550,000	1	1 Provided on larger sites by developers.	At 0.62 children per house and 0.1 children per flat = costs £645 per house and £104 per flat (rounded). AAP housing target of 7,950 dwellings gross to 2028. Assume 60% delivered on-site, leaving 40% of new infrastructure on existing green space. One third of housing target assumed to be flats. Costs based on 2014 green space off-site calculation rates.		✓	✓	✓	

AREA	TOPIC	SCHEME	TOTAL COST	PRIORITY	FUNDING SOURCES AND PARTNERS	DELIVERY NOTES	DATES	5 yr	10 yr	15 yr	20 yr
AVL	Green Infra	Improvements to green space quantity and/or quality as result of new housing development	£11,700,000	1	1 Developer contributions and grant funding	The increase in population will lead to a need for new areas of green space as well as improvements to existing parks. AAP housing figures of 7,950 dwellings gross to 2028. Core Strategy G4 requires 80 sq.mtrs/unit where sites located in areas of green space deficiency. For 60% of the housing target, assuming green space is delivered on-site, the other 40% is located in areas of adequate supply. This generates an anticipated on-site requirement for 36 hectares. Cost to lay out estimated at £7M. Improvements to local green space infrastructure estimated as £4.7M green space..		✓	✓	✓	
AVL	Highways (local)	Logic Leeds Link Road	£2,500,000	1	1 EZ business rates, prudential borrowing,	In LCC Capital Programme, initially funded by prudential borrowing. £2.5m provided to support a new spine road through Logic Leeds. This will allow public transport to connect directly from the LCREZ to Halton Moor residential community, thereby facilitating sustainable access to the new jobs. The LEP has agreed to repay the borrowing using retained EZ business rates.		✓			
AVL	Highways (local)	Aire Valley Leeds - North-South Link Road and river crossing	£24,800,000	1	2 Enterprise Zone borrowing, developer funding, WYPTF	New river bridge and link road to connect East Leeds Link Road with Pontefract Road. Includes Skelton Grange link route protection for a new road link and river crossing into Cross Green industrial estate and improvement at the junction between Skelton Grange Road and Pontefract Road. A potential role for the CIL. Funding prioritised in West Yorkshire Plus Transport Fund (which includes DfT devolved major scheme funding).			✓		

AREA	TOPIC	SCHEME	TOTAL COST	PRIORITY	FUNDING SOURCES AND PARTNERS	DELIVERY NOTES	DATES	5 yr	10 yr	15 yr	20 yr
AVL	Highways (Strategic)	M1 Junction 45 Phase 2 improvement	£8,000,000	1	1 Highways England	Widening of northbound and southbound off slip road and ELLR entries to roundabout, roundabout widening from 2 to 3 lanes, enhancement of traffic signal control (including entry to Skelton Business Park). Funded Route Investment Strategy scheme	2017	✓			
AVL	Pedestrian	Improved connectivity through provision of bridge infrastructure	Not yet costed	1	3	Specific ambitions/ requirements to improve connectivity. For example the South Bank area requires the Sovereign Square footbridge and the Low Fold footbridge. At approximately £1m per pedestrian/cycle bridge.	2028			✓	
AVL	Public Transport	Temple Green Park and Ride	£8,500,000	1	1 WYPTF	Part of package of transport connectivity enhancements, 1,000 parking spaces. Funding prioritised in West Yorkshire Plus Transport Fund (which includes DfT devolved major scheme funding) The £8.5m scheme to open in summer 2017.	2017	✓			
AVL	Public Transport	Stourton Park and Ride	Not yet costed	1	2 Leeds PT Investment Programme	1000 space bus based park and ride. Contained within PT Investment Programme outline strategic case submitted to DfT Dec 2016		✓			
AVL	Transport (Rail)	High Speed Rail (HS2)	Not yet costed	1	3 DfT	Network proposals with links from London to Birmingham, Manchester and Leeds. Subject of national study. Timetable envisages completion of route to Leeds by 2033.	2033				✓

AREA	TOPIC	SCHEME	TOTAL COST	PRIORITY	FUNDING SOURCES AND PARTNERS	DELIVERY NOTES	DATES	5 yr	10 yr	15 yr	20 yr
AVL	Waste Management	Residual Waste Solution, Aire Valley	£460,000,000	1	1 Veolia, LCC	Veolia Environmental Services appointed through PFI 2012 for 25 year £460m contract. Construction commenced 2013, to open 2016.	2016	✓			
AVL	Highways (strategic)	Skelton Grange Power Station obligations, Aire Valley Leeds - M621 J7 as per Valley Park	Not known	2	1 Developer funded	Improvements and coordinated traffic signal control - at M621 southbound off-slip and A61(N) entries to roundabout. Scheme may need reconsideration if P&R Stourton is progressed.		✓	✓		
AVL	Highways (strategic)	M621 J7 improvements and coordinated traffic signal control - at M621 southbound off-slip and A61(N) entries to roundabout.	Not known	2	1 Developer funded	To be implemented when Leeds Valley Park trip generation trigger is reached. Improvements and coordinated traffic signal control - at M621 southbound off-slip and A61(N) entries to roundabout. Scheme may need reconsideration if P&R Stourton is progressed.		✓			
AVL	Highways (strategic)	Arla Foods obligations, - M1 J44	Not known		2 Developer funded	Measures additional to those obligated on Leeds Valley Park - widening of Pontefract Road on approach to northern dumbbell roundabout and improvements to southern dumbbell. Developer funded, although development has not yet reached trigger.		✓	✓		

AREA	TOPIC	SCHEME	TOTAL COST	PRIORITY	FUNDING SOURCES AND PARTNERS	DELIVERY NOTES	DATES	5 yr	10 yr	15 yr	20 yr
AVL	Pedestrian / Cycle	Trans Pennine Trail (National Cycle Network Route No. 67)	£1,200,000	2	3 Developer funded, grants, Sustrans	<ul style="list-style-type: none"> Renew and upgrade surfacing of the canal and riverside paths which together form the TPT/NCN walking and route (Royal Armouries to Woodlesford Locks- 6km) Estimated cost £600k. Skelton Grange Road Bridge - New footbridge to replace current unsatisfactory (and non-Equalities Act compliant) stepped access onto and off-road bridge. Estimated cost £500k. Fishpond Lock – Installation of re-located, ramped, wooden footbridge from Knostrop Flood Lock to create cycle/wheelchair access over canal for Skelton Lake link to Wykebeck Valley Way. Estimated cost £75k. <p>Some elements may now be funded from the HS2 Cycle Scheme. Flooding during winter 2015/16 has affected this route and no funding is currently available to restore the affected sections.</p>		✓	✓		
AVL	Highways (local)	Knowsthorpe Lane Link - route protection	Not yet costed	3	3 -	Route protection for link for route north of Knowsthorpe Lane and a pedestrian / cycle link to the proposed new bridge crossing of the River. Outline costs not currently available, as likely only be brought forwards in the longer term, or when an associated development is progressed.					
AVL	Highways (local)	Thwaite Gate Junction - route protection	Not yet costed	3	3 -	Route protection for junction improvement at Thwaite Gate / Pontefract Road / Wakefield Road. Outline costs not currently available, as likely only be brought forwards in the longer term, or when an associated development is progressed.					

AREA	TOPIC	SCHEME	TOTAL COST	PRIORITY	FUNDING SOURCES AND PARTNERS	DELIVERY NOTES	DATES	5 yr	10 yr	15 yr	20 yr
A	Airport	A65-Airport-A658 link road	£38,200,000	1	2 WYPTF and third party contributions, LBA	LBIA has been developing a Surface Access Strategy which looks at short, medium (to 2025) and long (2025+) measures to improve access to the airport. The main medium term measure is a new road link between the A65 at Rawdon and the A658 north of the Airport. This has agreed funding through the Combined Authority for a start of construction by 2021.			✓		
A	Airport	Leeds Bradford airport parkway station	Not yet costed	1	2 Leeds PT Investment Programme and third party contributions	A parkway station serving Leeds Bradford Airport, providing a rail link for airport passengers, supporting employment growth surrounding the airport and providing strategic park & ride for the city and surrounding districts. Contained within PT Investment Programme outline strategic case submitted to DfT Dec 2016		✓	✓		
A	Leisure	Aireborough Leisure Centre Refurbishment	£3,800,000	3	3 None	Refurbish changing rooms, reception, and exterior, extend gym, access work. By 2020 and dependent on funding.		✓	✓		
CC	Green Infra	City Centre public realm	Not yet costed	1	3 In part through development of sites	Identified in Core Strategy as aspiration and key priority for development of City Centre.		✓	✓	✓	
CC	Green Infra	City Park and smaller pocket parks in City Centre	Within overall greenspace cost	1	2 In partnership with developers, LCC	The City Park is identified in the Core Strategy (G5) and also in AVAAP. We will take opportunities in appropriate developments to deliver smaller parks.		✓	✓	✓	

AREA	TOPIC	SCHEME	TOTAL COST	PRIORITY	FUNDING SOURCES AND PARTNERS	DELIVERY NOTES	DATES	5 yr	10 yr	15 yr	20 yr
CC	Highways (local)	Meadow Lane / Victoria Road scheme	Not yet costed	1	2 WYPTF	Meadow Lane / Victoria Road scheme. This would form part of the City Centre Package. Identified as West Yorkshire Plus Transport Fund priority	2022		✓		
CC	Regen	Kirkgate Market	£12,300,000	1	1 LCC	Refurbishment approved March 2013. Capital budget of £12.3m to include prudential borrowing.	2016	✓			
CC	Transport (Rail)	Infrastructure to maximise the regeneration benefits of HS2 and effectively integrate HS2 into the South Bank.	Not yet costed	1	3	Upon completion of HS2 station masterplanning and growth strategy, the Council will have a comprehensive plan and list of infrastructure required to maximise growth associated with HS2, as well as a funding ask/ proposal. This exercise will inform the specific projects in the South Bank. Elements of this are likely to form part of the WYPTF City Centre Package. Costs unknown at this stage.	2028			✓	✓
CC	Highways (local)	City Square renaissance public space and public transport priority	Not yet costed	2	2 WYPTF	This would form part of the City Centre Package. Identified as West Yorkshire Plus Transport Fund priority	2022		✓		
CC	Transport (Rail)	Leeds City Station new platform and platform 17 extension	£30,000,000	2	2 DfT	Scheme not currently funded but forms part of the High Level Output Specification for Control Period 5 (2014-2019).	2019		✓		

AREA	TOPIC	SCHEME	TOTAL COST	PRIORITY	FUNDING SOURCES AND PARTNERS	DELIVERY NOTES	DATES	5 yr	10 yr	15 yr	20 yr
C	Energy	City Centre Esco, and Civic and Victoria Gate district heating projects	Not yet costed	3	3	Aspiration. Existing Combined Heat and Power (CHP) system serving LGI and Leeds University could be extended to provide a central CHP.		✓	✓	✓	
E	Transport (Rail)	East Leeds Parkway Station, Thorpe Park	Not yet costed	1	2 National Rail/ WYPTF/Leeds PT Investment Programme	The station will provide links into Leeds, York and Selby while providing park and ride facilities (circa 500 - 700 spaces) close to major national road networks. Contained within PT Investment Programme outline strategic case submitted to DfT Dec 2016		✓	✓		

AREA	TOPIC	SCHEME	TOTAL COST	PRIORITY	FUNDING SOURCES AND PARTNERS	DELIVERY NOTES	DATES	5 yr	10 yr	15 yr	20 yr
I	Fire and	New fire station in Killingbeck to replace fire stations in Gipton and Stanks	Not known	1	1 WYFRS	Construction underway, to open in December 2015.	2015	✓			

I	Health - Leeds	St James's Hospital and Leeds General Infirmary - further reconfigurations and centralisation of services under consideration	Not known	1	2 Leeds Teaching Hospitals	Underway and ongoing		✓	✓		
I	Highways (local)	Armley Gyrotory major improvement	Not yet costed	1	2 WYPTF	Capacity enhancements. Linked to planned closure of City Square to general traffic. This would form part of the City Centre Package. Not yet costed. Identified as West Yorkshire Plus Transport Fund priority	2022		✓		
I	Highways (strategic)	M621 Corridor Management Plan Jn 1-7	Not yet costed	1	2 Highways England/WYPTF	Junction enhancements and localised widening of sections of the M621 in central Leeds. Funded Route Investment Strategy scheme. Integrates with WYPTF City Centre Package	2021		✓		
I	Highways (local)	Buslingthorpe Lane - route protection	Not yet costed	3	3	Route protected to improve poor alignment of road length. Outline costs not currently available, as only brought forwards in the longer term, or when an associated development is progressed.					
N	Highways (local)	A65/A6120 Horsforth Roundabout (major improvement)	Not yet costed	3	2 Developer funding contribution required	Further significant improvements to this junction identified through SAP evaluation.					

AREA	TOPIC	SCHEME	TOTAL COST	PRIORITY	FUNDING SOURCES AND PARTNERS	DELIVERY NOTES	DATES	5 yr	10 yr	15 yr	20 yr
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N	Highways (local)	A61/A6120 Moortown Outer Ring Road and A61 Scott Hall Rd/Harrogate Rd signalisation and improvement	Not yet costed	1	2 WYPTF	Signalisation of existing A61/A6120 and A61/Harrogate Rd roundabouts. Funding prioritised in West Yorkshire Plus Transport Fund (which includes DfT devolved major scheme funding). To be brought forward as a quick win with a start of construction in spring 2017.	2019	✓			
N	Highways (local)	King Lane/A6120 and King Lane/Stonegate Rd signalisation and improvement	Not yet costed	1	2 WYPTF	Improvements to the A6120 / King La and Stonegate Rd/King La junctions to replace the existing roundabouts with signalled junctions to alleviate congestion and improve road safety. Funding prioritised in West Yorkshire Plus Transport Fund (which includes DfT devolved major scheme funding). To be brought forward as a quick win with a start of construction in spring 2017..	2019	✓			
N	Highways (local)	Roundhay Park La junction with A6120	Not yet costed	1	2 WYPTF	Improvements to the signalled junction to alleviate congestion and improve road safety. Funding prioritised in West Yorkshire Plus Transport Fund (which includes DfT devolved major scheme funding). To be brought forward as a quick win with a start of construction in spring 2017..	2019	✓			
N	Fire and Rescue	New fire station in the Weetwood area to replace the ones at Cookridge and Moortown	Not known	2	2 WYFRS	Property search underway.		✓			

AREA	TOPIC	SCHEME	TOTAL COST	PRIORITY	FUNDING SOURCES AND PARTNERS	DELIVERY NOTES	DATES				
							5 yr	10 yr	15 yr	20 yr	

N	Highways (local)	A6120 dualling – Dawson's Corner-Horsforth	Not yet costed	2	3 None	Conversion of single carriageway to dual carriageway. Identified through SAP evaluation. Feasibility studies required.			✓	✓	
N	Cycle	Leeds Core Cycle Network Route 4 - Adel Spur	£157,000	3	3 LTP IT Block	Spur to extend coverage of route 15.			✓		
N	Leisure	Kirkstall Leisure Centre	£1,000,000	3	3 None	Refurbish changing room, re-orientate reception, works to heating / lighting / ventilation, reception, access. By 2020 and dependent on funding.		✓			
N	Transport (Rail)	Horsforth Woodside Station	Not yet costed	3	3 -	Requires further study. Outline business case is prepared but scheme has no status in DfT publication "Investment in Local Major Transport Schemes' and is not included in LTP Railplan 7. To be progressed with developer funding. No funding from Network Rail for this scheme.			✓	✓	
ONE	Cycle	Leeds Core Cycle Network Route 17 - Penda's Way	£1,440,000	2	3 LTP IT Block	Links to Routes 7 and 14. LTP3 scheme post 2014.		✓			
ONE	Cycle	Wetherby to Boston Spa disused railway - cycle route	Not yet costed	3	3	Route protected for the existing disused railway for use as a cycle track (scheme is partially complete). Outline costs not currently available, as only brought forwards in the longer term, or when an associated development is progressed.					
ONE	Cycle	Cross Gates to Thorner disused railway - cycle route	Not yet costed	3	3 Developer on-site/contribution, LCC	Possibility for delivery through East Leeds Extension / East Leeds Orbital Route.			✓		

AREA	TOPIC	SCHEME	TOTAL COST	PRIORITY	FUNDING SOURCES AND PARTNERS	DELIVERY NOTES	DATES	5 yr	10 yr	15 yr	20 yr
ONE	Leisure	Wetherby Leisure Centre	£1,400,000	3	3 None	Refurbish changing rooms, extend gym, access work. By 2020 and dependent on funding.		✓			
ONW	Cycle	Pool to Otley disused railway - cycle route	Not yet costed	3	3	Route protected for the existing disused railway for use as a cycle track. Outline costs not currently available, as likely only be brought forwards in the longer term, or when an associated development is progressed.					
ONW	Highways (local)	East of Otley Relief Road	Not yet costed	3	3 Developer funded	Route protected for new road link between the A659 and A660 routes east of Otley, to remove through traffic from the town centre. This scheme will be delivered by the developer of the East of Otley housing site.		✓	✓		
ONW	Highways (local)	Dyneley Arms junction improvement	Not yet costed	3	3	Identified in SAP appraisal.			✓		
ONW	Leisure	Otley Chippindale Swimming Pool	£250,000	3	3 Prince Henry Grammar School	Accessibility, energy and wider refurbishment. By 2020 and dependent on funding.		✓			
OS	Cycle	Methley disused railway - cycle route	Not yet costed	3	3	Route protected for the existing disused railway for use as a cycle track. Outline costs not currently available, as likely only be brought forwards in the longer term, or when an associated development is progressed.					
OS	Leisure	Rothwell Leisure Centre	£5,800,000	3	3 None	Pool hall refurbishment - new atrium, circulation and relaxation area. Refurbish dryside changing, additional car parking, fitness studio / spinning area, extend gym. By 2020 and dependent on funding.		✓			

AREA	TOPIC	SCHEME	TOTAL COST	PRIORITY	FUNDING SOURCES AND PARTNERS	DELIVERY NOTES	DATES	5 yr	10 yr	15 yr	20 yr
OSE	Highways (local)	A6120 Strategy - East Leeds Orbital Road as part of East Leeds Extension. Possible need for associated improvement to M1 J46.	£116,000,000	1	2 Options under investigation including WYPTF, LCC capital receipt from Red Hall site, developer contributions	Subject to development of allocated housing land. Original intention to be primarily developer funded and assumed in addition to CIL contributions as need has already been established as part of site specific infrastructure in relation to specific development. Northern section through Red Hall to be funded by LCC, in part through capital receipt. In January 2013 Executive Board decision for LCC to take a more leading role in investigating feasibility for delivery, therefore LCC in partnership with ELE consortium currently investigating overall costs and funding mechanisms for provision of whole stretch of road. Funding prioritised in West Yorkshire Plus Transport Fund (which includes DfT devolved major scheme funding) with an expectation of a significant element of developer funding	2021	✓	✓		
OSE	Highways	Garforth southern bypass	Not yet costed	3	3 Developer funded	Single carriageway bypass. Identified as potential scheme in SAP appraisal. Direct link to east of Garforth housing site. Likely to be developer funded.			✓		
OSE	Highways (strategic)	M1 J46 southbound slip road – ramp metering	Not yet costed	1	1 Highways England	Original target 2015 although currently being renegotiated to be traffic dependent. The scheme is to be delivered by Leeds City Council under a Section 6 agreement with the Highways Agency. Current Agreement states works to be delivered in 2019.		✓			

AREA	TOPIC	SCHEME	TOTAL COST	PRIORITY	FUNDING SOURCES AND PARTNERS	DELIVERY NOTES	DATES	5 yr	10 yr	15 yr	20 yr
OSE	Highways (Strategic)	M1 J46 Junction Improvements	Not known	1	1 Highways England	Junction improvements likely to be required as a result of developments across East Leeds and East Leeds Orbital Road. Modelling underway to identify scheme.			✓		
OSE	Highways (Strategic)	M1 J47 Junction Improvements	Not known	1	3 Highways England/developer funded	Junction improvements will be required as a result of Parlington and East of Garforth developments. Identified in SAP appraisal.			✓		
OSW	Cycle	Leeds Core Cycle Network Route 1 – East Middleton Spur	£190,000	2	2 LTP IT Block	Spur to extend coverage of Route 3. LTP scheme post 2014.			✓		
OSW	Transport (Bus)	A653 Dewsbury Road corridor	£19,800,000	2	2 WYPTF	Cross boundary corridor improvement, incorporating bus priority measures, junction improvements, park and ride and enhanced express bus services.		✓	✓		
OSW	Cycle	Leeds Core Cycle Network Route 6 – North Morley Spur	£448,000	3	3 LTP IT Block	Spur to extend coverage of Route 13.			✓		
OSW	Transport (Rail)	White Rose Station	Not yet costed	1	2 Leeds PT Investment Programme	A new station at White Rose to support the employment and retail centre. Contained within PT Investment Programme outline strategic case submitted to DfT Dec 2016		✓	✓		

AREA	TOPIC	SCHEME	TOTAL COST	PRIORITY	FUNDING SOURCES AND PARTNERS	DELIVERY NOTES	DATES	5 yr	10 yr	15 yr	20 yr
OW	Highways (local)	A6110 Outer Ring Road improvements	£17,600,000	1	2 WYPTF	Highway improvement package for the A6110 from M621 Jn 1 to A647 Stanningley Bypass. Includes enhanced pedestrian and cycling facilities as well as junction improvements at key intersections. Complements measures planned elsewhere on the Leeds Outer Ring Road. Funding prioritised in West Yorkshire Plus Transport Fund (which includes DfT devolved major scheme funding).			✓		
OW	Highways (local)	Chapel Lane, New Farnley - route protection	Not yet costed	3	3	Route protected to improve alignment of existing carriageway. Outline costs not currently available, as only brought forwards in the longer term, or when an associated development is progressed.					
OW	Highways	Dawsons Corner major improvement scheme	Not yet costed	3	3	Identified in SAP appraisal. Developer contributions likely.			✓		
OW	Leisure	Pudsey Leisure Centre	£2,000,000	3	3 None	New entrance and frontage, interior refurbishment, extend gym. By 2020 and dependent on funding.		✓			
OW	Transport (Rail)	New Pudsey Station parking expansion	Not yet costed	1	2 Leeds PT Investment Programme	500 space car park expansion at New Pudsey to increase its capacity for park & ride within the Leeds Bradford corridor. Contained within PT Investment Programme outline strategic case submitted to DfT Dec 2016		✓			

AREA	TOPIC	SCHEME	TOTAL COST	PRIORITY	FUNDING SOURCES AND PARTNERS	DELIVERY NOTES	DATES	5 yr	10 yr	15 yr	20 yr
R	Information technology	The West Yorkshire BDUK Local Broadband Plan	£2,350,000	1	1 ERDF, DCMS, LCC, private sector	Aims to ensure that 90% of premises across West Yorkshire have access to superfast broadband (24mbps+), with the remaining areas able to get a minimum of 2mbps. For Leeds there is ERDF funding of £780k, Department for Culture Media and Sport funding of £1.5m, and a LCC commitment of £72k, with private sector investment expected to match the public sector investment as appropriate. Current phase 1 due to complete in Sept. 2015. Phase 2 to run Oct. 2015 to 2018.		✓			
R	Information technology	Leeds and Bradford Super Connected Cities programme	£8,700,000	1	1 DCMS, LCC, private sector	The funding area covers the whole of Bradford, Calderdale, Kirklees, Leeds, and Wakefield. The project aims to focus on urban areas and deliver a step change in the availability of digital connectivity. There is DCMS funding of £14.4m (shared with Bradford) and LCC funding of £1.5m. This also assumes a gap funding model of additional private sector investment.	2016	✓			
R	Public Transport	Castleford Interchange – rail station redevelopment	Not known	1	1 LTP	Following the February 2015 opening of the new Castleford Bus Station and the improved links between the bus and rail stations, WYCA has started the third phase for rail station redevelopment. Overall funding yet to be approved but outline feasibility options have been drawn up, to include a range of improvements. Aiming for public consultation in late October 2015, works commence May 2016, complete November 2016.		✓			

AREA	TOPIC	SCHEME	TOTAL COST	PRIORITY	FUNDING SOURCES AND PARTNERS	DELIVERY NOTES	DATES	5 yr	10 yr	15 yr	20 yr
R	Public Transport	Yorcard - provision of card vending machines and topup points, integration of other services onto smartcards (school and leisure), on-bus equipment, enabling internet sales, development of Leeds City Region MetroCard product by smart media.	Not yet costed	1	3 £6.14m for first phase	West Yorkshire Integrated Transport Authority Executive Board on April 27 2012 agreed £6.14m to be spent on the project from the Better Bus Area Fund (£4.33 million plus £0.65 million relating to York City Council funding) and LTP funding £1.16million. Later phases assume contributions from City Region Authorities and Metro although split not yet determined. Metro, together with local bus operators, recently made a successful Better Bus Area Fund bid to the Department for Transport for almost £5m to develop West Yorkshire's smartcard network.		✓			
R	Transport (Rail)	Northern Hub train proposals: up to 700 more trains per day (44 million more people each year).	£580,000,000	1	1 Department for Transport	2 new fast trains per hour between Manchester Victoria and Liverpool. Increase from 4 to 6 fast trains per hour Leeds to Manchester. Journey times Leeds to Manchester reduced by 10 mins, Liverpool to Manchester by 10-15 mins. New direct service Manchester City Centre to Manchester Airport. Faster journey times to Sheffield, East Midlands, Chester, Bradford, Halifax, Hull, Newcastle, and North-East. RUS Infrastructure programme, funding confirmed.	Aim by 2020	✓	✓		
R	Transport (Rail)	Low Moor Rail Station, Bradford	£7,200,000	1	1 LTP	On the line between Bradford Interchange and Halifax rail stations. Completion expected May 2017.		✓			

AREA	TOPIC	SCHEME	TOTAL COST	PRIORITY	FUNDING SOURCES AND PARTNERS	DELIVERY NOTES	DATES	5 yr	10 yr	15 yr	20 yr
R	Transport (Rail)	Trans Pennine electrification between Manchester Victoria and Leeds, and on through Garforth to Colton Junction west of York and Selby	Not yet costed	1	2 Dft/WYCA, LPA & developer contributions for Garforth only	Announced in Chancellor's Statement Nov 2011. DfT commitment to fund core route Stalybridge to Leeds, Neville Hill to Colton Junction and Selby. Includes line capacity upgrades. Potential S106/CIL contribution for access improvements at Garforth station (£1.5m). Total costs over £100m. Planned for completion by 2022	2022		✓		
R	Transport (Rail)	Inter-regional rail capacity and infrastructure improvements	Not yet costed	2	3 -	Line improvements between Leeds and Sheffield / Midlands / Manchester / London. Unfunded but is a Network Rail, RUS and a national priority.			✓		
R	Highways (Strategic)	M62 J27 northern and southern dumbell works	£1,500,000	3	2 Potentially Highways England	Highways England has identified this potential scheme and is intending to bid for funding to deliver the scheme in the next 4 years.		✓			
R	Highways (Strategic)	M62 J28 west bound exit slip and circulatory carriageway	£2,000,000	3	2 Potentially Highways England	Highways England has identified this potential scheme and is intending to bid for funding to deliver the scheme in the next 4 years.		✓			
R	Highways (Strategic)	M62 J27 lengthening of west facing slip roads	Not known	3	3 -	Potential safety scheme required longer term. Not yet costed but expected to be more than £10m.					

AREA	TOPIC	SCHEME	TOTAL COST	PRIORITY	FUNDING SOURCES AND PARTNERS	DELIVERY NOTES	DATES				
							5 yr	10 yr	15 yr	20 yr	
R	Highways (strategic)	Strategic highway improvements	Not yet costed	3	3 -	Highways England is carrying out a Leeds Infrastructure Study to identify the infrastructure requirements on the Strategic Route Network over the plan period. Ongoing work.					
R	Highways (Strategic)	M1 J41 Snowhill Developer Scheme	Unknown	3	1 Developer Funded	Developer funded scheme secured by S278. Works to provide freeflow links.					
R	Highways (Strategic)	M62 J25-32 capacity enhancements and or demand reduction	Unknown	3	3 -	Longer term further enhancements will be required to provide mainline capacity or reduce demand.					
R	Highways (Strategic)	M62 J29 Lofthouse Interchange	£25-50m	2	3 -	Increase current two lanes eastbound and westbound on M62 through Lofthouse Interchange to three lanes in each direction. Not part of the Route Infrastructure Strategy (RIS) M1/M62 Lofthouse Interchange scheme.					
R	Highways (Strategic)	M62 J30 improvements to west bound off slip and signalisation	Unknown	3	3 -	Unfunded					

Appendix 2

Schools Background Paper

APPENDIX 2: SCHOOLS BACKGROUND PAPER

1. Introduction

- 1.1 This report provides an outline of the implications of the proposed site allocations for school places in Leeds, including reference to sites identified for new schools, in order to inform the final decision on site allocations.

2. Background

- 2.1 The Core Strategy, and Site Allocations Plan (SAP) and Aire Valley Leeds Area Action Plan (AVLAAP) which support its delivery, are essential to the economic growth of the city, and to its aspiration to be the best city in the country. This paper outlines the work done to ensure that the school provision necessary to support it can be delivered.

- 2.2 The context in which this work has been completed is challenging. The city is facing a rising demand for school places due to an increase in the birth rate from a low of 7,500 in 2000/1 to an average of just over 10,000 for the last 5 years. This has necessitated the creation of over 1,500 reception class places and over 10,000 primary school places as a whole, since 2009. This has been met through expansions of existing schools, creation of new schools, and restructuring of existing schools.

- 2.3 As a result the capacity of the existing school estate to respond to significant new housing is limited, particularly in certain hotspots within the city, and new sites will need to be secured initially through the SAP and AVLAAP process and later through detailed planning applications.

- 2.4 As the discussions with ward members and officers regarding site allocations have progressed, Children's Services have given their views on the potential impact in each Housing Market Characteristic Area (HMCA), and suggested sites which would be well placed to create additional school provision. In addition to considering the location relative to existing schools and the impact on them, consideration has been given to the size of particular sites, and priority has been given to locating provision in the larger sites which most directly give rise to the new demand. The recommendations for school sites should therefore be sustainable in the long term.

2.5 School Place Planning for Existing Demand

Children's Services have identified that up to an additional 18 forms of entry of primary school provision, the equivalent of up to 540 reception class places will need to be created between 2017 and 2019 to meet the growing demand for primary school places across Leeds. A mixture of permanent expansions to existing schools, bulge classes and the creation of new free schools will help meet this demand. Currently there are several consultations taking place across the city to expand existing schools and should these be approved, would create an additional 300 places between 2017 and 2019. In addition to this there are several free school applications progressing which would create a further 180 places. To meet the projected shortfall between 2017 and 2019, further work will be done to

bring forward additional consultations to expand existing schools, with some of the short term need being met through additional bulge cohorts.

- 2.6 Plans to meet the growing demand for secondary school places are now being put together as the rise in year 7 applications continues to grow. As with primary school places, this need will be addressed through existing school expansions, bulge classes and new free schools. In some cases sites previously identified as school allocation sites, to meet demand generated by the Site Allocations Plan, have had to be brought forward early to meet existing Learning Places demand instead. Where this has occurred alternative plans have been identified to meet new housing generated demand in the future. Paragraph 4.5 distinguishes the need arising from existing demand and the SAP and AVLAAP presented by Primary Planning Area.

3.The Process and Key Considerations

- 3.1 As the site uses and sizes have been refined, the analysis of the impact on school places has been adjusted. This has been a lengthy iterative process balancing housing, employment and green space allocations with other infrastructure needs, including schools. The site allocations commentary reflects the school as an essential requirement of any subsequent planning application for that site, and housing yields have been adjusted to allow for the school site area on housing allocations.
- 3.2 As far as possible, schools have not been proposed on safeguarded land sites. Concern has been raised that to progress a school on safeguarded land ahead of housing progressing may risk premature housing development through challenge of the status. Where a school is proposed on safeguarded land, consideration has been given to whether this arises purely directly from that site, or from a wider need and so be needed sooner. Where it may be needed sooner, consideration has been given to how a phased opening could reduce that risk and by initially opening to meet existing demand and expanding when the housing goes forward.
- 3.3 School attendance patterns do not map well onto the HMCAs, and having largely concluded this iterative process it was then necessary to re-aggregate the data into meaningful school place planning areas to provide a final assessment of the sufficiency of provision. Whilst this represents a position statement at January 2017, any further iteration may impact on the position described.
- 3.4 The report describes the context for these planning areas in terms of current pressures for places, current scope of the existing estate to meet existing demand, and the needs arising from the housing allocations. It highlights the areas of concern where no solutions for school places have been found.
- 3.5 Local authorities are already the providers of last resort for school places, and are dependent on working with partners to commission new provision. In addition, free schools are commissioned independently of the local authority. This can open up opportunities to acquire privately owned land and buildings which may not feature in this plan. Given the long term nature of the housing strategy, and the likelihood of changes to the statutory and educational context of school place planning, as well

as the possibility of further increases or decreases in the birth rate, it is therefore not necessarily an issue to progress with the site allocations without fully sufficient school provision being identified at this stage, however these risks are highlighted so that members can make an informed choice when approving the plans.

- 3.6 Establishment of new school provision is subject to a statutory process, which may or may not support the suggestions made in this report. However failure to secure sites now will almost certainly leave the authority with a significant gap in its ability to respond to the planned housing. Given the context described, it is therefore essential that the site allocations describe the provision of a school site as a requirement, but that the authority is able to confirm or decline that requirement at the time of the detailed planning application being brought forward.
- 3.7 It is generally inappropriate to name a specific scheme to meet the demand as this would need to be tested through the statutory process, and consultation in the SAP and AVLAAP process would not meet the needs of school organisation legislation. In some villages, options are clearly more limited, and consideration is given to the sustainability of more than one school. Relocation to facilitate expansion may be suggested as an obvious option to meet demand. In other cases sites immediately adjacent to existing schools offer obvious expansion options. Naming of a site, and especially a particular scheme, does not presuppose that this will be supported by the consultation and statutory process. The situation at the time the school provision needs to be brought forward will need to be appraised afresh.
- 3.8 There is some uncertainty about the impact of new housing of this scale in terms of pupil yield. For many years now the council has used a pupil yield of 25 primary aged pupils per 100 houses, and 10 secondary aged children. Adjusted by the number of year groups this equates to 3.5 children per year group in primary and 2 in secondary. These figures, particularly for primary, are not dissimilar to those used by other authorities, and have generally served Leeds well in planning school places.
- 3.9 This approach should ensure the authority is not left with a strategic shortfall of provision, but proposals will only be brought forward where the demand is confirmed. This reinforces the need to ensure that the planning conditions insist on the need for a school to be factored in, but not necessarily enacted.
- 3.10 Planning school places also involves liaising with other local authorities (Bradford, North Yorkshire, Kirklees and Wakefield) to share information about cross border pupil movement. Discussions take place several times a year and will also include information relating to planned housing that could have an impact on a bordering authority. This holistic approach has also allowed Leeds to request contributions for education where a development has been outside of the authority boundary but will have some impact on the schools which may be closest to a development. Separate discussions have also taken place with neighbouring authorities specifically in relation to the site allocations process.
- 3.11 Table 1 in Appendix 1 to this background paper summarises the number of houses approved, the pupil yield anticipated, and the sites identified as needing school provision including in the site use allocation by primary planning area. The following

commentary summarises any residual concerns for primary provision by planning area. Details are also provided of proposals to address existing school place demand.

- 3.12 Data is described in terms of forms of entry (FE). Schools are organised and funded around class sizes of 30 children, and a 1FE primary school has 1 class of 30 pupils in each year group, 2FE is 2 classes etc.

4. Primary School Place Impact

- 4.1 In total approximately 80 FE of additional primary provision will be needed as a result of the housing plans set out in the SAP and AVLAAP, which is the equivalent of 40 new 2 FE primary schools. The 2 plans have identified options that would secure land equivalent of 43.5FE city wide, with the remaining 36.5FE being met within the existing school estate through permanent expansions. Adding safeguarded sites into these figures, would increase demand to 89FE and solutions of 53.5FE.
- 4.2 The biggest gap in provision is in the City Centre HMCA, where 10 FE of additional demand could be created, with no sites identified. There is a high degree of uncertainty about the pupil yield from city centre locations, but we do know that increasingly families are moving into flats, and into these locations. A number of sites are coming forward through the Learning Places programme in the peripheral areas in the Inner HMCA, but this will not be sufficient to meet all housing generated demand. Between the two HMCAs - City Centre and Inner - 23.5FE of demand has been identified and only 3 FE of primary provision has been identified through SAP site specific requirements. This is not to say that schools cannot be provided outside of the SAP, as demonstrated by the recent establishment of the Ruth Gorse Academy, a secondary school due which opened in 2016 on Black Bull Street. The local authority will actively seek proposals for free schools and/or expansion of existing schools, in addition to the available SAP options, to address demand generated by city centre sites. However it is to note the high degree of risk attached with this Site Allocations Plan.
- 4.3 The pressure in the Inner HMCA is located mainly around the northern / north eastern part of the city centre, in the Kirkstall / Burley, Hyde Park, Woodhouse areas and through to parts of the Burmantofts, Chapel Allerton and Harehills. These are all areas where school provision is already facing pressure.
- 4.4 The preferred size for new provision is 2FE. This provides a degree of educational and financial breadth and stability, and allows options for downsizing rather than closure in times of declining birth rates. A number of areas do not present sufficient extra demand to warrant a new school but equally there may be problems meeting demand from the existing estate.
- 4.5 An analysis by Primary Planning Area (PPA) follows including a table setting out the identified need and proposed school provision (identified options) arising from Basic Need and the SAP and AVLAAP. Where safeguarded land is proposed within the PPA, that is detailed in the table and the accompanying text. Where schools are proposed on safeguarded land the sites are identified. Proposed schools on

safeguarded sites are not identified in the SAP plan with the yellow hatching as they are not site allocations but identified as potential locations for schools in the event of future housing development beyond the plan period. Table 1 at Appendix 1 provides a more detailed breakdown presented by Primary Planning Area and Housing Market Characteristic Area.

Alwoodley PPA (North/ Outer North East HMCAs) – Site HG2-36 (Alwoodley Lane, Alwoodley), was agreed should contain a new 2FE primary school to absorb housing generated demand in this area which is also impacting on the adjacent Roundhay / Wigton Moor planning area. 0.5FE of additional demand would be generated in the Alwoodley PPA within the North HMCA.

PPA		Identified Need (FE)	Identified provision (FE)	Shortfall (FE)
Alwoodley	Basic Need (2017-19)	0	0	0
	SAP Safeguarded land	0.5 0	2FE 0	+1.5 0

Ardsley / Tingley PPA (Outer South West HMCA) - The allocated sites generate an additional demand of 2.2FE and would require additional primary provision. Site HG5-8 (Bradford Rd, East Ardsley) may be required if the allocated sites are brought forward. Without the use of site HG5-8 there would be insufficient capacity within the existing network to meet housing generated demand due to ongoing basic need pressures in the area.

HG3-23 (Tingley Station) is identified as a safeguarded site, and if used in any future housing allocation would generate additional primary demand which again is unlikely to be met by existing schools due to ongoing basic need pressures. Therefore, should site HG3-23 come forward for development in the future it would be required to contain a 2FE school to meet the consequent demand generated.

PPA		Identified need	Identified provision	Shortfall
Ardsley/ Tingley	Basic Need (2017-19)	0.5	0.5	0
	SAP Safeguarded land	2.2 0.4	2 2	0.2 +1.6

Armley / Wortley PPA (Inner/ Outer West HMCAs) – 1.2 FE of additional demand would be created. There is a high level of movement in this area, creating some uncertainty about the ability for this extra demand to be absorbed within local schools. This area has little spare capacity due to existing pressure and a lack of available options to expand existing schools in the area.

PPA		Identified need	Identified provision	Shortfall
Armley/ Wortley	Basic Need (2017-19)	0	0	0
	SAP Safeguarded land	1.2 0.4	0 0	1.2 0.4

Beeston PPA (Outer South West HMCA) – A scheme to expand Cottingley Primary School by 0.5FE is going ahead from 2017 to meet 0.5FE of existing pressure in this PPA. No new school sites agreed but it is estimated that approximately 0.2FE of additional demand will be generated by new housing. This may create some localised pressure, although current projections indicate that this can be absorbed by existing schools within a reasonable distance of SAP sites.

PPA		Identified need	Identified provision	Shortfall
Beeston	Basic Need (2016-19)	0.5	0.5	0
	SAP Safeguarded land	0.2 0	0 0	0.2 0

Belle Isle (Inner/ Outer South West HMCAs) – No sites identified but 0.3FE of additional demand created in Belle Isle. There are limited options within existing estate for expansion and there is current basic need pressure. However, the creation of new free school primary provision at Acre Mount, Middleton should address existing pressures and help accommodate some of the SAP generated demand.

PPA		Identified need	Identified provision	Shortfall
Belle Isle	Basic Need (2016-19)	0.5	0.5	0
	SAP Safeguarded land	0.3 0	0 0	0.3 0

Boston Spa (Outer North East HMCA) – No sites agreed for school use. Estimated 0.6FE of demand generated but there are potential options to expand existing schools within the area.

PPA		Identified need	Identified provision	Shortfall
Boston Spa	Basic Need (2016-9)	0.5	0.5	0
	SAP Safeguarded land	0.6 0.3	0 0	0.6 0.3

Bramhope / Pool (Outer North West HMCA) – site HG2-17 (Breary Lane East, Bramhope) has been identified for education use as the collection of sites in this area would create an additional demand of 0.5FE primary aged children. There are no other nearby options for school expansion in this area. HG3-5 (Old Pool Bank, Pool-in-Wharfedale) is proposed as a safeguarded site that has been identified for part education use if it comes forward for housing in the future.

PPA		Identified need	Identified provision	Shortfall
Bramhope/Pool	Basic need (2016-19)	0	0	0
	SAP Safeguarded land	0.5 0.6	1 0	+0.5 0.6

Bramley (Outer West HMCA) – No sites agreed for school use. Estimated 0.9FE of additional demand created. Expansions planned within the existing school estate should provide sufficient capacity to absorb all housing generated and basic need demand.

PPA		Identified need	Identified provision	Shortfall
Bramley	Basic Need (2016-19)	0.7	0.7	0
	SAP Safeguarded land	0.9 0	0 0	0.9 0

Burmantofts (Inner/ City Centre HMCAs) – An estimated 2.5FE of demand generated by housing. No sites proposed for allocation. Plans are underway to expand and re-locate the existing Shakespeare Primary School onto a new site from September 2018. This relocation will allow for The Co-operative Academy of Leeds to expand their secondary provision from 2019 into the space vacated by Shakespeare Primary. However, these expansions are to meet existing demand for additional places and options are limited to accommodate further housing generated demand in the area.

PPA		Identified need	Identified provision	Shortfall
Burmantofts	Basic Need (2016-9)	2	2	0
	SAP Safeguarded land	2.5	0	2.5

Calverley PPA (Outer West HMCA) – Current projections indicate that local schools will be oversubscribed for the foreseeable future. No sites for school use agreed, and an estimated 0.2FE of additional demand generated by housing.

PPA		Identified need	Identified provision	Shortfall
Calverley	Basic Need (2016-19)	0	0	0
	SAP Safeguarded land	0.2 0	0 0	0.2 0

Chapel Allerton PPA (North & Inner HMCAs) – No sites proposed for school use, however a site within this PPA is proposed for a 2FE free school (subject to agreement). A free school provider is currently in discussions with the Education Funding Agency (EFA) with the aim of establishing new primary and secondary provision from September 2017. Although it is estimated that only 0.4FE of additional demand would be generated directly in this area, the free school proposal at Roundhay Road is wholly required to meet existing pressure for school places in Chapel Allerton and surrounding areas and will not provide a solution for this additional demand. There is a lack of available options for school expansion in the Chapel Allerton area and additional housing generated demand could result in demand outstripping supply of places.

PPA		Identified need	Identified provision	Shortfall
Chapel Allerton	Basic Need (2016-19)	0.5	0.5	0
	SAP Safeguarded land	0.4 0	0 0	0.4 0

Cookridge / Adel (North/Outer North West HMCAs) – Site HG2-18 (Church Lane, Adel) is agreed for a 2FE school. In total, housing across the area may generate 1.9FE of additional demand. Current projections indicate increasing pressure on primary school places in the area. Potential options for expansion in the existing estate may be sufficient to resolve basic need pressure but are unlikely to offer any scope for addressing additional demand caused by sites allocated for housing.

PPA		Identified need	Identified provision	Shortfall
Cookridge/ Adel	Basic Need (2016-9)	0.5	0.5	0
	SAP Safeguarded land	1.9 0	2 0	+0.1 0

EPOS (East Partnership of Schools) Villages South (Outer North East/Outer South East HMCAs) – In total, the sites would be expected to generate 3.6FE of additional primary school place demand within this area. Isolated village locations of schools in this PPA may result in localised pressure on existing schools due to additional demand generated by housing. Site MX2-39 (Parlington) is agreed for a 2FE school to meet demand generated by the site itself during the plan period (Phase 1). Additional primary school provision would need to be provided on-site for any additional development beyond that planned in Phase 1 as part of the comprehensive development brief for the wider settlement. The total number of forms of entry required would be dependent on the final agreed capacity of the proposed development. HG3-13 (East of Scholes) is a safeguarded site. Should this site come forward for development it would be required to contain a 2FE school to meet the consequent demand generated.

PPA		Identified need	Identified provision	Shortfall
EPOS South	Basic Need (2016-19)	0.5	0.5	0
	SAP Safeguarded land	3.6 1.1	2 2	1.6 +0.9

EPOS (East Partnership of Schools) Villages West (Outer North East HMCA) – No school sites agreed and 0.2FE of demand identified. Isolated village locations of schools in this PPA may result in localised pressure on existing schools due to additional demand generated by housing.

PPA		Identified need	Identified provision	Shortfall
EPOS West	Basic Need (2016-19)	0	0	0
	SAP Safeguarded land	0.2 0.1	0 0	0.2 0.1

Farnley (Outer South West/Outer West HMCAs) – No sites identified and 0.5FE of additional demand. Options believed to exist in the existing estate to accommodate this.

PPA		Identified need	Identified provision	Shortfall
Farnley	Basic Need (2016-9)	0	0	0
	SAP Safeguarded land	0.5 0	0 0	0.5 0

Farsley (Outer west HMCA) – The Site Allocation Plan is estimated to generate 0.3FE of demand in an area with limited/no options for expansion within the existing school estate. There is a lack of expansion options to meet this additional demand.

HG3-15 (1114) Kirklees Knowl is a safeguarded site and if the site comes forward in the future it would be required to contain a 2FE primary school.

PPA		Identified need	Identified provision	Shortfall
Farsley	Basic Need (2016-9)	0	0	0
	SAP Safeguarded land	0.3 0.5	0 2	0.3 +1.5

Garforth (Outer South East/ East HMCAs) – Site HG2-124 (Stourton Grange Farm, Selby Road - Ridge Road, Garforth) was agreed to contain a 2FE primary and a 2FE primary and 4FE secondary through school in order to meet the anticipated demand of 3.7FE from allocated new housing in the Garforth area and to partly address the demand from allocated housing in nearby Micklefield. It is not known if schools in this area could also be expanded.

PPA		Identified need	Identified provision	Shortfall
Garforth	Basic Need (2016-19)	0	0	0
	SAP Safeguarded land	3.7 0.6	4 0	+0.3 0.6

Gildersome / Drighlington (Outer South West HMCA) – agreed site HG2-145 (Bradford Rd/Wakefield Rd, Gildersome) adjacent to Gildersome Birchfield Primary School could provide for expansion possibilities of 1FE to fully meet 1FE of additional demand.

PPA		Identified need	Identified provision	Shortfall
Gildersome/ Drighlington	Basic Need (2016-19)	0	0	0
	SAP Safeguarded land	1 0	1 0	0 0

Guiseley / Yeadon / Rawdon (North and Aireborough HMCAs) – 3.2FE of demand created. 2FE school located within sites HG2-5 (Coach Road/Park Road, Guiseley) agreed in principle. Site HG2-41 (Land off A65 Rawdon & Horsforth) has been agreed should contain a through school

with 2FE primary and 4FE secondary, although this will be better placed to meet Horsforth PPA housing generated demand. The locations of the allocated sites within this PPA mean that not all housing generated demand could be accommodated by the reserved school sites and there are no other expansion options available locally.

PPA		Identified need	Identified provision	Shortfall
Guiseley/ Yeadon/ Rawdon	Basic Need (2016-19)	0	0	0
	SAP Safeguarded land	3.2 0.4	3* 0	0.2 0.4

*1FE from HG2-41

Harehills (Inner HMCA) – No sites agreed with an additional 0.3FE of demand. Whilst in part this could be addressed by the proposed free school at Roundhay Road, there are no other known options in the existing estate at this time should this free school proposal not go ahead.

PPA		Identified need	Identified provision	Shortfall
Harehills	Basic Need (2016-19)	2	2	0
	SAP Safeguarded land	0.3	0	0.3

Holbeck (City Centre and Inner HMCAs) – No sites have been identified as part of the Site Allocation Plan. However, there is a free school proposal to build a new 2FE primary school in the Holbeck area to meet demand from new city centre developments. It is anticipated that 13.6FE of demand may be generated by the SAP in total but it should be noted that the level of actual demand is uncertain due to the close proximity of much of the proposed housing to the city centre. There is some potential for expansion of existing schools in the area with a scheme underway to expand Hunslet Moor Primary school to meet basic need pressure. The uncertainty surrounding the actual level of demand that may be generated in Holbeck increases the level of risk. Without options for new school provision there will be insufficient capacity within the system to address all demand generated.

PPA		Identified need	Identified provision	Shortfall
Holbeck	Basic Need (2016-19)	1	1	0
	SAP Safeguarded land	13.6	0	13.6

Horsforth (North HMCA) 1.2FE of demand generated by the SAP and there is already non-housing related pressure for places within this area. Site HG2-41 (Land off A65 Rawdon & Horsforth) has been agreed should contain a through school with 2FE primary and 4FE secondary which should meet the need generated by the site itself and provide some additional capacity for surrounding sites in Horsforth. Part of site HG5-1 (Land off Victoria Avenue, Horsforth) adjacent to Newlaithes Primary School is also needed as there are no options for further expansion within the existing estate unless new free school provision comes forward separately.

PPA		Identified need	Identified provision	Shortfall
Horsforth	Basic Need (2016-19)	0	0	0
	SAP Safeguarded land	1.2 0	2* 0	+0.8 0

*(1FE from HG2-41)

Hunslet (City Centre and Inner HMCAs) – No sites identified, but 0.1FE of demand generated. Planned expansions of existing schools in the Hunslet area will help to ease existing pressure and reduce any pressure driven by housing development. There are also options for further expansions locally should this be required.

PPA		Identified need	Identified provision	Shortfall
Hunslet	Basic Need (2016-19)	0.8	0.8	0
	SAP Safeguarded land	0.1 0	0 0	0.1 0

Hyde Park / Headingley (Inner/North HMCAs) – No sites identified and 2.4FE of demand generated from allocated housing sites. This area is of concern as any remaining options to expand existing schools would be required to address existing demand.

PPA		Identified need	Identified provision	Shortfall
Hyde Park/ Headingley	Basic Need (2016-19)	1.2	0.7	0.5
	SAP Safeguarded land	2.4	0	2.4

Kippax (Outer South East) – No sites identified, but 0.2FE of demand generated. Not of concern, as there is scope in the existing estate to accommodate the extra demand generated.

PPA		Identified need	Identified provision	Shortfall
Kippax	Basic Need (2016-19)	0	0	0
	SAP Safeguarded land	0.2 0.2	0 0	0.2 0

Kirkstall / Burley / Hawksworth Wood (North/Inner HMCAs) – A site for a 2FE school is to be reserved on MX2-9 (Kirkstall Road). Site MX1-3 (Abbey Road, Kirkstall Forge) is to include a 2FE school. Discussions have taken place between the developer and an education provider to deliver a school on site. A total of 3.8FE of demand would be created in the PPA by the SAP. There are concerns for this area due to similar pressures in adjacent Horsforth, Woodhouse and Hyde Park / Headingley planning areas.

PPA		Identified need	Identified provision	Shortfall
Kirkstall / Burley / Hawksworth Wood	Basic Need (2016-19)	1.5	1.5	0
	SAP Safeguarded land	3.8 0	3.5 0	0.3 0

Lower Aire Valley (Outer South East and Outer South HMCAs) –The SAP is estimated to produce 1.1FE of demand which could cause localised pressure for school places in areas with no known expansion options within the existing estate. Safeguarded Site HG3-20 (1149A) Park Lane Farm (including Owland Farm, Doctors Lane), Allerton Bywater, would need to include a 2FE primary school if came forward for housing in the future.

PPA		Identified need	Identified provision	Shortfall
Lower Aire Valley	Basic Need (2016-19)	0	0	0
	SAP Safeguarded land	1.1 1.4	0 2	1.1 +0.6

Manston, (and Swarcliffe / Whinmoor) (East HMCA) – No dedicated site requirements for school provision within this PPA and an estimated 1.5 FE of demand generated (Manston PPA only) by housing. However, site HG1-288 (East Leeds Extension) is agreed to include provision for three 2FE primary schools which should be sufficient to meet local demand from allocated housing sites.

PPA		Identified need	Identified provision	Shortfall
Manston	Basic Need (2016-19)	0	0	0
	SAP Safeguarded land	1.5 0	0 0	1.5 0

Meanwood - No sites identified but 0.5FE of additional demand created. Limited options in existing estate to meet current basic need pressure.

PPA		Identified need	Identified provision	Shortfall
Meanwood	Basic Need (2016-19)	1	1	0
	SAP Safeguarded land	0.5	0	0.5

Middleton - (Outer South West and Inner HMCAs) - No sites identified but 1.2FE of additional demand created across Middleton PPA. There are limited options in the existing estate for expansion and current basic need pressures. An option to create new primary provision at Acre Mount should address existing pressure and help accommodate some of the Site Allocation Plan generated demand.

PPA		Identified need	Identified provision	Shortfall
Middleton	Basic Need (2016-19)	1	1	0
	SAP Safeguarded land	1.2 1.3	0.0 0	1.2 1.3

Morley (Outer South West HMCA) – site HG2-150 (East of Churwell) identified for 2FE school to partly meet 3.1FE of demand needed. Options for expansion are largely exhausted in areas where pressure may be created by new housing.

PPA		Identified need	Identified provision	Shortfall
Morley	Basic Need (2016-19)	0	0	0
	SAP Safeguarded land	3.1 0.1	2 0	1.1 0.1

Osmondthorpe / Temple Newsam (East and Inner HMCAs) – 4.1FE of additional demand. A free school has already been established on the sites of the former East Leeds Sports Centre and former Whitebridge Primary School as a through school with 2FE primary and 4FE secondary which should address the demand arising from this housing. The AVLAAP proposes to allocate site AV111 Skelton Lake for a similar through school and Site AV38 has also been reserved for a 2FE primary school (This includes the former Copperfields School site). Some demand may not be met by planned new schools creating localised pressure in the area.

PPA		Identified need	Identified provision	Shortfall
Osmondthorpe / Temple Newsam	Basic Need (2016-19)	0	0	0
	SAP & AVLAAP Safeguarded land	4.1 0	4 0	0.1 0

Otley (Outer North West HMCA) – Estimated 1.4FE of demand generated from housing. There is little scope for local schools to absorb additional children and therefore land identified for 2FE school use as part of site MX1-24 (East of Otley) will be needed through the relocation and a 1FE expansion of an existing school. Actual expansion using MX1-24 would only accommodate 1FE of housing generated demand leaving 0.4FE of demand unmet.

PPA		Identified need	Identified provision	Shortfall
Otley	Basic Need (2016-19)	0	0	0
	SAP Safeguarded land	1.4 0	1 0	0.4 0

Pudsey/Swinnow (Outer West HMCA) – Site HG2-72 (land adjacent to Pudsey Tyersal Primary School) has been identified to include a school expansion option of 1FE. This is an area of some concern as planned expansions to existing schools will only address existing pressure and are therefore not likely to provide places to meet the additional demand of 1.9 FE shortfall from allocated housing sites across the planning area. There are no other local expansion options available.

PPA		Identified need	Identified provision	Shortfall
Pudsey/ Swinnow	Basic Need (2016-19)	1	1	0
	SAP Safeguarded land	2.9 0	1 0	1.9 0

Richmond Hill (Inner/City Centre/East HMCAs) – Site HG2-201 (Upper Accommodation Road, Lavender Walk, Pontefract Lane and Berking Avenue South of York Road) has been identified for a potential 1FE expansion of existing provision. The total additional demand from allocated housing sites is estimated at over 5FE and there is existing pressure in the area.

PPA		Identified need	Identified provision	Shortfall
Richmond Hill	Basic Need (2016-19)	1	0	1
	SAP Safeguarded land	5.3 0	1 0	4.3 0

Robin Hood / Rothwell / Woodlesford (Outer South HMCA) The SAP is expected to generate 2.8FE of demand. There are some options available to expand local schools if required, however there is temporary basic need pressure in the area which may limit the ability of these options to meet all housing generated demand. Site HG2-180 (Fleet Lane & Methley Lane, Oulton) has allocated space included for a new 2FE primary provision. Site HG5-7 (Hope Farm, Wakefield Rd, Rothwell) is proposed for a school allocation only.

PPA		Identified need	Identified provision	Shortfall
Rothwell/ Robin Hood/ Woodlesford	Basic Need (2016-19)	0	0	0
	SAP Safeguarded land	2.8 0	4 0	+1.2 9

Roundhay / Wigton (North HMCA) - No sites identified with 0.2FE demand created by the SAP. This is an area of current pressure however a free school application for 2FE is anticipated to meet the basic need demand going forward. This is based on current NHS data relating to births and numbers of children living in the area.

PPA		Identified need	Identified provision	Shortfall
Roundhay/ Wigton	Basic Need (2016-19)	2	2	0
	SAP Safeguarded land	0.2 0	0 0	0.2 0

Seacroft (Inner HMCA) – No sites identified. 1.4FE of demand will be generated. Potential options may be available from within the existing school estate, however this is an area of some uncertainty regarding the housing generated yield due to the proximity of HG1-288 (East Leeds Extension).

PPA		Identified need	Identified provision	Shortfall
Seacroft	Basic Need (2016-19)	0	0	0
	SAP Safeguarded land	1.4 0	0 0	1.4 0

Stanningley (Outer West HMCA) – No sites agreed for school provision with only 0.1FE of additional demand. Available options for expansion exist in surrounding area.

PPA		Identified need	Identified provision	Shortfall
Stanningley	Basic Need (2016-19)	0	0	0
	SAP Safeguarded land	0.1 0.6	0 0	0.1 0.6

Swarcliffe/ Whinmoor (East HMCA) – 5.7 FE estimated demand generated by housing. HG1-288 (East Leeds Extension) will provide sufficient capacity (6FE Primary) to meet the estimated demand generated by allocated housing sites. Current demand is being addressed through the expansion of an existing school and potential options exist for further school expansion in the area, if required.

PPA		Identified need	Identified provision	Shortfall
Swarcliffe/ Whinmoor	Basic Need (2016-19)	1	1	0
	SAP Safeguarded land	5.7 0	6 0	+0.3 0

Wetherby (Outer North East HMCA) – Estimated 2.1FE of demand generated from all sites. 2FE primary provision to be included within site HG2-226 (Land east of Wetherby). Options may be available within the existing school estate to make up the shortfall.

PPA		Identified need	Identified provision	Shortfall
Wetherby	Basic Need (2016-19)	0	0	0
	SAP Safeguarded land	2.1 0	2 0	0.1 0

Woodhouse (City Centre/Inner HMCAs) – No sites have been agreed for school use for the SAP and almost 1.8FE of demand is expected. This area is of some concern due to existing estate being exhausted and the adjacency of a number of areas with insufficient solutions identified.

PPA		Identified need	Identified provision	Shortfall
Woodhouse	Basic Need (2016-19)	1	0	1
	SAP Safeguarded land	1.8 0	0 0	1.8 0

5. Secondary School Place Impact

- 5.1 In total approximately 60 FE of additional secondary provision are needed as a result of the housing plans, equivalent to 7-8 new secondary schools of around 8 forms of entry each. The SAP and AVLAAP have identified options that would secure land equivalent of 28FE with the remainder being met within the existing school estate, through permanent expansions. Adding safeguarded sites into these figures, would increase demand to 66 FE, however no additional land to address this was agreed.
- 5.2 There is considerable current uncertainty about the capacity of secondary schools to meet anticipated demand. Changes to sixth form funding means that any sixth form of less than around 250 pupils is not financially sustainable. As sixth forms are established collaboratively and increasingly in off-site provision, there will be additional space available for statutory school age children. Translating the number of places made available by this is not straightforward as the delivery of the

curriculum is not based on simple classes of 30 as in primary, and requires use of specialist facilities. Admission numbers are often therefore not rigid multiples of 30, although the language of FE is still used as an approximation.

- 5.3 A cautious approach has been taken when projecting the pupil yield for secondary school places. This uncertainty around both the projection of demand for secondary places and how it might be met should be borne in mind when considering the implications for planning school provision. Five sites have been identified to provide secondary provision which should address the demand arising from the SAP and AVLAAP for areas where the existing estate would otherwise be insufficient to cope.

HMCA	Site Address	School Provision
East	AV111 Land former opencast workings adjacent to Lawn Farm, Pontefract Lane, Richmond Hill (Skelton Gate)	4 FE
	HG1-288 East Leeds Extension	8 FE
	HG1-296 Seacroft Hospital	6-8 FE
North	HG2-41 South of A65 from Horsforth & Rawdon RA to crematorium	4 FE
Outer South East	HG2-124 Stourton Grange Farm South, Selby road – Ridge Road, Garforth	4 FE

- 5.4 For MX2-39 (Parlington) secondary school provision will need to be provided on-site for any additional development beyond that planned in Phase 1 as part of the comprehensive development brief for the wider settlement. The total number of forms of entry required would be dependent on the final agreed capacity of the proposed development.
- 5.5 There is estimated to be over 16FE of demand arising in the Inner and City Centre HMCAs. The newly opened Ruth Gorse Academy will provide 8FE of provision to meet the current basic need demand. The proposed expansion of Co-operative Academy may also provide some additional capacity to meet housing generated demand from the city centre, although this expansion is primarily linked to existing demand for secondary places. The inner east and inner north east of the city already face considerable pressure for places with demand from housing likely to exacerbate this further.

Stakeholder engagement

- 5.6 Stakeholder engagement events, providing a forum in which to share and agree potential solutions to deliver new school places, are planned to take place across the city. The first city wide ‘secondary school place planning day’ took place on 4th July 2016. All solutions to meet demand from places arising from new housing will involve either the expansion of an existing school(s) close to the development, the establishment of a new free school (primary, secondary or a through school model) or a combination of both options.
- 5.7 Following the city wide planning day, focused conversations will now begin with individual schools or groups of schools within each individual secondary

planning area to begin to develop firm plans to meet future projected demand for places.

6. School delivery and Expectations on developers for school provision:

Site Allocations Plan

- 6.1 It is important that the plan ensures that there are sufficient school places to meet the needs of an expanded population. Such sites are identified on the site specific plans in section 3 of the Site Allocations Plan (hatched yellow). Where part of a housing allocation is needed to be retained for provision of a new school (or extension to an adjacent school) this is detailed under the site specific requirements in section 3. Section 3 also lists all sites (identified and allocated) where school provision is required. Some sites that are not allocated for housing also need to be reserved for future school use. Policy HG5 applies to these sites (see page 27 of the Publication Draft plan).

Aire Valley Leeds Area Action Plan

- 6.2 Paragraphs 3.4-24-3.4.26 of the AVLAAP outlines the provision for schools in response to the new housing allocations. Policy AVL10 (New Schools) lists the two sites identified for new schools (AV34 Copperfields and AV11 Skelton Gate).

School providers

- 6.3 A change in national education policy is leading to a greater diversity of schools with the development of academies and free schools in addition to a change of role for local government (the local authority) in relation to education matters. The current education system precludes local authorities from delivering new schools, however the Local Authority still has the ability to expand existing schools or, in certain specific circumstances, can create 'all-through schools'.
- 6.4 In view of this, new schools can only be provided by these alternative means:
- The local authority invites applications from potential free school providers through the Free School Presumption process. The Local Authority would provide the site and fund the construction of the school building/facilities, and lease the building to the free school.
 - A free school proposer may approach the local authority to open communication channels with the local authority, but would apply directly to the Education Funding Agency (EFA) through the Free School application. In terms of delivery this would be established through the EFA and not the local authority.

Delivery of schools identified in the Site Allocations Plan – expectations on landowners and school providers

- 6.5 As explained above, school sites are identified on the site specific plans in section 3 of the SAP (hatched yellow) and policy AV10 in the AVLAAP. The allocations

fall into 3 categories and are shown in Table 2 at Appendix 2 and Plan 1 at Appendix 3(NB safeguarded sites are not shown on the plan):

1.Housing allocations which identify a need for school provision, where a number of sites/developments in the area generate the need for school provision, and the most suitable site in terms of school planning criteria has been identified for the location of the school.

There are 10 housing allocations in the SAP (and 3 identified housing allocations) which fall into this category. In the AVLAAP, the former Copperfields site (AV38) is category 1 and Skelton Gate (AV111) is category 1 for secondary element of the schools provision. On these sites/allocations, developers and landowners will be expected to reserve the appropriate land area for school provision and transfer the land at nil consideration to the appropriate body delivering the school.

2. Housing allocations which identify a need for school provision, where the site itself is of such a scale as to generate the need for school provision

There are 4 housing/mixed use allocations in the SAP which fall into this category – (sites at Horsforth (HG2-41), Garforth (HG2-124), Wetherby (HG2-226), Parlington (MX2-39) , plus the identified site at East Leeds extension (HG1-288)). In the AVLAAP, Skelton Gate (AV111) is category 2 for primary provision. For these large scale residential developments, developers and landowners are expected to provide schools as an integral part of the development. In these cases, the school can either be constructed as part of the proposed development site or the site reserved and transferred at nil consideration to the appropriate body delivering the school together with a contribution in cash or kind to the delivery of the school. In the latter case the school provision can be funded and/or delivered through the use of planning obligations

3.Sites reserved for school use which are not also allocated for housing

There are 3 sites that fall into this category (Victoria Rd, Horsforth (HG5-1), Hope Farm, Wakefield Rd, Rothwell (HG5-7) and Bradford Rd, East Ardsley (HG5-8)). On sites not also allocated for housing it would be up to the education provider to approach the landowner for use of the site for that purpose and fund the development. Some funding may be available through CIL – see Infrastructure Background Paper paras 1.24 to 1.38, notably para 1.29. In addition, the council may consider using Compulsory Purchase Powers to aid delivery.

7. Conclusion

7.1 Housing growth is an essential requirement for the economic and social development of the city, and as we strive to be the best city for children, school place planning is a critical part of the infrastructure planning that runs alongside this. There are a number of sites which have been identified as requiring school provision to be included in any future use, and are put forward within the SAP and AVLAAP.

Appendices to the Schools Background Paper

- Appendix 1 Table 1: Assessment of Need for School Places Arising from Proposed Housing Allocations and Safeguarded Sites and Sites Proposed for School Provision
- Appendix 2 Table 2: Proposed Sites Arising From Existing Demand (Basic Need) and Site Allocations Plan & Aire Valley Leeds AAP
- Appendix 3 Plan 1: Delivering New School Places. Existing Demand, Site Allocations Plan and Aire Valley Leeds AAP

HMCA area	Primary Planning area	Current baseline position for primary school places	Allocated Sites					Safeguarded Sites					-Proposed School Site Allocation refs	Comments and outstanding issues.
			Housing Capacity	Number of primary FE demand generated	Number of secondary FE demand generated	Primary school FE sites identified	Secondary school FE sites identified	Housing Capacity	Number of primary FE demand generated	Number of secondary FE demand generated	Primary school FE sites identified	Secondary school FE sites identified		
City Centre			8,640	10.3	7.7	0.00	0.00	0	0.0	0.0	0.0	0.0		no sites identified
Aire Valley (city Centre)			3,269	3.9	2.7	0.00	0.00	0	0.0	0.0	0.0	0.0		no sites identified
Inner			10,992	13.1	8.9	3.00	0.00	0	0.0	0.0	0.0	0.0		MX2-9 (3390/3393/198) Kirkstall Road, HG2-201 (1146), York Road, Richmond Hill
Aire Valley (Inner)			2,050	2.4	1.8	0.00	0.00	0	0.0	0.0	0.0	0.0		HG2-5 (1180A_1311A_2163A) Coach Road, Guiseley
Aireborough			2,014	2.4	2.2	2.00	0.00	360	0.4	0.0	0.0	0.0		HG2-18 (2130) Church Lane Adel, MX1-24 (745) East of Otley, HG2-17 (1080_3367A) Breary Lane East, Bramhope and HG3-5 (1095B_1369) Old Pool Bank, Bramhope
Outer North West			1,755	2.1	1.7	5.00	0.00	540	0.6	0.5	2.0	0.0		HG2-36 (2053B) Alwoodley Lane, HG2-41 (4240) Horsforth, HG5-1 (1202) Horsforth, MX1-3 (626) Kirkstall Forge.
North			5,958	7.1	5.3	6.50	4.00	0	0.0	0.0	0.0	0.0		HG2-36 (2053B) Alwoodley Lane, HG2-41 (4240) Horsforth, HG5-1 (1202) Horsforth, MX1-3 (626) Kirkstall Forge.
Outer North East			5,000	6.0	3.3	4.00	0.00	1,359	1.6	1.2	2.0	0.0		HG3-13 (2134) Scholes (East of) Safeguarded site, MX2-39 Parlington Estate, HG2-226 Land at East Wetherby
East			7,055	8.4	7.1	6.00	16.00	0	0.0	0.0	0.0	0.0		HG1-288 (797) East Leeds Extension (ELE), HG2-226 (1233_2158_3125) Land east of Wetherby and HG1-296 (2154) Seacroft hospital
Aire Valley (east)			2,631	3.1	2.4	4.00	4.00	0	0.0	0.0	0.0	0.0		AV111 Skelton Lake and AV38 Copperfields
Outer South East			4,378	5.2	3.7	4.00	4.00	1,616	2.0	1.5	2.0	0.0		HG2-124 (1232b) Stourton Grange Farm
Outer South			2,434	2.9	2.3	4.00	0.00	220	0.3	0.2	0.0	0.0		HG2-180 (4222A_B_C) Fleet Lane, Oulton, HG5-7 (3081A)
Outer South West			6,969	8.3	6.2	4.00	0.00	1,753	2.1	1.7	2.0	0.0		HG2-150 (1220A) East of Churwell, HG2-145 (3000_3064, HG5-8 (1032) East Ardsley Safeguarded site
Outer West			4,672	5.6	4.3	1.00	0.00	915	1.1	0.7	2.0	0.0		HG2-72 (3464) Tyersal Court, Tyersal, HG3-15 (1114) Kirklees Knoll, Farsley (Safeguarded site)
GRAND TOTAL			67,817	80.7	59.7	43.50	28.00	6,763	8.1	5.8	10.0	0.0		
	Alwoodley	Green - OK	423	0.5	0.4	2.00	0.00	0	0.0	0.0	0.0	0.0	HG2-36 (2053B) Alwoodley Lane	
	Ardsley / Tingley	0.2FE Short	1,834	2.2	2.1	2.00	0.00	308	0.4	1.3	2.0	0.0	HG5-8 (1032) East Ardsley	HG3-23 (2127) Tingley Station Safeguarded site Safeguarded site would require school provision if this site and HG3-25 (2128) New Lane, East Ardsley safeguarded site came forward for development.
	Armley / Wortley	1.2FE Short	1,038	1.2	1.9	0.00	0.00	315	0.4	0.3	0.0	0.0		
	Beeston	0.2FE Short	175	0.2	0.2	0.00	0.00	0	0.0	0.0	0.0	0.0		
	Belle Isle	0.3FE Short	209	0.3	0.7	0.00	0.00	0	0.0	0.0	0.0	0.0		
	Boston Spa	0.6FE Short	473	0.6	0.4	0.00	0.00	249	0.3	0.2	0.0	0.0		
	Bramhope / Pool	Green - OK	449	0.5	0.4	1.00	0.00	540	0.6	0.5	0.0	0.0	HG2-17 (1080 / 3367A) Breary Lane East, Bramhope	HG3-5 (1095b_1369) Old Pool Bank, Pool safeguarded site would require school provision if brought forward in the future.
	Bramley	0.9FE Short	783	0.9	0.9	0.00	0.00	0	0.0	0.0	0.0	0.0		
	Burmantofts	2.5FE Short	2,061	2.5	1.3	0.00	0.00	0	0.0	0.0	0.0	0.0		
	Calverley	0.2FE Short	143	0.2	0.1	0.00	0.00	0	0.0	0.0	0.0	0.0		
	Chapel Allerton	0.4FE Short	346	0.4	0.3	0.00	0.00	0	0.0	0.0	0.0	0.0		
	Cookridge / Adel	Green - OK	1,614	1.9	3.8	2.00	0.00	0	0.0	0.0	2.0	0.0	HG2-18 (2130) Church Lane, Adel	

	EPOS Villages South	1.6FE Short	2,987	3.6	1.3	2.00	0.00	910	1.1	0.8	2.0	0.0	MX2-39 Parlington	*MX2-39 requires phased provision: Plan period allocation of 1850 units = 2FE primary + secondary contributions HG3-13 (2134) East of Scholes Safeguarded site would require school provision if brought forward in the future.
	EPOS Villages West	0.2FE Short	156	0.2	0.1	0.00	0.00	200	0.1	0.1	0.0	0.0		
	Farnley	0.5FE short	408	0.5	0.7	0.00	0.00	0	0	0	0.0	0.0		
	Farsley	0.3FE Short	277	0.3	0.4	0.00	0.00	450	0.5	0.4	2.0	0.0		HG3-15 (1114) Kirklees Knoll, Farsley Safeguarded site would require school provision if brought forward in the future.
	Garforth	Green - OK	3,110	3.7	2.6	4.00	4.00	500	0.6	0.5	0.0	0.0	HG2-124 (1232B) Stourton Grange Farm, Garforth	
	Gildersome / Drighlington	Green - OK	879	1.0	1.1	1.00	0.00	0	0.0	0.0	0.0	0.0	HG2-145 (3000_3064)	
	Guiseley / Yeadon / Rawdon	0.2FE Short	2,656	3.2	0.8	3.00	0.00	360	0.4	0.4	0.0	0.0	HG2-5 (1180A / 1311A) Coach Rd, Guiseley	1FE of new 2FE provision at HG2-41 would meet demand generated in this primary planning area
	Harehills	0.3FE Short	271	0.3	0.3	0.00	0.00	0	0.0	0.0	0.0	0.0		Possible Roundhay Rd Free School would provide some capacity to address demand generated by housing
	Holbeck	13.6FE Short	11,516	13.6	10.4	0.00	0.00	0	0.0	0.0	0.0	0.0		Expansion of existing schools may be possible to address some housing demand.
	Horsforth	Green - OK	1,003	1.2	1.0	2.00	4.00	0	0.0	0.0	0.0	0.0	HG2-41 (4240)A65 Horsforth and HG5-1 (1202) Victoria Avenue, Horsforth	1FE of new 2FE provision at HG2-41 would meet demand generated in this primary planning area
	Hunslet	0.1FE Short	121	0.1	1.0	0.00	0.00	0	0.0	0.0	0.0	0.0		Includes 1FE primary from Aire Valley sites. Schools solutions to be progressed outside of this process.
	Hyde Park / Headingley	2.4FE Short	1,982	2.4	1.3	0.00	0.00	0	0.0	0.0	0.0	0.0		
	Kippax	0.2FE Short	177	0.2	0.2	0.00	0.00	166	0.2	0.2	0.0	0.0		
	Kirkstall / Burley / Hawskworth	0.3FE Short	3,166	3.8	1.5	3.50	0.00	0	0.0	0.0	0.0	0.0	MX1-6 (626) Kirkstall Forge, MX2-9 (3390/3393/198)	
	Lower Aire Valley	1.1FE Short	948	1.1	0.8	0.00	0.00	1,170	1.4	1.0	2.0	0.0		HG3-20 (1149A) Safeguarded site requires school provision if brought forward in the future
	Manston	1.5FE Short	1,218	1.5	1.0	0.00	8.00	0	0.0	0.0	0.0	0.0	HG1-296 (2154) Seacroft hospital	
	Meanwood	0.5FE short	439	0.5	0.4	0.00	0.00	0	0.0	0.0	0.0	0.0		
	Middleton	1.2FE Short	1,000	1.2	0.7	0.00	0.00	1,130	1.3	1.2	0.0	0.0		
	Morley	1.1FE Short	2,631	3.1	1.9	2.00	0.00	0	0.1	0.1	0.0	0.0	HG2-150 (1220A) East of Churwell	

	Osmondthorpe / Templenewsam Area	0.1FE Short	3,468	4.1	4.0	4.00	4.00	0	0.0	0.0	0.0	0.0	AV111 Skelton Lake; AV38 Copperfields	Site HG5-6 is now a through school (TLA) providing 2FE Primary and 4FE secondary to meet existing pressure. Includes Aire Valley sites. School solutions progressed outside of this process but include 1295A Skelton Lake for a 2FE Primary/4FE secondary through school. Includes over 2FE primary from Aire Valley sites. Schools solutions progressed outside of this process but include part of site 2080 which contains the former Copperfields site for a 2FE primary.
	Otley	0.4FE Short	1,174	1.4	1.1	1.00	0.00	0	0.0	0.0	0.0	0.0	MX1-24 (745) East of Otley	
	Pudsey	1.9FE Short	2,405	2.9	2.1	1.00	0.00	0	0.0	0.1	0.0	0.0	HG2-72 (3464) Tyersal Court, Tyersal	
	Richmond Hill	4.3FE Short	4,476	5.3	2.6	1.00	0.00	0	0.0	0.0	0.0	0.0	HG2-201 (1146) , York Rd, Richmond Hill	
	Rothwell / Robin Hood / Woodlesford	Green - OK	2,349	2.8	2.2	4.00	0.00	0	0.0	0.0	0.0	0.0	HG2-180 (4222A_B_C) Fleet lane, Oulton, HG5-7 (3081A) Robin Hood West	
	Roundhay / Wigton	0.2FE Short	142	0.2	0.1	0.00	0.00	0	0.0	0.0	0.0	0.0		Possible Free School bid may address need arising from housing.
	Seacroft	1.4FE Short	1,124	1.4	0.9	0.00	0.00	0	0.0	0.0	0.0	0.0		
	Stanningley	0.1FE Short	95	0.1	0.2	0.00	0.00	465	0.6	0.5	0.0	0.0		
	Swarcliffe / Whinmoor	Green - OK	4,764	5.7	4.3	6.00	8.00	0	0.0	0.0	0.0	0.0	HG1-288 (797) ELE	
	Wetherby	0.1FE Short	1,798	2.1	1.2	2.00	0.00	0	0.0	0.0	0.0	0.0	HG2-226	
	Woodhouse	1.8FE Short	1,529	1.8	1.2	0.00	0.00	0	0.0	0.0	0.0	0.0		
GRAND TOTAL			67,817	80.7	59.7	43.50	28.00	6,763	8.1	7.5	10.00	0.00		

Table 2

Proposed Sites Arising from Existing Demand (Basic Need) and Site Allocations Plan & Aire Valley Leeds AAP

HMCA	Existing Demand (Basic Need)			Site Allocations Plan / Aire Valley Leeds AAP					
	Site Address	Primary	Secondary	Site Ref	Site Address	Primary	Secondary	Type of Allocation	School Site Category
Aireborough				HG2-5 (1311)	Land at Coach Road, Guiseley	2 FE		Housing & School	1
City Centre									
East	Identified basic need pressure –no scheme identified	0.5FE		AV111	Land former Opencast Workings adjacent to Lawn Farm, Pontefract Lane, Richmond Hill (Skelton Gate)	2 FE	4 FE	Housing & School	1 for secondary 2 for primary
	Fieldhead Carr Primary School, Naburn Approach, Leeds, LS14 2EG	1FE		AV38	Former Copperfields College site	2 FE		Housing & School	1
				HG1-288 (797)	East Leeds Extension	3 x 2 FE	8 FE	Housing & School	2
				HG1-296 (2154)	Seacroft Hospital		6-8 FE	Housing & School	1
Inner	Barrack Road Area Offices, Roundhay Road	2FE	4FE	MX2-9 (3390_3393)	Kirkstall Road	2 FE		Housing, Employment & School	1
	Brudenell Primary School, Welton Place, Leeds, LS6 1EW	0.67FE							
	Identified basic need pressure –no scheme identified	0.5 FE							
	Blenheim Primary School, Woodhouse, Leeds LS2 9EX	1FE							

Beeston Primary School, Town St, Leeds, Beeston LS11 8PN	1FE							
Castleton Primary School, Green Lane, Leeds, LS12 1JZ	1FE							
Hovingham Primary School, Hovingham Avenue, Leeds, LS8 3QY	1FE							
Hunslet Moor Primary School, Fairford Avenue, Leeds, LS11 5EL	0.5FE							
Rosebank Primary School, Burley Road, Leeds, LS3 1JP	5 places							
Shakespeare Primary School, Shakespeare Avenue, Leeds, LS9 7HP	1.5FE							
Former Whitebridge Primary School, Cartmell Drive, Halton Moor	2FE	4FE						
Identified basic need pressure –no scheme identified	0.5FE							
Identified basic need pressure –no scheme identified	0.5FE							
Identified basic need pressure –no scheme identified	1FE							
Former Primrose High School, Lincoln Green (Dolly Lane)	1.5FE		HG2-201 (1146)	York Road (land south of). East of Pontefract Lane, Richmond Hill	1 FE extension		Housing & School	1

	Hunslet St Mary's Church of England Primary School, Church Street, Leeds, LS10 2QY	0.5FE							
	Low Road Primary School, Belinda Street, Leeds LS10 2PS	0.33FE							
North	Allerton C of E Primary School, Alwoodley	1FE		HG2-36 (2053B)	Alwoodley Lane, Alwoodley	2 FE		Housing & School	1
	Beecroft Primary School, Eden Way, Leeds LS4 2TF	0.5FE (Proposed)		HG2-41 (4240)	South of A65 from Horsforth & Rawdon RA to crematorium	2 FE	4 FE through school	Housing & School	2
	Carr Manor Community Primary School, Carr Manor Road, Leeds, LS17 5DJ	1FE							
	Gledhow Primary School, Lidgett Lane, Leeds, LS8 1PL	1FE							
	Hawksworth Wood Primary School, Cragside Walk, Leeds, LS5 3QE	1FE							
	Identified basic need pressure –no scheme identified	0.5FE		HG5-1 (1202)	Victoria Avenue, Horsforth	1 FE extension		School	3
				MX1-3 (626)	Abbey Road, Kirkstall	2 FE		Housing, Employment & School	1
Outer NE	Identified basic need pressure –no scheme identified	0.5 FE		HG2-226 (1233_2158_3125)	Land to the east of Wetherby	2 FE		Housing & School	2
				MX2-39 (5320)	Parlington Estate, Aberford	2 FE (up to 1850 units/Phase 1). Beyond Phase 1 – amount of	Beyond Phase 1 – amount of provision to be agreed subject to site capacity	Housing, Employment & School	2

						provision to be agreed subject to site capacity (comprehensive development brief)	(comprehensive development brief)		
				HG3-13 (2134)	Land east of Scholes	2 FE		Safeguarded Housing & School	N/A
Outer NW				HG2-18 (2130)	Church Lane, Adel	2 FE		Housing & School	1
				HG2-17 (1080_3367A)	Breary Lane East, Bramhope	1 FE extension & relocation		Housing & School	1
				MX1-24 (745)	East of Otley	1 FE extension & relocation		Housing, Employment & School	1
Outer S				HG2-180 (4222A_B_C)	Land between Fleet Lane & Methley Lane, Oulton	2 FE		Housing & School	1
				HG5-7 (3081A)	Hope Farm, Wakefield Road, Rothwell	2 FE		School	3
Outer SE	Allerton Bywater Primary School, Allerton Bywater, wf10 2dr	1FE		HG2-124 (1232B)	Stourton Grange Farm, South, Selby Road – Ridge Road, Garforth	2 X 2 FE	4 FE through school	Housing & School	2
	Identified basic need pressure –no scheme identified	0.5 FE		HG3-20 (1149A)	Park Lane Farm, Allerton Bywater	2FE		Safeguarded Housing & School	N/A
Outer SW	Asquith Primary School, Morley	1FE		HG2-145 (3000_3064)	Bradford Road / Wakefield Road, Gildersome	1 FE extension		Housing & School	1
	Blackgates Primary School,	0.5 FE		HG2-150 (1220A)	Land east of	2 FE		Housing &	1

	Smithy Lane, Tingley, Wakefield. WF3 1QQ				Churwell			School	
	Identified basic need pressure –no scheme identified	0.5 FE		HG5-8 (1032)	Bradford Road, East Ardsley	2 FE		School	3
Outer West				HG2-72 (3464)	Land off Tyersal Court, Tyersal	1 FE extension		Housing & School	1
	Greenside Primary School, Chapeltown, Pudsey, LS28 8NZ	0.5 FE							
	Hollybush Primary School, Broad Lane, Leeds, LS13 2JJ	1 FE							
	Park Spring Primary School, Wellstone Avenue, Leeds, LS13 4EH	0.5 FE							
				HG3-15	Kirklees Knowl	2 FE		Safeguarded Housing & School	N/A

Appendix 3

Transport Background Paper

1 Summary

- 1.1 This report summarises the forecast impacts of the proposed developments in the Site Allocations Publication Draft Plan 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 14-24% across the District. However, at the same time the level of investment in transport infrastructure is increasing substantially. It should be noted that more recent forecasts (ONS Subnational Population Projections 2014) suggest a lower rate of growth at around 10%.
- 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 earmarked £173.5M in recognition of the need to for public transport investment in the city, First Group are to invest in a new fleet of buses, 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, the draft West Yorkshire Transport Strategy and the Leeds 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.
- 1.6 It is proposed that support for public transport, walking and cycling schemes will mainly be sought through the Community Infrastructure Levy and the Leeds Public Transport Investment programme.
- 1.7 This report is an updated version of the background paper produced for the Site Allocations Plan (Publication Draft).

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 (Submission 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 although some tests have been undertaken regarding the spatial delivery of the employment sites.
- 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 has published and consulted on a draft West Yorkshire Transport Strategy and an associated Bus Strategy for West Yorkshire. The new plan is 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 Transport Strategy¹ updates the current West Yorkshire Local Transport Plan (LTP3) and sets 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 sets out the how local bus services should contribute to the achievement of the growth ambitions set out in the SEP. It includes 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

¹ Previously known as the Single Transport Plan

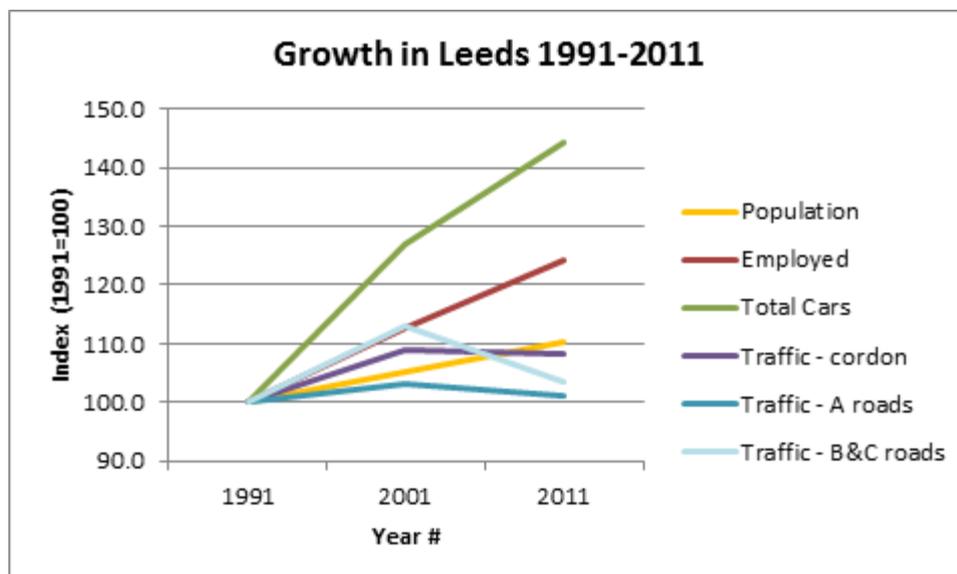
and create a 'Northern Powerhouse' through a long term investment in transport networks and infrastructure.

- 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 represent a significant increase in population for Leeds District of around 14% between 2012 and 2028². More recent forecasts suggest a lower rate of growth of around 10%³, however, this is not reflected in this Background Paper as it is concerned purely with assessing the impacts of the Site Allocations Plan proposals for housing which are directly determined by the Core Strategy. 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



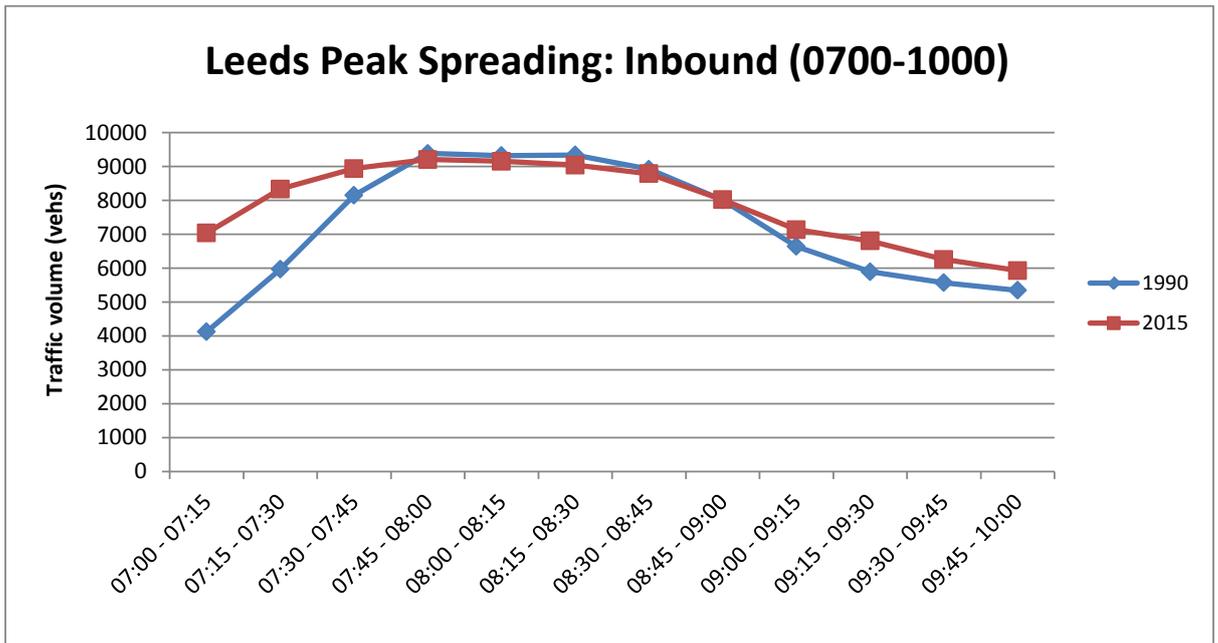
Source: Census, Leeds Central Monitoring Cordon and LCC Note 13.

Note cordon data relates to 1992, 2002 and 2012 as data not available for all years.

² From 757,655 (2012 mid-year estimate)(ONS) to 860,618 (Core Strategy forecast for 2028)

³ To 836,000 by 2028 (ONS Subnational Population Projections 2014)

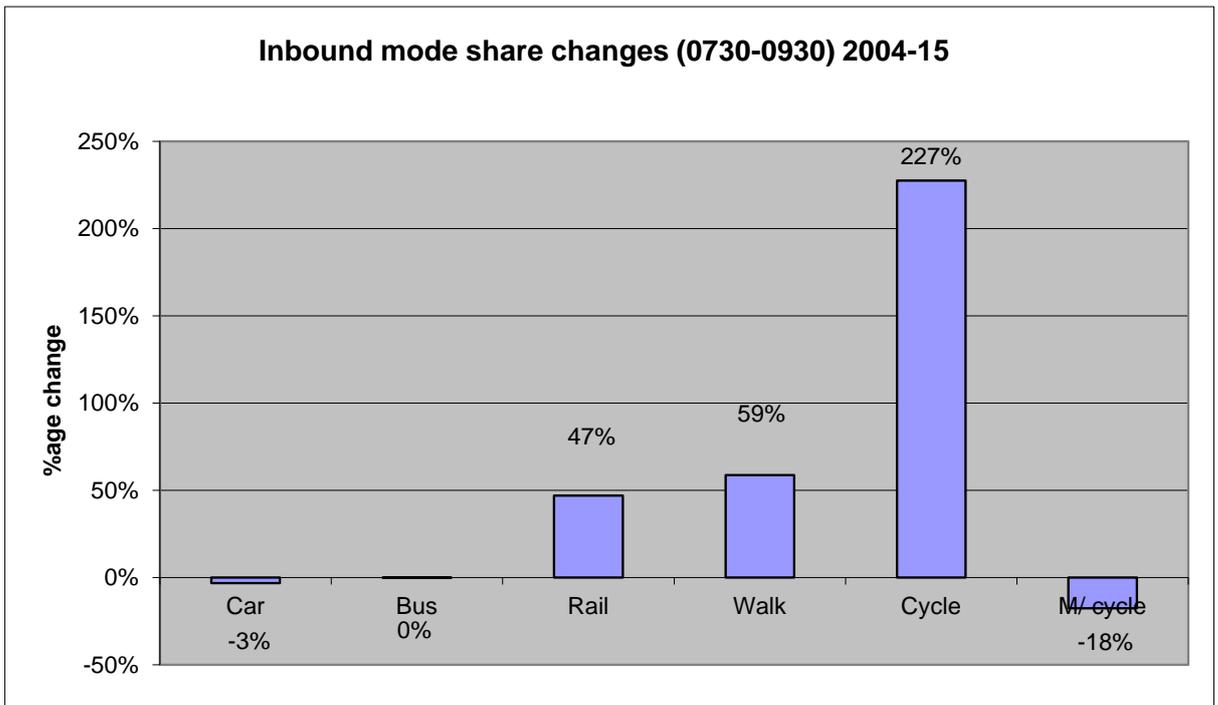
Figure 2



Source: Leeds Central Monitoring Cordon

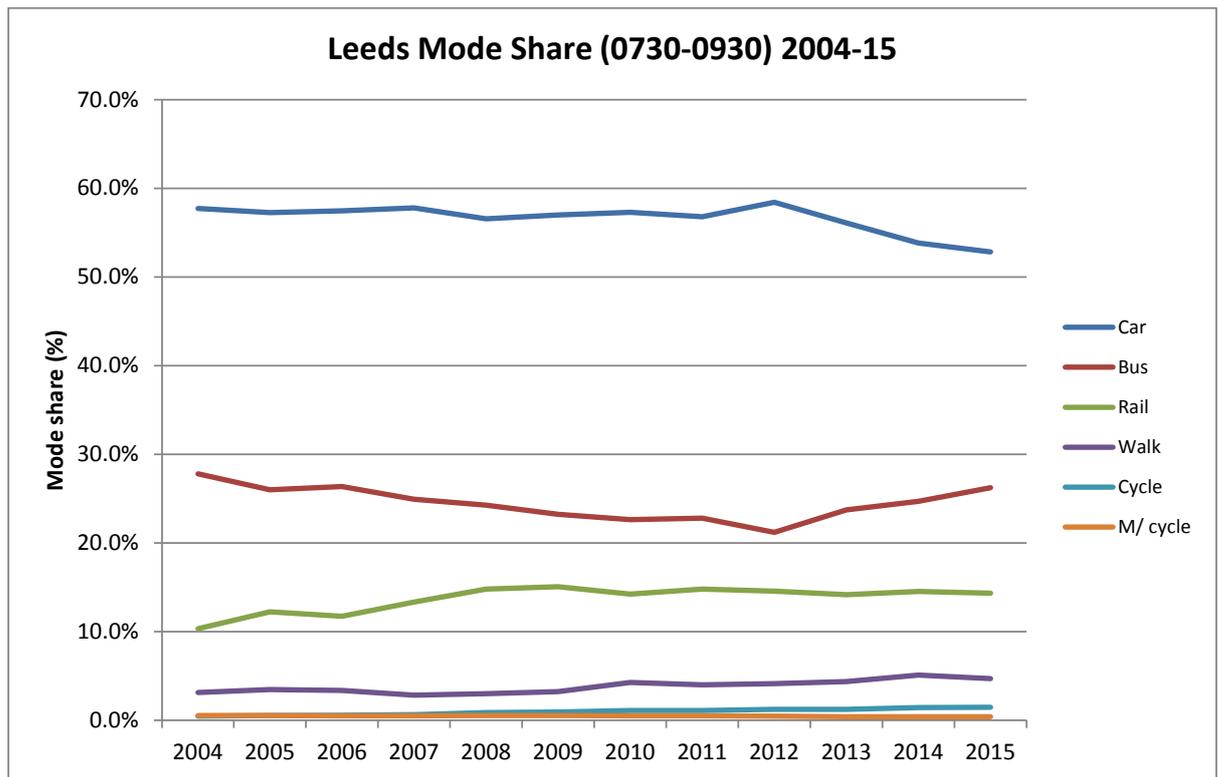
4.4 Over the past decade modal split surveys covering morning peak period journeys approaching the city centre show that there has been a significant growth in cycling, walking and rail usage, while car and motorcycle usage has fallen. Bus patronage declined steadily up to 2012 but has been increasing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

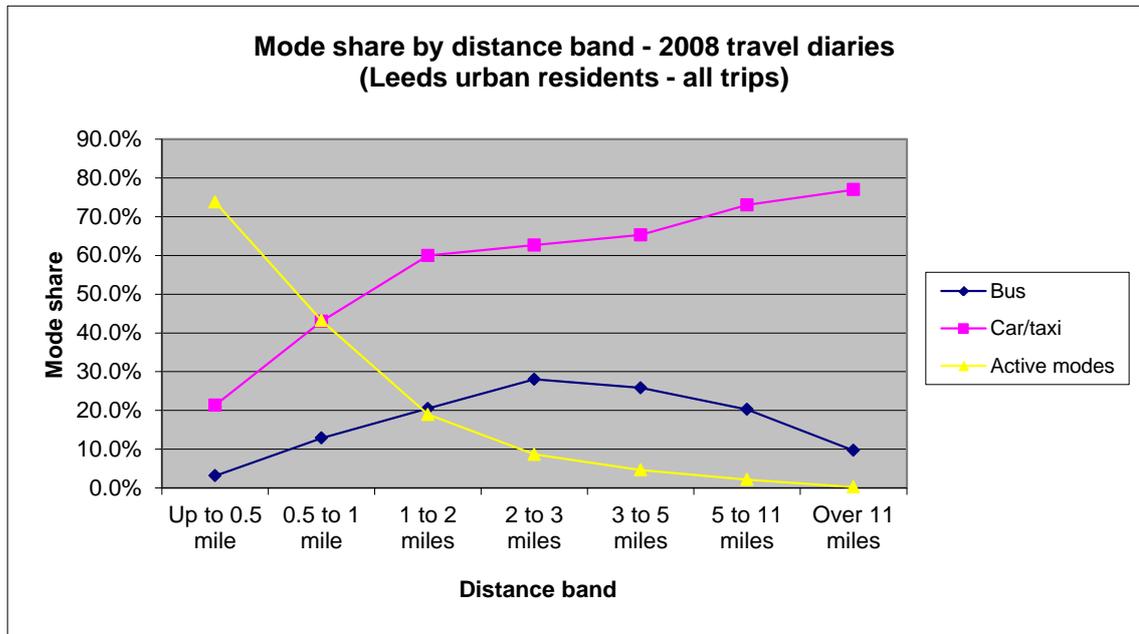
- 4.5 Although car remains the principal mode it should be noted that not all the journeys recorded here are to the city centre as many vehicles use the inner ring road and M621 to travel to other destinations within the city. Census data shows that between 2001 and 2011 car commuting to the city centre 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 District⁴.
- 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 data⁵ 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%).

⁴ 2011 census QS701EW (excludes those working at/from home)

⁵ 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

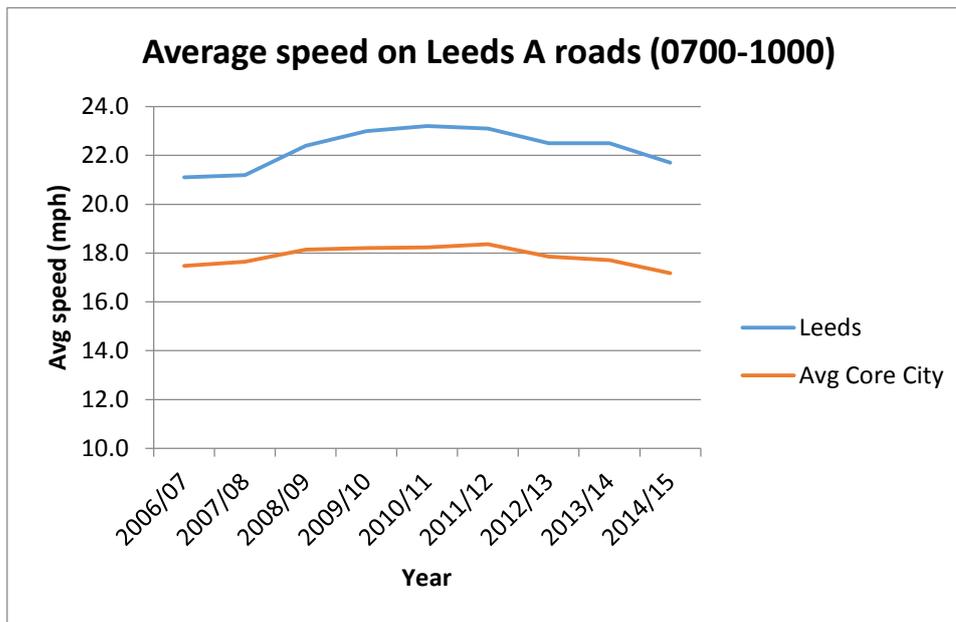


Source: Transport for Leeds Travel Diaries (2008)

4.10 The Department for Transport (DfT) provides 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.

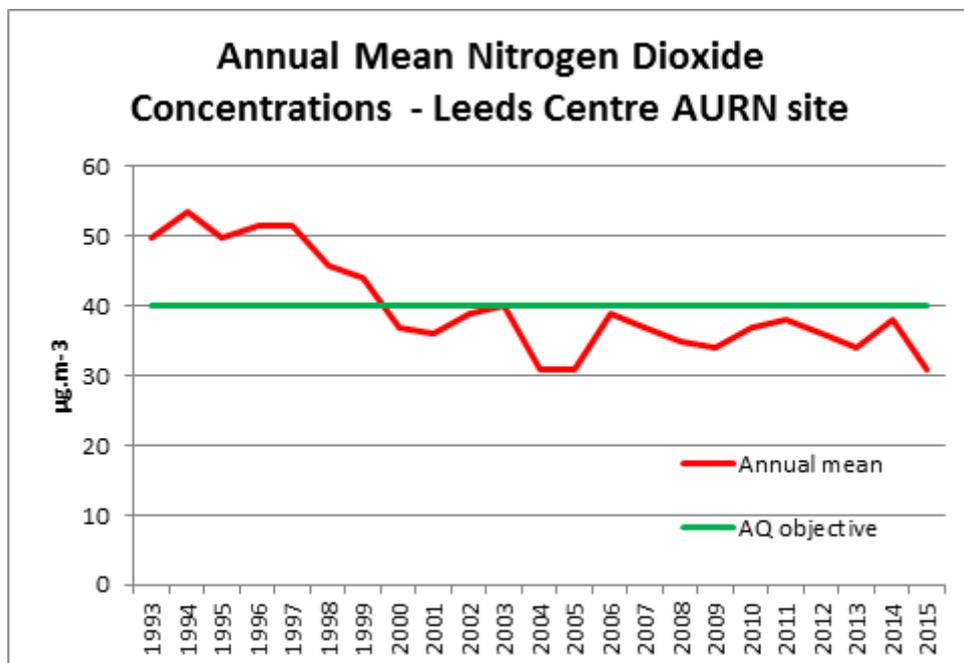
4.15 Figure 7 shows the location of the sites, highlighting those with the greatest levels of delay. The majority of these junctions are within the main urban area

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. Further details of these sites are included in Appendix 1.

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 PM_{2.5}) are achieved, any reduction in these pollutants will have health benefits for the whole population.

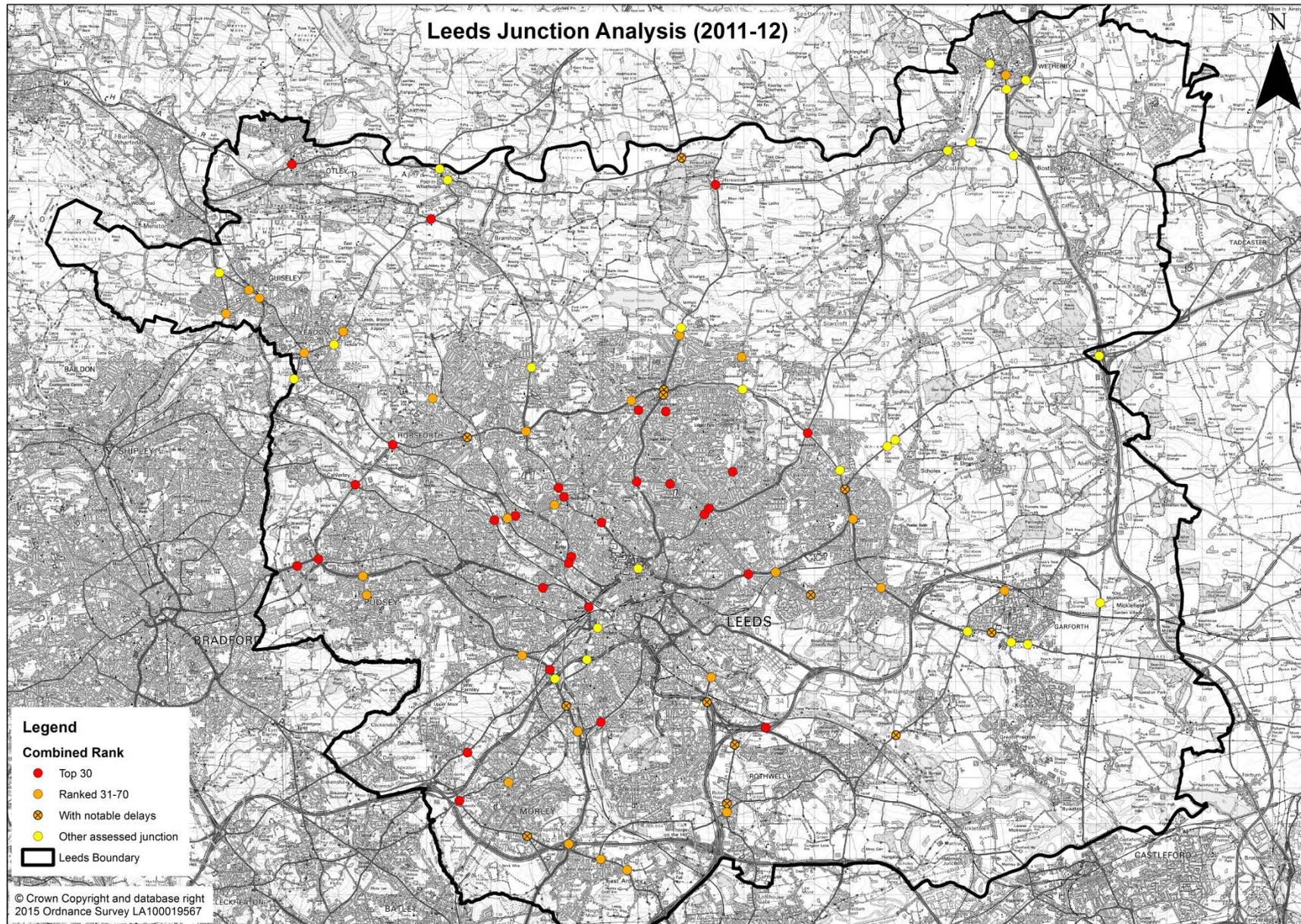
Figure 8



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 overall, 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 2005, 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)



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 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. 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%⁶) 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 led 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 Transport Strategy that will update and supersede 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 and a major maintenance scheme completed on the inner ring road in September of that year.
- 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.
 - 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

⁶ 2011 census QS701EW (LSOA within Leeds IRR, excludes those working at/from home)

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 has been 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.
- The Leeds Inner Ring Road Major Maintenance Scheme was completed in September 2016 and will ensure the continued availability of the critical Woodhouse tunnel. The inner ring road carries up to 85,000 vehicles per weekday and performs a vital component of the city's highway network, not only for traffic heading for the city centre but also facilitating city wide movements within the main urban area.
- The roundabout improvement and signalisation schemes at Thornbury Barracks, Rodley and Horsforth will support housing growth in the west of the city.

6.3 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.

- 6.4 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.
- 6.5 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.
- 6.6 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).
- 6.7 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.
- 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.
 - A65-Airport-A658 Link Road is a proposed single carriageway road linking the A65 west of Horsforth with Leeds Bradford Airport and the A658 to the north. This proposal would also include bus priority measures on the A65 eastbound approach to the A6120. This scheme represents a key transport intervention to facilitate growth of the airport and reduce traffic levels on local roads, in line with Core Strategy Spatial Policies 11 and 12. In

addition, a new station is planned to serve the airport as part of the Leeds Public Transport Investment programme – see para. 6.9 below.

- 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 provides 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 superhighway scheme opened in June 2016 with the eastern section substantially complete in autumn 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 include a full route upgrade to 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 in the early 2020's. 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.

6.8 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. The system was planned as a two line trolleybus network with associated park and ride sites that would link Stourton (M1 Jn 7) and Holt Park/Bodington with Leeds city centre. 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.

6.9 Nevertheless, the DfT have allocated their planned £173.5M contribution to NGT towards public transport schemes in Leeds and the Council submitted a strategic case for the Leeds Public Transport Investment Programme to DfT in December 2016. This package includes an additional private sector investment of up to £100M and comprises proposals for:

- A new high frequency bus network
- A comprehensive package of bus priority measures across the city to improve journey times on some of the most congested corridors
- Investment by First Group in 284 environmentally clean buses
- Provision of real time information at 1000 more bus stops
- Three new rail stations serving Leeds Bradford airport, Thorpe Park⁷ and White Rose and the provision of additional parking at New Pudsey station
- Two additional park and ride sites at Stourton and the north of the city together with further expansion of the existing Elland Rd site
- Accessibility improvements at Cross Gates, Morley and Horsforth stations
- New improved bus hub interchange facilities in the city centre and district centres

6.10 In combination with allocated funding for other major projects and the WYPTF schemes this represents a total planned investment in local transport of over £840M.

⁷ Previously referred to as East Leeds Parkway

- 6.11 To inform the emerging transport strategy for the city and the allocation of the Government funding, Leeds City Council has instigated an extensive engagement and conversation on the future direction of transport provision across the city. The first phase of this was concluded on 11 November 2016 and included a survey completed by over 8,000 people, workshops and Community Committee meetings.
- 6.12 The Council's ambition remains to have a transport system that can move large numbers of people through the city. Options for mass-transit solutions such as light rail, tram-train or tram will therefore be reviewed. However, developing and implementing such an option will take a number of years. Consequently, as transport improvements are needed now the Leeds Public Transport Investment Programme has been developed to deliver improvements in the shorter term.
- 6.13 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. These comprise:
- Leeds Outer Ring Road A6110 – junction improvement package
 - A653 Leeds-Dewsbury Corridor – bus priority measures, highways efficiency, express bus service and local safety scheme
 - Aire Valley Enterprise Zone Package Phase 2 – provision of a new north-south cross river link road between B6481 Pontefract Rd and A63
 - 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.
 - Corridor Improvement Programme (formerly the Highway Efficiency and Bus Package and the Highway Network Efficiency Programme) – targeted interventions to address key corridors and congestion hotspots and to deliver improvements to the overall traffic control systems.

Strategic Road Network Projects

- 6.14 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

6.15 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 Trans-Pennine Express trains, and a 40% increase in the number of passengers that can be carried on Northern trains by the end of 2019⁸. This is equivalent to capacity for an additional 13,000 passengers – a 50% increase above current (Autumn 2015) levels⁹. 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 in the early 2020's.

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, 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

⁸ Rail North briefing note and Franchise Agreements

⁹ DfT annual survey shows 26,467 passenger arrivals at Leeds (0700-1000)(RAI0201).

voice about our future vision and to be clear with Government about where investment is needed.

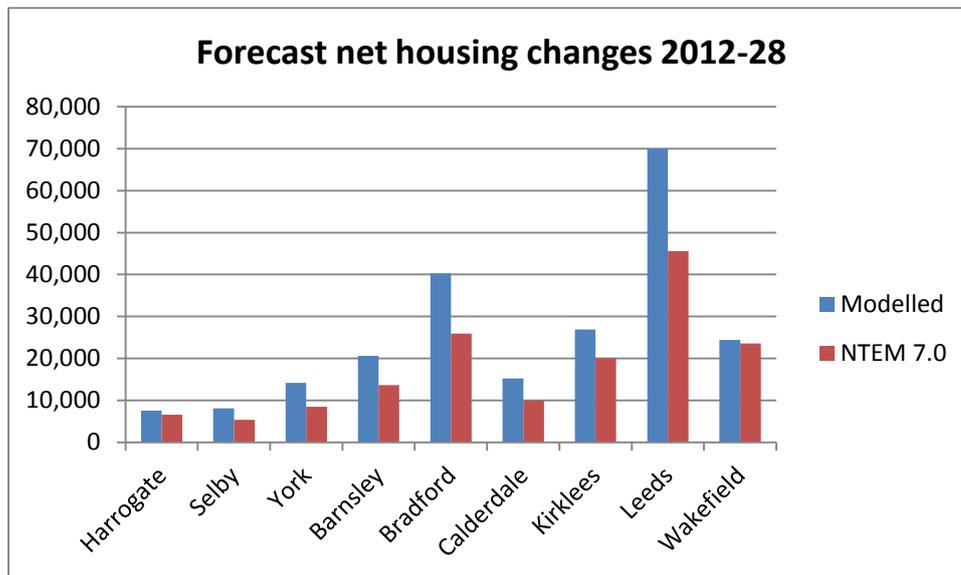
6.19 Transport for the North is on its way to becoming a statutory body. The following covers the current aspirations:

- 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.

Additional Schemes Arising Directly From the Site Allocations

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 include all the residential and employment sites contained within the Site Allocations Plan (Submission Draft) and Aire Valley Leeds AAP (submission Draft). They also include the current growth aspirations of Leeds' neighbouring local authorities, including the planned spatial distribution of housing in Bradford. Overall employment growth has been taken from the Regional Econometric Model (REM)¹⁰. Taken together this level of growth is substantial and in the main far exceeds the latest national growth forecasts produced by the Department for Transport¹¹ as illustrated in Figures 9 and 10, below. This clearly demonstrates that the model tests, although representative of local aspirations, nevertheless represent a very robust assessment of future travel demand.

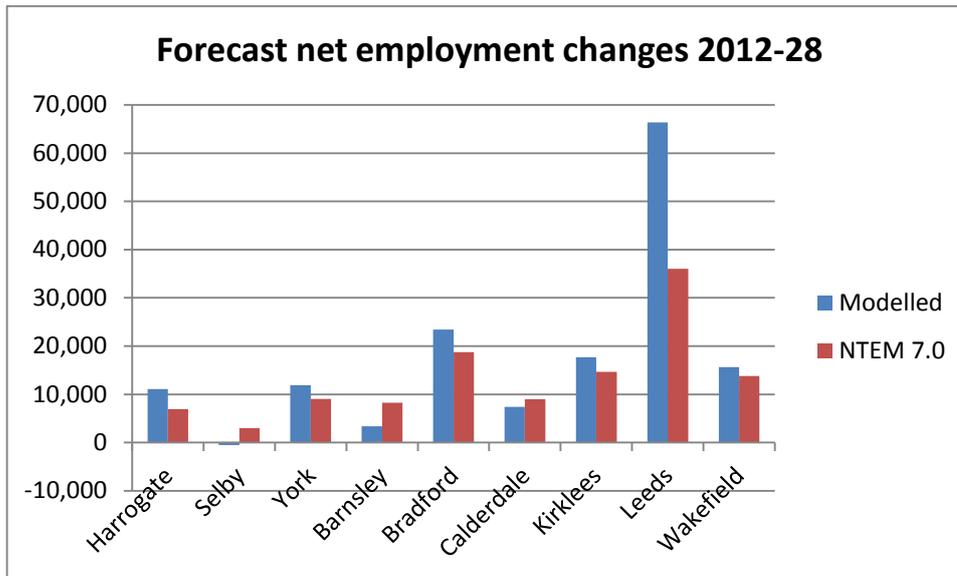
Figure 9 – Modelled Housing Growth



¹⁰ Autumn 2015 forecasts

¹¹ Tempro 7 (NTEM 7.0) 2016

Figure 10 – Modelled Employment Growth



6.21 Since this assessment was originally undertaken for the SAP Publication Draft 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 has enabled the potential contribution of significant housing and employment sites to traffic growth and congestion at key junctions to be estimated. For the purposes of this exercise all residential development sites of 50 or more dwellings and significant employment sites have been assessed. In addition, locations where there is a cumulative impact have also been identified. 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, the results of high level feasibility assessments have been used to run additional model tests to assist in understanding the additional congestion relief potentially provided by these schemes.

6.22 Figure 11 shows these identified interventions, together with other major transport schemes, the planned WYPTF schemes and those from Network Rail.

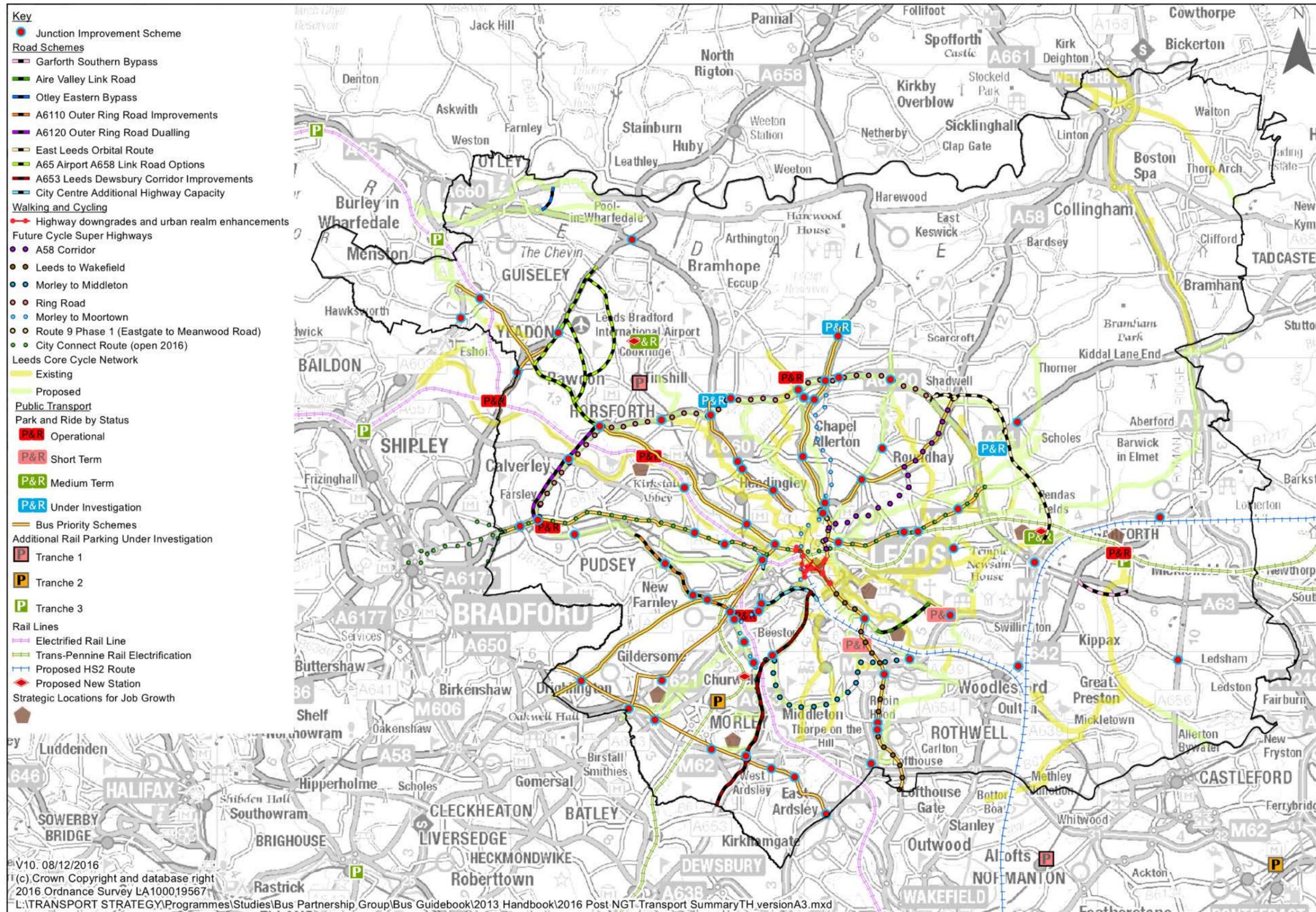
Clean Air Zone

6.23 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.

6.24 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 areas 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.

Figure 11 – Transport Interventions in Leeds



6.25 Model tests have been run containing the majority of the major interventions described in the previous sections, including a number of the planned WYPTF schemes (where sufficient information is available to define them in the model). These schemes (defined as Do Something schemes) are listed below:

- Temple Green Park and Ride
- East Leeds Orbital Route and ORR N Junction Improvements
- A65 – Airport – A658 Link Road¹²
- Leeds City Centre Package, including M621 enhancements
- A6110 Junction Improvements (A58 and A62)
- Aire Valley North-South Link Road
- Otley Eastern Bypass
- East Leeds Parkway (Thorpe Park)
- M1 Jn 45 improvement

6.26 As described above, an additional Do Something Plus test to show the forecast impacts of the Plan and supporting transport investment has also been undertaken. The principal additional schemes included in this test are:

- Dawson's Corner improvement (A647/A6120)
- A6120 dualling between A647 and A65
- Rodley roundabout improvement (A657/A6120)¹³
- Horsforth roundabout improvement (A65/A6120)
- Dyneley Arms improvement (A660/A658)
- M1 Junction 47 improvement¹⁴
- A63 Garforth southern bypass

6.27 It should be emphasised that these potential schemes do not at this stage have any formal status or funding, although where appropriate it will be expected that delivery or financial contributions will be required from relevant developments. Interventions in the Garforth area (M1 Junction 47 and southern bypass) will

¹² Preferred alignment

¹³ Indicative scheme to facilitate operation of ORR dualling. To date no feasibility work has been undertaken at this junction.

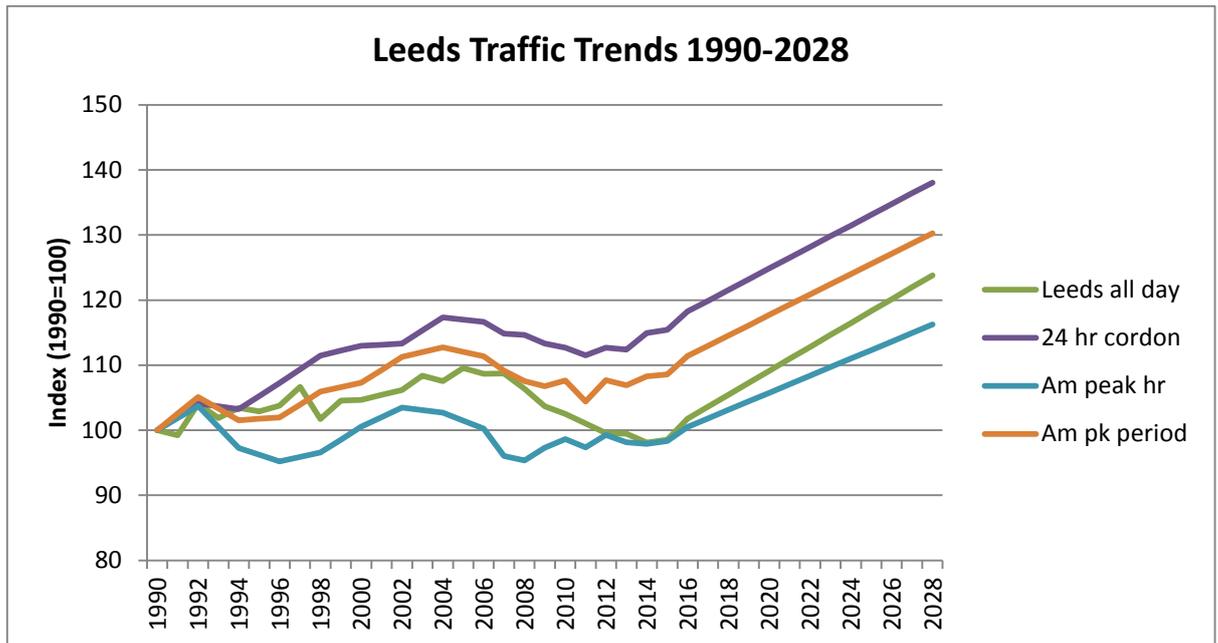
¹⁴ Indicative scheme to facilitate operation of this junction with Parlington and E of Garforth developments. To date no feasibility work has been undertaken for this junction.

have to be assessed in detail alongside the proposals for the allocated Parlington and East Garforth housing sites

- 6.28 The model tests indicate that by 2028 all day traffic levels within Leeds will grow by around 24% from 2012 levels with traffic on radials approaching the city centre increasing by 23%. Growth in the peak hours is forecast to be lower than this, with peak hour traffic forecast to rise by around 16-17% 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 applied¹⁵.
- 6.29 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 in all day traffic 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.
- 6.30 Figure 12 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.
- 6.31 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 24% 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.

¹⁵ 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 – see Figures 9 and 10.

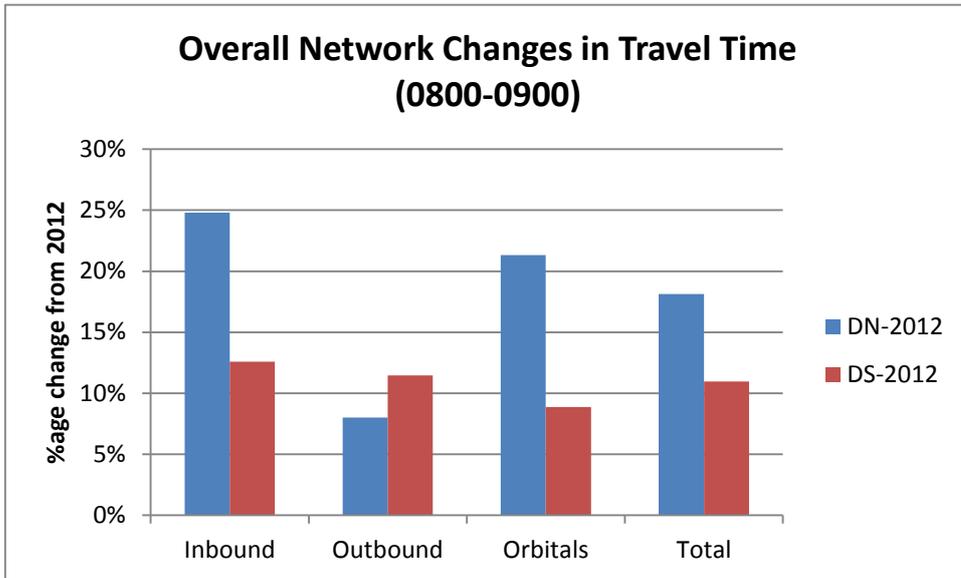
Figure 12 – Historic and forecast traffic growth in Leeds (1990-2028)



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)

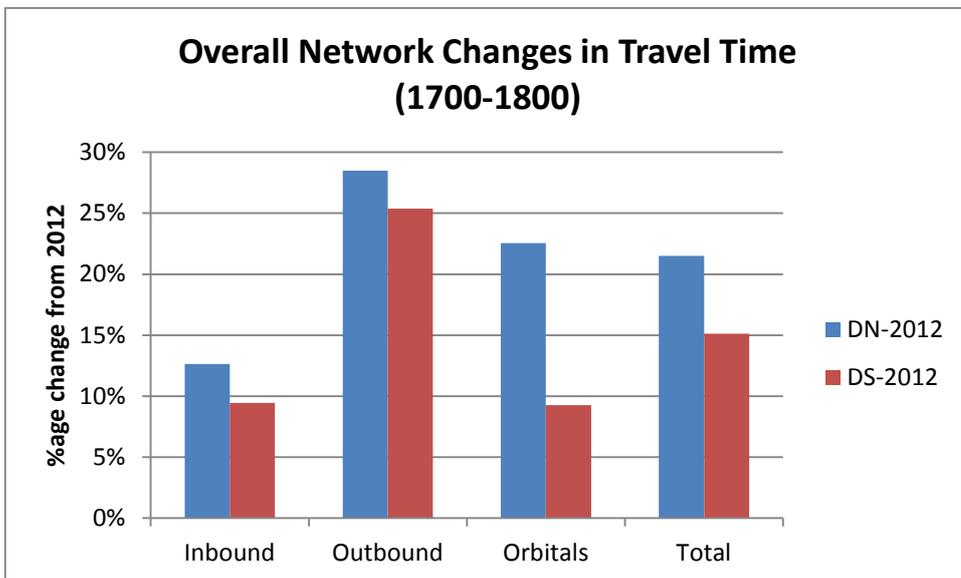
- 6.32 Public transport trips to the city centre are forecast in the Leeds Transport Model to increase by 28% while overall public transport use is forecast to rise by 23%, broadly the same as vehicle traffic.
- 6.33 Peak journey times are forecast to increase by 2028, however, as Figures 13 and 14 demonstrate 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.

Figure 13 – 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 14 – 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)

6.34 In addition, sensitivity tests have been undertaken to reflect the uncertainty regarding delivery of the employment sites. The Core Strategy target for office, industry and warehousing sites was informed by the 2010 Employment Land Review. This shows that over the period 2010-26 the net increase in B class jobs was forecast to be 17,000 FTE¹⁶ jobs. However, the allocated land for

¹⁶ ELR 2010 (August 2011) Table 5

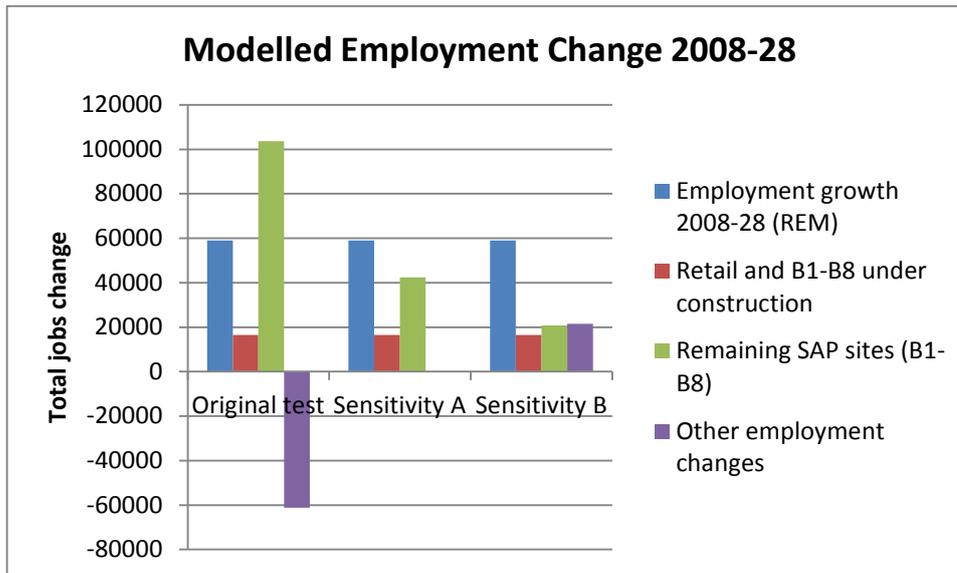
these user classes is considerably in excess of the forecast net change – approaching four times for offices and ten times for industry/warehousing¹⁷. Importantly, this is to allow for the loss of existing sites and the provision of a margin of choice (based on 5 years' supply). In addition, a further need was identified for office floor space in the city centre and town centres which increased the total to the 1M sqm in the Core Strategy. However, it is not possible to know in advance which existing sites will become vacant over the Plan period and consequently sensitivity tests have been carried out to try and understand the potential impacts on future congestion levels and traffic growth.

- 6.35 The LTM utilises data from the Regional Econometrics Model (REM) to cap employment growth at a District level. As described above, the B class sites provide more land than the net forecast employment needs for these uses, and indeed more land than the total forecast net employment growth across Leeds up to 2028. The LTM automatically factors down existing employment so that the cap is not exceeded and the tests do not over-represent employment growth. However, this assumes full build out of all the B class sites, and therefore the reduction of existing sites is likely to be greater than would be expected.
- 6.36 One sensitivity test (test A) therefore matched the supply of B class sites to the overall net increase in employment derived from the REM. This was achieved by factoring down the size of each site so that each was 40% of the proposed allocation.
- 6.37 The other sensitivity test (test B) took account of the fact that B class jobs only form a proportion of all employment (around 50% of the forecast growth based on the ELR 2010¹⁸). In this case the size of each site was factored down so that each was 20% of the proposed allocation. In this case the LTM automatically allocates additional employment growth across the district in proportion to existing levels to reflect the remaining employment types (for example education, the NHS, retailing, hotels etc).
- 6.38 In both these tests, the net increase in employment remained constant, the only difference being the spatial distribution of employment across the district. This is illustrated in Figure 15, below. (The LTM has a 2008 Base year, therefore all changes are relative to that starting point).

¹⁷ Core Strategy Spatial Policy 9; ELR 2010 Table 13 and footnote.

¹⁸ 17,000 out of 33,651 FTE jobs growth 2010-26 (Tables 5 and 4)

Figure 15 : Leeds Employment Changes with Sensitivity Tests



6.39 The overall impact of the two sensitivity tests is to increase the number of vehicle trips in Leeds giving 27% growth from 2012, (though the comments made in paragraph 6.27 still apply). This is because a high proportion of the office employment sites in the SAP/AVLAAP are in Leeds city centre – when these are factored down the overall effect is to increase travel to non-city centre locations. Because travel to destinations outside the city centre tend to be more car dominated, the effect of this is to increase journey times on the highway network, although the total impact is small. The overall increase in peak hour journey times from 2012 (shown in Figures 13 and 14) rises from 11% to 13% in the morning peak and from 15% to 16% in the evening peak under the Do Something scenario

6.40 It should be noted that this analysis does not include all 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.

6.41 Table 2, below, lists junctions where congestion is forecast to worsen significantly by 2028 and interventions will be potentially required in addition to those already planned. This has been informed by a range of model tests, including the two sensitivity tests to ensure that all the key locations are identified. It also includes a number of other junctions immediately adjacent to developments. A number of these schemes have been identified within the WYPTF and contributions will be required to support their delivery. Other junctions can be linked directly to specific developments while others experience cumulative impacts that are relatively modest from individual sites but in combination have a marked impact on congestion. Direct contributions have been identified where the site adds 5% to traffic on the affected approach to the junction; cumulative contributions where the site adds 10 vehicles or more.

- 6.42 The table also includes information on whether the junction was identified in the hotspots analysis – see Appendix 1 – alongside the physical constraints surrounding it. It should be noted that there are very likely to be some locations on this list where site constraints will preclude a comprehensive solution. Feasibility studies will be required to establish options. In addition, there are locations on this list where the junctions concerned effectively shelter adjacent downstream junctions from congestion. The implication of unlocking these bottlenecks will have to be reviewed as part of a corridor approach to prevent queues from simply being transferred to the next junction.
- 6.43 It should be emphasised that this assessment is very much a strategic overview and does not represent a substitute for local evaluations during the consideration of planning applications. Where issues are identified local mitigating measures will be required where appropriate. The use of the LTM to model the SAP does, however, allow LCC to identify key junctions where interventions are likely to be required during the Plan period and to reflect this in the individual Site Requirements, which cover both direct and cumulative impacts.
- 6.44 The Site Requirements contains details of the locations where contributions towards improvements will be required from the Allocated sites. Sites previously included in the Unitary Development Plan (Identified sites) where development has not yet commenced and where planning permission has not been granted or has lapsed or new permissions are sought will also be expected to contribute towards these schemes in line with the requirements for adjacent Allocated sites.
- 6.45 Due to their scale some sites have a potentially greater cumulative impact across the wider network than others (for example East Leeds Extension, the East of Garforth site and Parlington). In these cases the cumulative impact threshold has not been comprehensively applied. With the former, the site forms part of the Identified sites and funding will be required towards East Leeds Orbital Route. In the case of Garforth and Parlington, comprehensive transport studies will be required and these will need to consider both direct and cumulative impacts.
- 6.46 The locations are listed in a clockwise direction starting with the A61 Harrogate Road.

Table 2 – Identified Interventions

Location	Status	Site Requirements
A61/Alwoodley La	Top 70 hotspot – very constrained site	Direct contributions (1 site)
A61/A6120 Moortown	Top 70 hotspot – very constrained site. WYPTF scheme	Direct contributions (1 site)
A61/Street La	Constrained site	Cumulative contributions (1 site)
A61/Potternewton La	Top 30 hotspot – constrained site	No sites identified
A6120/Shadwell La	Constrained site.	No sites identified
A6120/Roundhay Park La	Unconstrained site. WYPTF scheme	No sites identified
A58/A6120	Top 30 hotspot – unconstrained site. Benefits from ELOR WYPTF scheme	No sites identified
Roundhay Rd/Oakwood La (Oakwood Clock)	Top 30 hotspot – very constrained site	No sites identified
A58/Harehills La (Fforde Green)	Top 30 hotspot – very constrained site	No sites identified
A58 Barrack Rd/Chapelton Rd	Constrained site	No sites identified
A58 Clay Pit La/Meanwood Rd	Constrained site	Cumulative contributions (1 site)
A6120/Coal Rd/Ramshead App	Benefits from ELOR WYPTF scheme	No sites identified
A64/Scholes La	Unconstrained site. Potentially improve as part of ELOR WYPTF scheme	No sites identified
A64/A6120	Top 70 hotspot – constrained site. Benefits from ELOR WYPTF scheme	No sites identified
A64/Cross Gates Rd	Constrained site	No sites identified
A64/B6159 Halton Dial	Top 70 hotspot – very constrained site	Cumulative contribution (1 site)
A64/Gipton Approach	Constrained site	No sites identified
A64/Burmantofts St, Woodpecker junction	Very constrained site	Cumulative contribution (1 site)

Location	Status	Site Requirements
Barwick Rd/A6120	Top 70 hotspot – constrained site. Benefits from ELOR WYPTF scheme	No sites identified
Austhorpe Rd/A6120	Very constrained site. Benefits from ELOR WYPTF scheme	No sites identified
M1 Jn 46/A63 Colton	Highways England improvement associated with Thorpe Park and East Leeds Extension	Contributions from East of Garforth site – subject to comprehensive transport study. Cumulative contributions (2 other sites)
M1 Jn 47/A642 Garforth		Direct contributions from Parlington and East of Garforth sites – subject to comprehensive transport studies. Cumulative contributions (1 site)
A63 Garforth southern bypass	Potential scheme to address issues arising from East of Garforth site	Subject to comprehensive transport study for East of Garforth site. Cumulative contribution (1 site)
A63/A642 Old George rbt	Constrained site	Subject to comprehensive transport study for East of Garforth site. Cumulative contribution (1 site)
A63/B6137 Lidgett La	Top 70 hotspot – very constrained site. Benefits from potential Garforth Southern Bypass scheme	Subject to comprehensive transport study for East of Garforth site. Cumulative contribution (1 site)
A63/B6137 Leeds Rd	Unconstrained site. Benefits from potential Garforth Southern Bypass scheme	Subject to comprehensive transport study for East of Garforth site. Cumulative contribution (1 site)
A63/Ninlands La	Unconstrained site. Benefits from potential Garforth Southern Bypass scheme	Subject to comprehensive transport study for East of Garforth site. Cumulative contribution (1 site)
B6159/Chapel St Halton	Very constrained site. Signalised in 2015	No sites identified

Location	Status	Site Requirements
M1 Jn 45/A63 East Leeds Link Road	Highways England improvement scheme scheduled for 2017 start	None – due to delivery of planned scheme
A656/B6137 Longdike La	Unconstrained site	Subject to comprehensive transport study for East of Garforth site.
A642/Bullerthorpe La	Top 70 hotspot – very constrained site	Cumulative contributions (1 site)
A639/B6481 Pontefract Rd	Top 70 hotspot - constrained site. WYPTF scheme	Cumulative contributions (1 site)
A61/A654 Leadwell La	Top 70 hotspot - constrained site	Cumulative contributions (4 sites)
A61/Sharpe La	Top 70 hotspot - constrained site	Cumulative contributions (3 sites)
A61/Wood Lane	Top 70 hotspot - unconstrained site	Direct contributions (1 site) cumulative (4 sites)
M1 Jn 41/A650		Cumulative contributions (1 site)
M1 Jn 42/M62 Jn 29 Lofthouse		No sites identified
A650/Common La	Top 70 hotspot - constrained site	Direct contributions (1 site) cumulative contributions (3 sites)
A650/Thorpe La	Top 70 hotspot – unconstrained site	Direct contributions (1 site)
M62 Jn 28/A653 Tingley	Top 70 hotspot – constrained site. WYPTF A653 Corridor scheme	Direct contributions (1 site) cumulative (5 sites)
A653/Ring Road Middleton (Tommy Wass)	Top 30 hotspot – very constrained site. WYPTF A653 Corridor scheme	No sites identified
A650/A6039 Rein Rd	Top 70 hotspot – very constrained site	Direct contribution (1 site) cumulative (3 sites)
A650/A643 Bruntcliffe La	Top 30 hotspot – constrained site	Cumulative contributions (1 site)
A643/A6110	Top 70 hotspot – constrained site. Potential addition to WYPTF A6110 scheme	Direct contributions (2 sites) cumulative (1 site)
A643/Wesley St	Constrained site.	No sites identified
A643/M621 Jn 2	WYPTF City Centre Package scheme	Cumulative contributions (1 site)

Location	Status	Site Requirements
A6110/M621 Jn 1	Very constrained site. Potential addition to WYPTF A6110 scheme	Direct contribution (1 site) cumulative (2 sites)
M62 Jn 26/A62 Gildersome		Direct contribution (2 sites) cumulative (1 site)
A62/Asquith Ave	Top 30 hotspot – constrained site	Direct contribution (3 sites) cumulative (2 sites)
A6110/A62 Gelderd Rd, Wheatsheaf	Top 30 hotspot – very constrained site. WYPTF scheme	Direct contributions (2 sites) cumulative (1 site)
A58/B6135 Drighlington	Very constrained site	Direct contributions (1 site)
A6110/A58 Whitehall Rd, Ringways	Top 70 hotspot – constrained site. WYPTF scheme	Direct contributions (1 site) cumulative (1 site)
A58 Domestic Rd/Domestic St	Very constrained site. Potential addition to WYPTF City Centre Package scheme	No sites identified
A6110/Branch Rd	Constrained site. Potential addition to WYPTF A6110 scheme	Cumulative contributions (1 site)
A6110/Tong Rd	Constrained site. Potential addition to WYPTF A6110 scheme	Cumulative contributions (2 sites)
A647/B6154 Thornbury Barracks	Top 30 hotspot – very constrained site. Current pinch point scheme completed 2015	None – due to delivery of 2015 scheme
A647/A6120 Dawson's Corner	Top 30 hotspot - constrained site. Potential WYPTF Leeds-Bradford Corridor scheme	Cumulative contributions (7 sites)
A647/B6155 Richardshaw Lane	Top 70 hotspot – very constrained site	No sites identified
A647/Armley Ridge Rd	Constrained site. Potential WYPTF Leeds-Bradford Corridor scheme	No sites identified
A647/Ledgard Way	Top 30 hotspot – very constrained site. Potential WYPTF Leeds-Bradford Corridor scheme	No sites identified

Location	Status	Site Requirements
A647/A643/A58 Armley Gyrotory	Top 30 hotspot – very constrained site. WYPTF City Centre Package scheme	Direct contributions (4 sites) cumulative (6 sites)
A657/A6120 Rodley	Previous top 30 hotspot - unconstrained site. Signalised in 2015 but further improvements required	Direct contributions (1 site) cumulative (2 sites)
A658/Micklefield La	Constrained site	Cumulative contributions (1 site)
A658/Bayton La	Top 70 hotspot – constrained site. Affected by WYPTF A65-Airport-A658 Link Rd scheme	Cumulative contributions (2 sites)
A6038/B6153 Park Rd Guiseley	Top 70 hotspot - constrained site	Direct contribution (1 site)
A65/Oxford Rd	Top 70 hotspot – very constrained site	Cumulative contributions (1 site)
A65/A6120 'Horsforth roundabout'	Previous top 30 hotspot – very constrained site. Signalised in 2015 but further improvements required	Direct contributions (1 sites) cumulative (7 sites)
B6157 Bridge Rd/Wyther La/Broad La junctions	Top 30 hotspot – very constrained site	No sites identified
A65/Kirkstall La/Savins Mill La	Top 70 hotspot – very constrained site	Direct contribution (1 site)
A65/Willow Rd	Top 30 hotspot – very constrained site. A65 QBI completed 2012	Direct contribution (1 site)
Willow Rd/Burley Rd	Very constrained site	Cumulative contributions (1 site)
A65/A58 Inner Ring Rd	Very constrained site. A65 QBI completed 2012	Direct contributions (3 sites) cumulative (4 sites)
A6120/Low La	Top 70 hotspot - constrained site	No sites identified
East of Otley Relief Road	Top 30 hotspot – severely constrained site (A659/Kirkgate)	To be delivered through East of Otley housing site (UDP requirement)

Location	Status	Site Requirements
A660/A658 Dyneley Arms	Top 30 hotspot – unconstrained site. Potential addition to WYPTF A65-Airport-A658 Link Rd scheme	No sites identified
A660/A6120 Lawnswood	Top 70 hotspot - constrained site	Cumulative contributions (2 sites).
A660/St Anne's La/Shaw La	Top 30 hotspot - very constrained site	No sites identified
A660/North La	Top 30 hotspot - severely constrained site	No sites identified
A660/Hyde Park Rd	Top 30 hotspot - severely constrained site	No sites identified
A6120/Weetwood La	Constrained site.	Cumulative contributions (1 site)
A6120/King La	Top 70 hotspot - constrained site. WYPTF scheme	Cumulative contributions (1 site)
King La/Stonegate Rd	WYPTF scheme	No sites identified

6.47 It is anticipated that contributions towards the implementation of these schemes will be required from site developers. A full list of the sites where site requirements have been specified for each junction/scheme is included in Appendix 2. In addition, it is proposed that schemes to deliver enhanced facilities for public transport, walking and cycling will be mainly funded through the Community Infrastructure Levy (CIL) and the Leeds Public Transport Investment programme. See below.

6.48 Public transport and cycling schemes:

- Elland Rd park and ride expansion
- Stourton M621 Junction 7 park and ride
- An additional bus based park and ride in the north of the city at a location to be determined¹⁹.
- Thorpe Park (East Leeds Parkway) rail station
- White Rose rail station
- Leeds Bradford airport parkway station
- New Pudsey station car park expansion
- Morley Station car park expansion
- Horsforth Station car park expansion
- A61(N) Bus Corridor enhancements
- A58 (N) Bus Corridor enhancements
- A64 Bus Corridor enhancements
- A639 Bus Corridor enhancements
- A61(S) Leeds – Wakefield Bus Corridor
- A653 Leeds – Dewsbury Corridor
- A62 Bus Corridor enhancements
- A58 (S) Bus Corridor enhancements
- A647 Leeds – Bradford Corridor
- A65 Bus Corridor enhancements

¹⁹ This will include consideration of a number of potential locations including the previously identified sites at Bodington, Alwoodley and Grimes Dyke.

- A660 Bus Corridor enhancements
- Transport hubs and gateways:
 - Leeds City station
 - Leeds bus station
 - Corn Exchange
 - Headrow
 - Albion St
 - Infirmary St
 - Woodhouse La
 - Cross Gates
- Cycle Superhighway: Leeds – Shadwell
- Cycle Superhighway: Morley – Moortown
- Cycle Superhighway: Morley – Middleton
- Cycle Superhighway: Leeds – Wakefield
- Cycle Superhighway: Leeds Outer Ring Road Corridor
- Leeds Core Cycle Network

7 Conclusions

- 7.1 This report summarises the forecast impacts of the proposed developments in the Site Allocations Publication Draft 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 14-24% 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 earmarked £173.5M towards improvements to public transport alongside investment by First Group in new buses 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.
- 7.5 As well as sites that have a direct impact upon specific junctions, sites have also been identified where the additional traffic generations are lower, but in combination with other sites have a cumulative impact at these junctions and along corridors. It is expected that contributions will also be obtained from these sites to support appropriate improvements.
- 7.6 It is proposed that support for public transport, walking and cycling schemes will mainly but not exclusively be sought through the Community Infrastructure Levy together with the Leeds Public Transport Investment Programme.

APPENDIX 1

Analysis of Congestion 'Hotspots' in Leeds District

CONGESTION 'HOTSPOTS' IN LEEDS

Executive Summary

1. A comprehensive analysis of congested junctions across Leeds District has been undertaken. In total 96 junctions have been evaluated. The use of TrafficMaster data has enabled the average delay for each approach to be determined for seven time periods during an average term time weekday. The resulting outputs have enabled the junctions to be ranked on the basis of total delay.

Introduction

2. 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.
3. Leeds City Council officers have undertaken a detailed analysis of radial and orbital routes in Leeds for the academic years 2009-10 and 2011-12 (weekdays excluding school holidays). This shows that the highest levels of peak congestion in 2011-12 occurred on the A61 N, M621 E, A62, A647, A65 (between Rawdon and the Inner Ring Road) and the A660.
4. As a follow up to this route analysis further work has been undertaken to quantify delays at individual junctions using the 2011-12 data. A total of 96 junctions across Leeds District have been analysed to determine average delays. These junctions were selected on the basis of officer knowledge supported by a review of the radial/orbital average speed plots and also online data from Google Traffic.
5. In the light of the analysis it is clear that a number of the 96 junctions only suffer from very marginal levels of congestion while others are severely congested. Total junction delays summed across all approaches during both the morning and evening peak hours range from 0.5 minutes to just under 23 minutes. It must be recognised that these figures represent an average over all term time weekdays and over full hours. Delays at the peak of the peak are likely to be much greater, however, this analysis does provide a robust evaluation of congestion on a comparable basis that allows future interventions to be targeted at locations with the greatest need.
6. Junctions within Leeds City Centre have not been included; the only exceptions being Domestic Rd/Domestic St and Woodhouse Lane/Clay Pit Lane. Junctions within this area will all be affected by the proposed WYPTF City Centre Package.
7. TrafficMaster data was utilised for weekdays during 2011-12 (September-July), excluding bank holidays and school holidays, and covering seven time periods:
 - A1 – 0700-0800
 - A2 – 0800-0900
 - A3 – 0900-1000
 - IP – 1000-1600
 - P1 – 1600-1700
 - P2 – 1700-1800
 - P3 – 1800-1900
8. For each junction data was extracted for each approach going back as far as the previous significant junction – usually a roundabout or signals. This was

subsequently reviewed to ensure that this didn't include any notable intermediate congestion points. The average distance covered per approach was just under one kilometre, although some were significantly shorter.

9. Once journey time had been extracted the level of 'congestion delay' was determined for each approach and time period. This approach was developed for the radial and orbital route analysis and is calculated by comparing travel times with daytime 'free-flow' times (determined from the minimum observed times for each highway segment between 7 a.m. and 7 p.m.). This provides a representative figure for uncongested travel and is considered more appropriate than using night-time or inter-peak data.
10. In order to rank the sites the congestion delay outputs were summed to obtain the total level of delay on all approaches to each junction during the morning and evening peak hours. In addition, the total level of daytime (0700-1900) delay was also calculated. Two rankings were therefore derived: a peak hour and a 12 hour figure. In many cases the results were similar, but for some sites there were notable differences with 8 sites changing by more than 20 places.
11. In order to obtain a single ranking therefore, the peak hour and 12 hour delay data was added together (so that the peak hours were counted twice to give more emphasis to these time periods) and the resulting rank calculated. It must be emphasised that this is effectively a presentational tool and that junctions with lower levels of delay but higher traffic volumes may merit interventions more than other sites, where for example all the delay relates to minor arms.
12. In addition to the overall combined ranking an examination was also made of the sites to determine whether there were junctions with perhaps one approach that suffers from excessive levels of delay while the others are relatively congestion free. A threshold of a 2 minute peak hour delay or an 8 minute daytime (12 hour) delay was utilised for this – these represent the top 10% of individual delays. This identified 14 junctions outside the top 30 with this level of delay on at least one approach.

Analysis Results

13. Table 1 lists the sites ranked within the top 30 (based on the combined ranking). Seven of the top 10 are also within the top 10 in both the peak and 12 hour rankings.

Table 1 – Leeds Top 30 Congestion Hotspots (2011-12)

Combined rank	Junction	Peak delay (mins)	12 hour delay (mins)	Peak rank	12 hour rank	Peak delays >2 mins	12 hr delays >8 mins
1	A6120 / A657 Rodley La	22.8	50.1	1	1	6	3
2	A647 / Ledgard Way	16.7	46.7	5	3	3	3
3	A660 / B6157 North La	13.4	48.5	8	2	2	2
4	Armley Gyratory	19.1	41.8	2	4	3	2
5	A6110 / A62 Gelderd Rd, Wheatsheaf	17.3	37.4	3	6	3	2
6	Burley Rd / Cardigan Rd	15.8	38.1	6	5	3	2
7	A6120 / A65 Rawdon Rd, Horsforth	16.7	33.6	4	8	3	2
8	A58 / Harehills Rd	8.4	36.5	17	7	2	2
9	A660 / B6157 Shaw La	12.8	29.7	9	11	2	2
10	Wetherby Rd / Princes Ave, Oakwood	12.8	29.7	10	12	2	1
11	A660 / Hyde Park Rd	7.1	32.4	25	9	1	1
12	B6157 Leeds & Bradford Rd / Wyther La	13.6	25.8	7	13	3	1
13	A659 / B6451 Clapgate, Otley	6.7	31.4	28	10	0	2
14	A58 / B6159 Harehills La, Fforde Green	8.3	25.7	18	14	1	1
15	A650 / A643 Bruntcliffe La, Morley	11.9	21.7	11	16	2	0
16	A6120 / A58 Wetherby Rd	11.5	20.3	12	21	2	1
17	A61 / B6159 Potternewton La	11.2	19.9	13	22	3	0
18	B6157 Kirkstall La / Morris La	7.8	21.6	20	17	1	1
19	M1 (J44) / A639 Leeds Rd, Rothwell	10.0	18.3	14	27	2	1
20	A6120 / A647, Dawsons Corner	7.0	20.7	27	19	0	1
21	Harrogate Rd / B6159 Harehills La	6.4	21.2	33	18	0	0
22	A653 / Ring Rd Beeston Park	6.6	20.6	30	20	1	0
23	A647 / B6154 Galloway La	9.3	17.8	15	29	3	0
24	A64 / B6159 Harehills La	4.9	22.0	47	15	0	2
25	B6157 Stonegate Rd / King La	8.0	18.6	19	26	1	1
26	A65 / Willow Rd	7.6	18.7	22	25	1	1
27	A61 / A659 (E), Harewood	7.4	18.8	23	24	1	1
28	A62 / B6126 Asquith Ave, Gildersome	8.5	16.8	16	33	2	0
29	A660 / A658, Dyneley Arms	7.1	17.7	26	30	0	0
30	Harrogate Rd / Street La	4.3	19.5	54	23	0	0

Note: Ranking based on total delay and takes no account of traffic levels. Combined ranking double counts peak hour delays to give more emphasis to these time periods.

14. Table 2 lists the sites ranked from 31 to 70. Four junctions fall outside the top 30 although they rank within it on the basis of either peak hour or 12 hour delays. This list contains all the remaining sites where peak or 12 hour delays exceed 2 and 8 minutes respectively on at least one approach. Figure 1 shows the locations of all the evaluated sites.

15. A number of the junctions in this evaluation have improvement schemes that are either currently being implemented or are planned. The vast majority, however, are constrained so that significant improvements would require third party land and or property demolition. Tables 3-5 provide comments for each site covering these points, with further detail being available in Appendix A.

Table 2 – Leeds Congestion Hotspots 31-70 (2011-12)

Combined rank	Junction	Peak delay (mins)	12 hour delay (mins)	Peak rank	12 hour rank	Peak delays >2 mins	12 hr delays >8 mins
31	A658 / Bayton La, Yeadon	6.2	17.2	34	32	0	0
32	A61 / Alwoodley La	6.1	16.7	35	34	0	0
33	A647 / Richardshaw La, Pudsey	5.3	17.4	41	31	0	0
34	A6120 / B6159 Selby Rd, Colton	7.6	13.8	21	43	0	0
35	B6155 Lidget Hill / B6154 Church La, Pudsey	3.1	18.2	66	28	0	0
36	Station Rd / Long Row, Horsforth	6.0	15.2	37	38	0	0
37	A63 / B6137 Lidgett La, Garforth	5.2	15.8	42	35	0	1
38	A650 / Common La, East Ardsley	5.3	15.6	40	36	0	0
39	A61 / Sharp La, Robin Hood	7.2	13.5	24	45	2	0
40	A6029 / A650 / B6127 Bridge St, Morley	6.6	13.8	31	42	1	0
41	A650 / Thorpe La, Tingley	5.7	14.5	39	41	0	0
42	A642 / B6137 Main St, Garforth	4.8	14.7	50	40	0	0
43	M621 (J7) / A61 / A639, Stourton	6.4	13.1	32	47	2	0
44	A65 / Oxford Rd, Guiseley	4.1	15.4	58	37	0	0
45	A6120 / A660 Otley Rd, Lawnswood	6.0	13.2	36	46	0	0
46	A6120 / Low La, Horsforth	6.6	12.5	29	50	1	0
47	A65 / B6153 Park Rd, Guiseley	4.1	14.8	57	39	0	0
48	A65 / Kirkstall La	4.9	13.7	45	44	0	0
49	A6120 / A61 Harrogate Rd, Moortown	5.9	11.8	38	52	1	0
50	A6120 / A64 York Rd	4.3	12.7	55	48	1	0
51	A61 / Wood La, Rothwell	5.2	11.7	43	53	1	0
52	M62 (J28) / A653 / A650, Tingley	4.9	11.9	48	51	0	0
53	A6120 / King La	4.9	11.4	46	54	0	0
54	A6120 / A64 Barwick Rd	5.1	10.8	44	58	0	0
55	Shadwell La / Wike Ridge La, Shadwell	3.1	12.6	68	49	0	0
56	A61 / A659 (W), Harewood	4.4	11.1	53	56	1	1
57	B6159 / Primrose La, Halton	4.1	11.2	56	55	1	0
58	A65 / A658 Green La, Rawdon	4.6	10.3	51	60	0	0
59	A6110 / A58 Whitehall Rd, Ringways	4.8	9.8	49	62	0	0
60	B6126 Brunswick St / B6127 Chapel Hill, Morley	3.1	11.1	67	57	0	0
61	A6110 / Millshaw Rd / White Rose (N)	3.9	10.3	59	61	0	0
62	B6157 North La / Cardigan Rd	3.3	10.4	65	59	0	0
63	A61 / Harrogate Rd	3.8	9.6	61	64	1	0
64	A639 / B6481 Pontefract Rd	3.4	9.7	64	63	0	0
65	A6110 / A643 Elland Rd (S)	4.4	8.1	52	73	1	0
66	A64 / B6159 Selby Rd, Halton Dial	3.4	9.0	63	66	0	0
67	A6038 / B6153 Park Rd, Guiseley	3.5	8.5	62	69	0	0
68	A61 / A654 Leadwell La, Robin Hood	3.0	9.0	69	67	0	0
69	A661 / Boston Rd / High St, Wetherby	2.2	9.4	81	65	0	0
70	A642 / Bullerthorpe La, Woodlesford	2.8	8.4	70	70	1	0

Note: Ranking based on total delay and takes no account of traffic levels. Combined ranking double counts peak hour delays to give more emphasis to these time periods.

Figure 1 – Leeds Congestion Hotspot Junctions (2011-12)

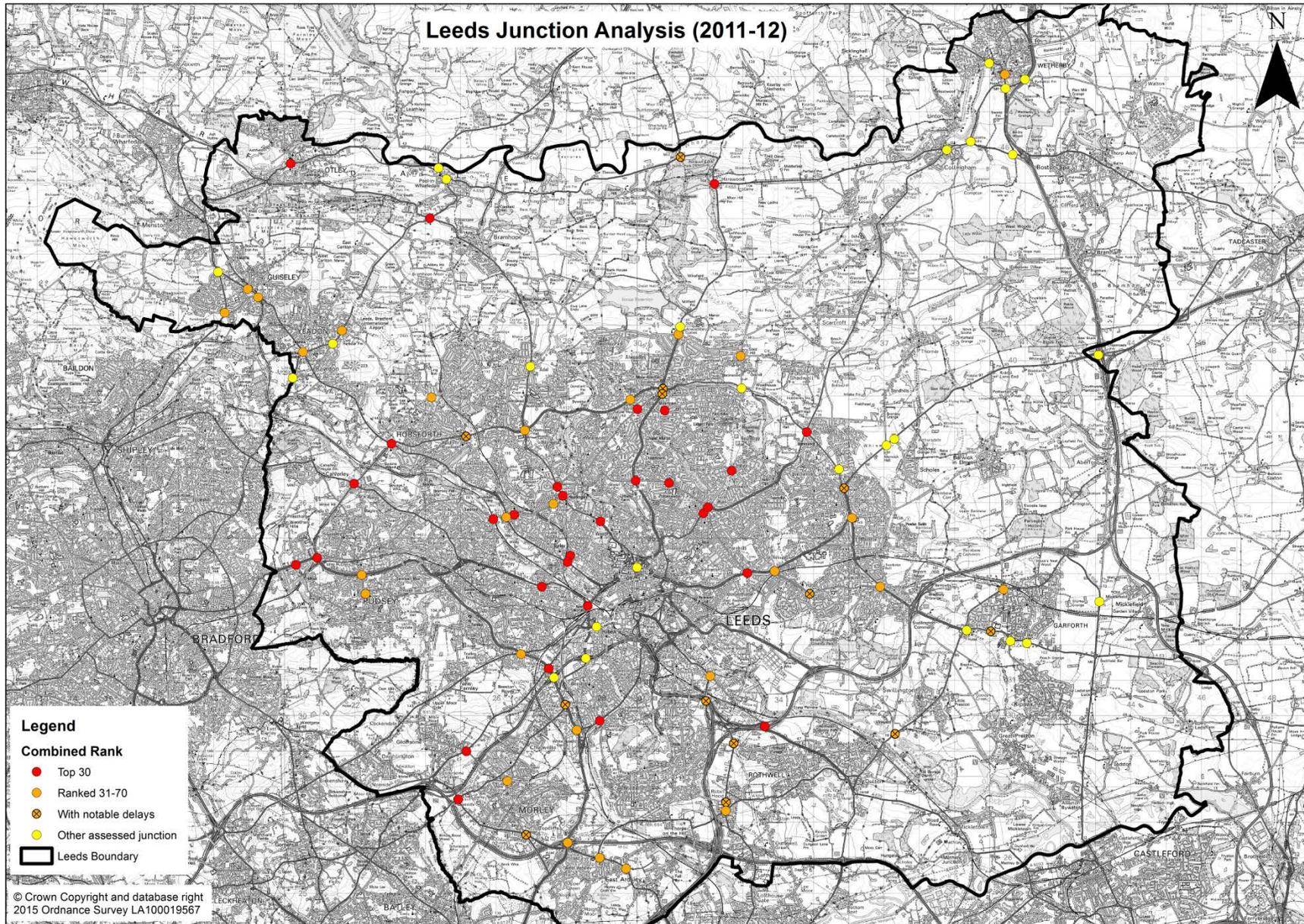


Table 3 – Interventions and Constraints (Sites 1-25)

Combined rank	Junction	Description	Schemes
1	A6120 / A657 Rodley La	Roundabout. Unconstrained site	Pinch Point signalisation (open 2015)
2	A647 / Ledgard Way	Signalled junction. Very constrained site	Leeds-Bd Corridor (WYPTF)
3	A660 / B6157 North La	Signalled junction. Severely constrained site	
4	Armley Gyratory	Signalled gyratory. Very constrained site	City Centre Package (WYPTF)
5	A6110 / A62 Gelderd Rd, Wheatsheaf	Signalled junction. Very constrained site.	A6110 (WYPTF)
6	Burley Rd / Cardigan Rd	Signalled junction. OB bus lane. Very constrained site	
7	A6120 / A65 Rawdon Rd, Horsforth	Roundabout. Very constrained site	Signalisation (open 2015)
8	A58 / Harehills Rd	Signalled junction. OB bus lane. Severely constrained site	
9	A660 / B6157 Shaw La	Signalled junction. IB bus lane. Very constrained site	
10	Wetherby Rd / Princes Ave, Oakwood	Signalled junction. Very constrained site	
11	A660 / Hyde Park Rd	Signalled junction. OB bus lane. Severely constrained site	
12	B6157 Leeds & Bradford Rd / Wyther La	Signalled junction. Very constrained site	Small impt linked to a devt
13	A659 / B6451 Clapgate, Otley	Signalled junction. Severely constrained site	Otley Relief Rd
14	A58 / B6159 Harehills La, Fforde Green	Signalled junction. IB HOV Lane. Very constrained site	
15	A650 / A643 Bruntcliffe La, Morley	Signalled junction. Constrained site	MOVA
16	A6120 / A58 Wetherby Rd	Roundabout. Unconstrained site	ELOR (WYPTF)
17	A61 / B6159 Potternewton La	Roundabout. IB/OB guideways. Constrained site	
18	B6157 Kirkstall La / Morris La	Signalled junction. Constrained site	Scheme linked to adjacent development
19	M1 (J44) / A639 Leeds Rd, Rothwell	Roundabout. Unconstrained site	HE Pinch Point signalisation (open 2015)
20	A6120 / A647, Dawsons Corner	Signalled gyratory. Constrained site	Feasibility study ongoing
21	Harrogate Rd / B6159 Harehills La	Signalled junction. Very constrained site	
22	A653 / Ring Rd Beeston Park	Signalled junction. Very constrained site. Improved 2011	
23	A647 / B6154 Galloway La	Roundabout. Very constrained site.	Pinch Point signalisation (open 2015)
24	A64 / B6159 Harehills La	Signalled junction. IB bus la & OB guideway. Very constrained site	
25	B6157 Stonegate Rd / King La	Roundabout. Constrained site.	ELOR/ORR improvement (WYPTF)

Table 4 – Interventions and Constraints (Sites 26-50)

Combined rank	Junction	Description	Schemes
26	A65 / Willow Rd	Signalled junction. OB bus lane. Very constrained site. QBC 2012	
27	A61 / A659 (E), Harewood	Signalled junction. Very constrained site	
28	A62 / B6126 Asquith Ave, Gildersome	Signalled junction. Constrained site	Improvement associated with development
29	A660 / A658, Dyneley Arms	Signalled junction. Unconstrained site	Feasibility study ongoing
30	Harrogate Rd / Street La	Signalled junction. Very constrained site	MOVA scheme?
31	A658 / Bayton La, Yeadon	Signalled junction. Constrained site	LBIA Link Rd (WYPTF)
32	A61 / Alwoodley La	Signalled junction. Very constrained site	
33	A647 / Richardshaw La, Pudsey	Signalled junction. Very constrained site.	
34	A6120 / B6159 Selby Rd, Colton	Roundabout. Constrained site.	ELOR (WYPTF)
35	B6155 Lidgett Hill / B6154 Church La, Pudsey	Signalled junction. Severely constrained site	
36	Station Rd / Long Row, Horsforth	Roundabout. Very constrained site	
37	A63 / B6137 Lidgett La, Garforth	Signalled junction. Very constrained site	Possible bypass linked to housing site
38	A650 / Common La, East Ardsley	Signalled junction. Constrained site	
39	A61 / Sharp La, Robin Hood	Signalled junction. Constrained site	
40	A6029 / A650 / B6127 Bridge St, Morley	Signalled gyratory. Very constrained site	
41	A650 / Thorpe La, Tingley	Signalled junction. Unconstrained site	
42	A642 / B6137 Main St, Garforth	Signalled junction. Very constrained site	Minor improvement scheme
43	M621 (J7) / A61 / A639, Stourton	Roundabout. Partly signalled. Constrained site.	SB off slip widening (HE)
44	A65 / Oxford Rd, Guiseley	Signalled junction. Severely constrained site	Addition of pedestrian phase
45	A6120 / A660 Otley Rd, Lawnswood	Roundabout. Constrained site.	
46	A6120 / Low La, Horsforth	Roundabout. Constrained site	
47	A65 / B6153 Park Rd, Guiseley	Signalled gyratory. Very constrained site	
48	A65 / Kirkstall La	Signalled junction. OB bus lane. Very constrained site. QBC 2012	
49	A6120 / A61 Harrogate Rd, Moortown	Roundabout. Constrained site.	ELOR/ORR improvement (WYPTF)
50	A6120 / A64 York Rd	Roundabout. Constrained site.	ELOR (WYPTF)

Table 5 – Interventions and Constraints (Sites 51-70)

Combined rank	Junction	Description	Schemes
51	A61 / Wood La, Rothwell	Signalled junction. Unconstrained site	OB bus lane (open 2016)
52	M62 (J28) / A653 / A650, Tingley	Signalled gyratory. Constrained site	HE scheme
53	A6120 / King La	Roundabout. Part signals. Constrained site.	ELOR/ORR improvement (WYPTF)
54	A6120 / A64 Barwick Rd	Roundabout Constrained site.	ELOR (WYPTF)
55	Shadwell La / Wike Ridge La, Shadwell	Signalled junction. Very constrained site	
56	A61 / A659 (W), Harewood	Priority junction. Unconstrained site	
57	B6159 / Primrose La, Halton	Signalled junction. OB bus lane. Very constrained site	
58	A65 / A658 Green La, Rawdon	Roundabout. Constrained site.	
59	A6110 / A58 Whitehall Rd, Ringways	Roundabout. Constrained site	A6110 (WYPTF)
60	B6126 Brunswick St / B6127 Chapel Hill, Morley	Signalled junction. Severely constrained site	
61	A6110 / Millshaw Rd / White Rose (N)	Roundabout. Constrained site.	A653 Leeds-Dewsbury corridor (WYPTF)
62	B6157 North La / Cardigan Rd	Signalled junction. Severely constrained site	
63	A61 / Harrogate Rd	Roundabout. Very constrained site	ELOR/ORR improvement (WYPTF)
64	A639 / B6481 Pontefract Rd	Signalled junction. Constrained site	
65	A6110 / A643 Elland Rd (S)	Roundabout. Constrained site.	A6110 (WYPTF)
66	A64 / B6159 Selby Rd, Halton Dial	Signalled junction. IB & OB guideways. Very constrained site	
67	A6038 / B6153 Park Rd, Guiseley	Priority junction. Constrained site.	
68	A61 / A654 Leadwell La, Robin Hood	Signalled junction. Constrained site	
69	A661 / Boston Rd / High St, Wetherby	Mini roundabout. Very constrained site	
70	A642 / Bullerthorpe La, Woodlesford	Priority junction. Very constrained site	

Appendix A - Interventions and Constraints

Definitions

This appendix attempts to classify congestion hotspots based on how constrained they may be by their location in terms of potential for unlocking capacity through widening, enlarging or relocating the junction. By nature, these definitions are subjective, but the following give an indication of the criteria considered.

Unconstrained:-

- There appears to be undeveloped land available (whether highway or otherwise) on most or all approaches to allow additional lanes to be added or the junction repositioned or enlarged.

Constrained:-

- There is retail or civic activity around the junction, high pedestrian flows and/or loading requirements, which could affect the potential for improvement.
- There is non-highway land adjacent to the junction and approaches which could be utilised, but the effect of the land take on the property is likely to be undesirable, e.g. removes car parking, landscape buffers etc.

Very constrained:

- There are buildings or engineering/ environmental constraints which make it quite uncertain whether an improvement is deliverable. Land take will be required.
- The junction has buildings in proximity to the junction or approaches, but they are set back and/or appear to be of lower intrinsic value to the function and quality of the local area, and hence there could be a medium to term long prospect of redevelopment (leading to a potential improvement line).

Severely constrained:

- The junction is surrounded by buildings which are an integral part of the character or function of the area and which presently seem very unlikely to be demolished.
- The junction is in very close proximity to one or more structures or topographical features, such as railway lines, rivers or environmental features which would appear to prevent substantial modification to the junction.

Junction Assessment

1) A6120 / A657 Rodley Lane (roundabout)

Unconstrained. Although there is development to the south and east of the junction, there is enough room to realign Rodley Lane (west arm) and the Ring Road (north) arm to provide a 'staggered' junction arrangement.

2) A647 / Ledgard Way (signalled junction)

Very constrained. The north and east arms have some prospect for widening, although the latter would have a greater impact and may ultimately not be deliverable without demolition. The south arm is tightly constrained between property whilst the west arm has softer constraints (bowls club lawn and off-street car parking). There are pedestrian facilities, and pedestrian demand, which will constrain improvements.

3) A660 / B6157 North Lane (signalled junction)

Severely constrained. At the heart of the thriving Headingley Centre, with very high pedestrian footfalls and buildings at or close to the back of footway. Ideally footways would be wider, and better cycle facilities provided, meaning that there is already significant pressure on accommodating non-motorised users in the event that more space did become available.

4) Armley Gyratory (signalled gyratory)

Very constrained. Presence of railway viaducts to the north and southeast, and major gas plant within the gyratory mean that this otherwise large site has design limitations. The relocation of gas facilities would however help release opportunities. There is also some open space to the west, but the junction with the B6154 could constrain if this can be effectively used. The B6154 alignment, status etc could be reviewed.

5) A6110 / A62 Gelderd Road, Wheatsheaf (signalled junction)

Very constrained. There is some heavy electrical plant (substation?) to the southwest, which limits potential improvement lines to the adjacent M621 junction. New buildings to the east, including car showrooms on the northeast corner, limit the amount of widening which can be provided. To the west of the junction are low density industrial buildings with a degree of set back from the highway, which could offer some junction improvement potential. The proximity of the M621 junction 1 is an operational constraint which further constrains workable schemes.

6) Burley Road / Cardigan Road (signalled junction)

Very constrained. Although there is open space to the southeast, the railway bridge to the west and residential properties fronting the north arm effectively limit any potential improvement as they result in single lane approaches and exits on the west and north arms. Significant demolition or detrimental acquisition of private land would be required on the north arm. The small property on the southwest corner could potentially provide some scope for capacity improvements.

7) A6120 / A65 Rawdon Road, Horsforth (roundabout)

Very constrained. Although there is open space to the west, the skewed geometry of the approach roads and the location of housing and a petrol filling station on the A65 south arm limits the scope for enhancement.

8) A58 / Harehills Road (signalled junction)

Severely constrained. At the heart of a busy local centre with high pedestrian flows, demand for loading and retail premises on all corners of the junction. The only prospect for widening appears to be land take of private forecourts on the northwest side of the A58, but this will have impacts on the amenity of the area and on the properties concerned. All other locations are severely constrained by properties at or close to the highway boundary.

9) A660 / B6157 Shaw Lane (signalled junction)

Very constrained. High pedestrian and cycle flows. The NGT scheme is planning a capacity improvement to the junction through minor localised widening to accommodate pedestrian crossing islands on the side roads. A more substantial scheme would impact on the existing service access road for the shops on the northwest side, remove mature trees which are a key part of the streetscape, acquire front garden and could require demolition of retail property.

10) Wetherby Road / Princes Avenue, Oakwood (signalled junction)

Very constrained. Although, in theory, there is scope for widening on the northwestern (Princes Avenue) and northeastern (Wetherby Road) approaches, the impact on mature trees and good quality open space is likely to make any improvement line challenging to justify and difficult to deliver. The bustling local centre on Roundhay Road has high pedestrian demands, kerbside parking and loading and street activity and would make any further carriageway widening improbable, especially given that there are already three lanes at the stop line and the Gledhow Lane junction interferes with eastbound flow on Roundhay Road. Oakwood Lane is very constrained, with side turnings and premises on each side of the road.

11) A660 / Hyde Park Road (signalled junction)

Severely constrained. The junction is surrounded on three corners by retail premises, with generally narrow footways and moderately high pedestrian demands. Given the high cycle flows and lack of cycle lanes through the junction, it is already considered to be sub-optimal. The junction of Victoria Road to the northwest can impact on traffic progression through the junction. The NGT scheme is proposing to improve the junction by banning turns and accommodating these using the adjacent junctions. This scheme should release capacity and enable a shorter cycle time and it also signalises Victoria Road. Any further enhancement for capacity does not seem likely.

12) B6157 Leeds & Bradford Road / Wyther Lane (signalled junction)

Very constrained. The junction is on a bridge straddling twin track railway lines and the River Aire which effectively prevents any widening on all three approaches. Wyther Lane is restricted to one lane each way unless some land is acquired and property demolished from the premises to the east of the Wyther Lane / Broad Lane junction. East of the River Aire there is scope to widen to the south side but this will impact on a tree belt between the road

and playing fields. In the long term, capacity improvement is not out of the question, but there are significant obstacles requiring a significant investment.

13) A659 / B6451 Clapgate, Otley (signalled junction)

Severely constrained. The junction is surrounded by retail premises in the heart of Otley, with high pedestrian flows and narrow footways. Clapgate itself also has near right-angle bends in it, reducing the effective ability of the road to deliver higher flows through a signal junction. There is no scope for further capacity enhancement through road widening.

14) A58 / B6159 Harehills Lane, Fforde Green (signalled junction)

Very constrained. Adjacent to A58 / Harehills Road (number 8 above), this junction also has retail premises on all four corners of the junction. Some widening may be possible through the acquisition of private forecourts. Some widening on Harehills Lane (south) could be possible through land acquisition, but this will affect off-street parking for businesses and is not an easy option.

15) A650 / A643 Bruntcliffe Lane, Morley (signalled junction)

Constrained. The three houses on the northwest corner could present a significant obstacle to enlarging the junction, but on each arm there appears to be some scope for widening either within the highway or by taking private land (typically car parking), but with no further demolition. There may be an opportunity to protect an improvement line at this junction.

16) A6120 / A58 Wetherby Road (roundabout)

Unconstrained. Although there is no room to widen on the A58 (North) arm without acquiring private gardens, with an impact on trees, there is scope to realign the whole junction southwestwards, and scope to widen and realign the other three approaches.

17) A61 / B6159 Potternewton Lane (roundabout)

Constrained. Potternewton Lane to the west cannot be widened without acquiring gardens. Widening on Scott Hall Road (north arm) may require removal of the guided busway and an impact on mature trees lining the street. To the east and south there is scope for widening into the open space.

18) B6157 Kirkstall Lane / Morris Lane (signalled junction)

Constrained. Widening opportunities exist on the eastern side of Morris Lane at and south of the junction and on the southern side of Kirkstall Lane west of the junction, through land acquisition. However, widening opportunities are limited on the other two arms – the eastern arm possibly allowing a short flare although the impact on the houses north of the road could be too significant. These limitations mean that it appears unlikely, upon initial inspection, that a step-change improvement in capacity could be realised without acquiring property, unless pedestrian crossing islands can be accommodated to replace the ‘all-red’ stage with walk-with-traffic.

19) M1 (J44) / A639 Leeds Rd, Rothwell (roundabout)

Unconstrained. Although the Motorway and overbridge are a constraint, there appears to be enough open land around the junction to the north and south to facilitate capacity improvements over and above the Pinch Point signalisation scheme recently implemented by the Highways Agency.

20) A6120 / A647, Dawsons Corner (signalled roundabout)

Constrained. There is open space to the southwest – where the dominant flow movements are – and some scope for acquiring land each side of the Ring Road. However, to the south there is the Bradford railway line which restricts widening on the northbound approach, plus property on the northwest and southeast corner.

21) Harrogate Road / B6159 Harehills Lane (signalled junction)

Very constrained. Although there are few properties hard up against the footway, the prospect for widening is limited as the buildings are in relatively close proximity to the highway on all arms except for Harehills Lane, and the impact of land take on the settings of the properties would appear to be significant. The junction operation is likely to be constrained by the adjacent junctions, meaning that the likelihood of significant operational gains is low.

22) A653 / Ring Road Beeston Park “Tommy Wass” (signalled junction)

Very constrained. The junction was upgraded in 2011. Opportunities for further capacity enhancements appear limited given the location of the Tommy Wass public house right on the corner and requirement for private forecourts and gardens to achieve any improvement line.

23) A647 / B6154 Galloway Lane “Thornbury Barracks” (roundabout)

Very constrained. Signalisation scheme on site. Housing on three sides, front gardens would be required for any widening on the approaches or enlargement of the roundabout. An improvement scheme would be more likely with redevelopment of the Barracks site fronting the roundabout.

24) A64 / B6159 Harehills Lane (signalled junction)

Very constrained. The junction already has banned turns and additional lanes on the approaches, and further improvement looks difficult to accommodate because of buildings on the southeast side of the junction. There is already a two-lane left turn out of Harehills Lane.

25) B6157 Stonegate Road / King Lane (roundabout)

Constrained. The King Lane (north) approach has scope for significant widening, but the junction configuration to the south and east constrains options, as it is effectively a 5 arm junction. Residential and church properties and mature trees surround the junction, meaning that, environmentally, the footprint of any junction improvement scheme is likely to be restricted.

26) A65 / Willow Road (signalled junction)

Very constrained. Although there is some open space to the north/east of the junction, effective alignments are constrained by the Harrogate Line viaduct across the A65 immediately to the west and properties had up against the sides of Viaduct Road to the south. The latter constraints could in the medium to long term be overcome if redevelopment takes place.

27) A61 / A659 (E), Harewood (Signalled junction)

Very constrained. The junction is surrounded by the old boundary walls to Harewood House and high quality residential boundaries of mature hedges and trees, at the current main entrance to Harewood House. Land take from gardens would be required to enhance the junction and it does not appear to be possible without a significant detrimental effect on the locality and residents.

28) A62 / B6126 Asquith Avenue, Gildersome (signalled junction)

Constrained. There is undeveloped land or commercial car parking which could be utilised to widen three of the four approaches, whilst the fourth approach (Branch End) is restricted particularly by a few terraced properties on the southwestern side.

29) A660 / A658, "Dyneley Arms" (signalled junctions)

Unconstrained. There is open space to the east and south which could be used to realign the A658, if widening is unacceptable on the A660 west arm south of the Dyneley Arms, because of the mature trees present.

30) Harrogate Road / Street Lane (signalled junction)

Very constrained. The junction is surrounded by retail and residential property, with reasonably high pedestrian flows and servicing requirements. In theory some widening of the approaches could be possible with land take from forecourts and front gardens, but in practice this seems unlikely to be tenable.

31) A658 / Bayton Lane, Yeadon (signalled junction)

Constrained. The A658 south arm is constrained away from the junction by property on each side of the road, although widening at the junction entry may be practical (with private land take). On the remaining three arms, some road widening may be possible using private land (car parking, front gardens) with an impact on a row of mature trees on the A658 (north) arm.

32) A61 / Alwoodley Lane (signalled junction)

Very constrained. The A61 (N) arm is flanked closely by property which makes any widening impossible without significant acquisition and demolition. The remaining arms can only be widened by encroaching into private gardens, with a significant impact on established boundaries including hedges and mature trees. The eastern arm looks tight for space which is also likely to impact on potential improvement schemes.

33) A647 / Richardshaw Lane, Pudsey (signalled junction)

Very constrained. The junction is already grade separated. Properties on the south and north side of the junction, coupled with the width of the A647 overbridge, mean that the scope for improvement is limited.

34) A6120 / B6159 Selby Rd, Colton (roundabout)

Constrained. Although there is scope to widen both arms of the A6120 without property demolition, the two minor arms of B6159 Selby Road and Colton Lane – coupled with the property on the western corner – make significant capacity increases challenging (though not impossible). Widening of the eastern arm of the A6120 is likely to impact on mature trees in the bank of trees on the south side. It may be possible to reduce capacity of the minor arms and give it to the major arms (the B6159 was the A63 but has not been provided for by the East Leeds Link Road).

35) B6155 Lidget Hill / B6154 Church Lane, Pudsey (signalled junction)

Severely constrained. Significant property surrounds the junction, close to the trafficked highway, on three corners, restricting any potential improvement to redevelopment of the western corner and the potential to realign the highway to create a staggered junction. It is in the middle of a retail area with moderately high footfall.

36) Station Road / Long Row, Horsforth (roundabout)

Very constrained. A five arm roundabout in a suburban area with retail activity. Enlargement of the roundabout is restricted by adjacent buildings. The most likely opportunity for enhancing capacity could come from closing the two minor arms (St Margaret's Road and Brownberrie Avenue) and possibly signalling it.

37) A63 / B6137 Lidgett Lane, Garforth (signalled junction)

Very constrained. There appears to be some scope for widening the A63 on the public highway, but the presence of property right on the northeast corner and south side opposite it effectively make it unlikely without acquiring residential property.

38) A650 / Common Lane, East Ardsley (signalled junction)

Constrained. On the A650, there is scope for widening on both approaches; whilst on the western minor arm there is scope for a slight realignment and widening at the mouth to accommodate a pedestrian crossing island, using green space. However, the Country Baskets mill building and housing mean that there is no prospect of any widening or realignment on the northern minor arm. There are retail premises to the south with off-street parking and road widening could impact on these, making a substantial improvement scheme challenging.

39) A61 / Sharp Lane, Robin Hood (signalled junction)

Constrained. It appears possible to widen on all approaches without property demolition, although to do so will require land outside the highway boundary and (depending on the design) could affect mature trees, the edge of some allotments and on-street parking. There is a war memorial on the southwest corner which will need to be considered and it is too early to say whether this would be adversely affected.

40) A6029 / A650 / B6127 Bridge Street, Morley (signalled gyratory)

Very constrained. Surrounded by property on all sides, although some of the buildings are set back. There is a potential improvement line if the property to the north of the A650 is redeveloped, notably to get a better two lane approach on the B6127 (north) arm.

41) A650 / Thorpe Lane, Tingley (signalled junction)

Unconstrained. Although there is housing on the south side, the north side is open fields, with scope for enlarging the junction. The staggered side road Smithy Lane could also possibly be widened through land acquisition from the adjacent Primary School.

42) A642 / B6137 Main St, Garforth (signalled junction)

Very constrained. There is an opportunity to realign the A642 west of the junction and Barrowby Lane (north arm) to create a staggered junction, which could release capacity. However, the B6137 Main Street is tightly constrained between buildings, as is the eastern arm of the A642. These latter constraints will constrain the overall benefit of a significant junction improvement.

43) M621 (J7) / A61 / A639, Stourton (part-signalised roundabout-style junction)

Constrained. Although there is open space around most of the roundabout, there are constraints created by the adjacent railway, the freight terminal access location and the retaining wall on the northbound on-slip. In addition, the M621 overbridges themselves create a constraint which would be very expensive to replace or modify. The NGT scheme is proposing amendments to the junction which will accommodate extra traffic.

44) A65 / Oxford Road, Guiseley (signalled junction)

Severely constrained. There are properties close to the road on all corners of the junction in this local centre. Upon initial inspection there appears to be no realistic prospect for any enlargement of the junction.

45) A6120 / A660 Otley Road, Lawnswood (roundabout)

Constrained. The NGT scheme is proposing to upgrade the junction by signalising it and amending the geometry. Any further enlargement of the junction is constrained on the northwest former by housing, but enlargement on the remaining corners may be possible with land take, noting impact on mature trees and school grounds.

46) A6120 / Low Lane, Horsforth (roundabout)

Constrained. The junction is loosely surrounded by development, but the A6120 can be widened on its approaches. A larger roundabout may be unrealistic without property acquisition and demolition, but a signalled junction may be practical with land take on the east sides of both minor arms.

47) A65 / B6153 Park Rd, Guiseley (signalled gyratory)

Very constrained. Skew railway line passes underneath the junction and there are properties around the junction which constrain potential improvement lines.

48) A65 / Kirkstall Lane (signalled junction)

Very constrained. Property is very close or abuts three approaches to the junction, whilst the fourth (eastern) arm is on a gradient. The operation is restricted by the adjacent signals gaining access to Morrisons.

49) A6120 / A61 Harrogate Rd, Moortown (roundabout)

Constrained. There is a churchyard on the northeastern corner and the Scott Hall Road / Harrogate Road junction is in close proximity. There are significant banks of mature trees and retail premises on the south arm close to the highway. There is scope for some highway widening.

50) A6120 / A64 York Rd (roundabout)

Constrained. The York Road / North Parkway is close, and the two junctions' interaction will constrain capacity improvements. There are properties around the junction, although set back, meaning that improvement could be possible. The ELOR scheme will remove traffic from the junction.

51) A61 / Wood Lane, Rothwell (signalled junction)

Unconstrained. There are open fields to the west and south of the junction, meaning realignment and widening of both the A61 and Wood Lane is possible.

52) M62 (J28) / A653 / A650, Tingley (signalled gyratory)

Constrained. Housing and development to the south of the junction constrains any widening or realignment of the A653 and A650 approaches and to some extent the A650 also. Any scheme which affects the motorway overbridges will also jeopardise feasibility.

53) A6120 / King Lane (roundabout, part-signalled)

Constrained. Housing and development to the south and west, places side road accesses, places some constraints on any improvement scheme, although there is some open space to the north/east.

54) A6120 / A64 Barwick Road (roundabout)

Constrained. Although there is open space which could be used for a widening scheme, the housing and other development on Barwick Road and immediately south/east of the junction constrains potential alignment improvements. The ELOR scheme will remove traffic from this junction.

55) Shadwell Lane / Wike Ridge Lane, Shadwell (signalled junction)

Very constrained. Surrounded by housing and some retail, any enhancement to this junction looks like it would have a significant effect on surrounding property.

56) A61 / A659 (W), Harewood (priority junction)

Unconstrained. Although there is a house immediately south of the junction, the remainder of the frontage is open farmland and there is scope for realignment and widening. There is a

potential issue with the alignment of the A61, which is 'bendy' here, which could increase scheme costs and impacts.

57) B6159 / Primrose Lane, Halton (signalled junction)

Very constrained. There is development on all corners of the junction which prohibits a whole-scale upgrade, although some widening may be possible without building demolition through use of Lidl car parking and private land. The Selby Road east arm, however, can only be widened a short way because of the retail centre / buildings.

58) A65 / A658 Green Lane, Rawdon (roundabout)

Constrained. There is scope for widening and/or reconfiguring the junction, the main constraint seems to be a church building on the eastern corner. Land take would likely be required.

59) A6110 / A58 Whitehall Road, Ringways (roundabout)

Constrained. There is very little scope for widening without land take, but there are opportunities to enhance the junction through using car parking and other land around the junction.

60) B6126 Brunswick St / B6127 Chapel Hill, Morley (signalled junction)

Severely constrained. The junction is surrounded by buildings against the back of footway and the highway alignment and topography further make future (long term) prospects very limited.

61) A6110 / Millshaw Rd / White Rose (N) (roundabout)

Constrained. This five arm roundabout is constrained by houses to the east, topography and (to a lesser extent) office development to the west.

62) B6157 North Lane / Cardigan Road (signalled junction)

Severely constrained. On the edge of the Headingley retail area and adjacent to Headingley Stadium, this junction is surrounded by property close to the back of footway and there would appear to be no prospect of any increase in highway footprint.

63) A61 / Harrogate Road (roundabout)

Very constrained. The junction is surrounded by houses and is in close proximity to the A6120 / A61 junction, with retail businesses between the two junction. Whilst there may be some options to explore, the scope for junction enlargement or road widening is limited.

64) A639 / B6481 Pontefract Road (signalled junction)

Constrained. There could be some opportunities for acquiring adjacent land to enlarge the junction, with no demolition.

65) A6110 / A643 Elland Road (S) (roundabout)

Constrained. Although there is scope for widening and enlarging the junction, the alignment of the A643 is at a skew angle which will limit widening options.

66) A64 / B6159 Selby Road, "Halton Dial" (signalled junction)

Very constrained. The railway line and bridge immediately to the south is already a restriction on junction performance and operation, whilst the busier western arm of the A64 is flanked by housing, where some loss of bus lane or on-street parking would be required to facilitate any more traffic lanes.

67) A6038 / B6153 Park Road, Guiseley (priority junction)

Constrained. There is farmland to the south/southwest which could be used to turn the crossroads into a staggered junction to increase capacity. The width of the eastern (minor) and northern (major) arms look difficult to widen without impact on mature trees and private land.

68) A61 / A654 Leadwell Lane, Robin Hood (signalled junction)

Constrained. The Old Halfway House is right on the eastern corner of the junction. The western arm has property close to both sides. The northern arm could possibly be widened within the highway boundary, but widening of the southern arm will have an impact on adjacent properties (though without needing demolition).

69) A661 / Boston Rd / High St, Wetherby (mini-roundabout)

Very constrained. Immediately adjacent to the River Wharfe bridge, this four arm mini-roundabout is within Wetherby's busy retail area and near areas of high pedestrian flow. Although there is only property on one side immediately next to the back of footway, the location of property in the vicinity (plus the river) restricts any potential for enlargement of the junction.

70) A642 / Bullerthorpe Lane, Woodlesford

Very constrained. The location of property around the junction and its placement next to the bridge over the River Aire means that the site is very constrained and forming multiple lanes on the A642 seems undeliverable. An extra lane on the minor arm could be achievable subject to visibility issues.

Appendix 2 – Site Requirements Register by Junction

Table 1 : Sites Identified for Interventions

Location	Site Requirements	Direct impact sites	Cumulative impact sites
A61/Alwoodley La	Direct contributions (1 site)	HG2-36	
A61/A6120 Moortown	Direct contributions (1 site)	HG2-36	
A61/Street La	Cumulative contributions (1 site)		HG2-36
A61/Potternewton La	No sites identified		
A6120/Shadwell La	No sites identified		
A6120/Roundhay Park La	No sites identified		
A58/A6120	No sites identified		
Roundhay Rd/Oakwood La (Oakwood Clock)	No sites identified		
A58/Harehills La (Fforde Green)	No sites identified		
A58 Barrack Rd/Chapelton Rd	No sites identified		
A58 Clay Pit La/Meanwood Rd	Cumulative contributions (1 site)		HG2-99
A6120/Coal Rd/Ramshead App	No sites identified		
A64/Scholes La	No sites identified		
A64/A6120	No sites identified		
A64/Cross Gates Rd	No sites identified		
A64/B6159 Halton Dial	Cumulative contribution (1 site)		HG2-107

Location	Site Requirements	Direct impact sites	Cumulative impact sites
A64/Gipton Approach	No sites identified		
A64/Burmantofts St, Woodpecker junction	Cumulative contribution (1 site)		MX2-37
Barwick Rd/A6120	No sites identified		
Austhorpe Rd/A6120	No sites identified		
M1 Jn 46/A63 Colton	Contributions from East of Garforth site – subject to comprehensive transport study. Cumulative contributions (2 other sites)		MX2-38, HG2-120
M1 Jn 47/A642 Garforth	Direct contributions from Parlington and East of Garforth sites – subject to comprehensive transport studies. Cumulative contributions (1 site)	MX2-39, HG2-124	HG2-125
A63 Garforth southern bypass	Subject to comprehensive transport study for East of Garforth site. Cumulative contribution (1 site)	HG2-124	HG2-235
A63/A642 Old George rbt	Subject to comprehensive transport study for East of Garforth site. Cumulative contribution (1 site)	HG2-124	HG2-235
A63/B6137 Lidgett La	Subject to comprehensive transport study for East of Garforth site. Cumulative contribution (1 site)	HG2-124	HG2-235
A63/B6137 Leeds Rd	Subject to comprehensive transport study for East of Garforth site. Cumulative contribution (1 site)	HG2-124	HG2-235

Location	Site Requirements	Direct impact sites	Cumulative impact sites
A63/Ninlands La	Subject to comprehensive transport study for East of Garforth site. Cumulative contribution (1 site)	HG2-124	HG2-235
B6159/Chapel St Halton	No sites identified		
M1 Jn 45/A63 East Leeds Link Road	None – due to delivery of planned scheme		
A656/B6137 Longdike La	Subject to comprehensive transport study for East of Garforth site.	HG2-124	
A642/Bullerthorpe La	Cumulative contributions (1 site)		HG2-180
A639/B6481 Pontefract Rd	Cumulative contributions (1 site)		HG2-173
A61/A654 Leadwell La	Cumulative contributions (4 sites)		HG2-165, HG2-181, HG2-185, EG2-21
A61/Sharpe La	Cumulative contributions (3 sites)		HG2-165, HG2-181, HG2-185
A61/Wood Lane	Direct contributions (1 site) cumulative (4 sites)	HG2-173	HG2-165, HG2-174, HG2-181, HG2-185
M1 Jn 41/A650	Cumulative contributions (1 site)		HG2-171
M1 Jn 42/M62 Jn 29 Lofthouse	No sites identified		
A650/Common La	Direct contributions (1 site) cumulative contributions (3 sites)	HG2-171	HG2-167, HG2-168, HG2-169
A650/Thorpe La	Direct contributions (1 site)	HG2-167	
M62 Jn 28/A653 Tingley	Direct contributions (1 site) cumulative (5 sites)	EG2-19	HG2-158, HG2-167, HG2-168, HG2-169, HG2-171
A653/Ring Road Middleton (Tommy Wass)	No sites identified		
A650/A6039 Rein Rd	Direct contribution (1 site) cumulative (3 sites)	HG2-158	HG2-157, HG2-169, EG2-19
A650/A643 Bruntcliffe La	Cumulative contributions (1 site)		HG2-157

Location	Site Requirements	Direct impact sites	Cumulative impact sites
A643/A6110	Direct contributions (2 sites) cumulative (1 site)	HG2-149, HG2-150	EG2-19
A643/Wesley St	No sites identified		
A643/M621 Jn 2	Cumulative contributions (1 site)		EO2-6
A6110/M621 Jn 1	Direct contribution (1 site) cumulative (2 sites)	HG2-149	HG2-137, HG2-150
M62 Jn 26/A62 Geldersome	Direct contribution (2 sites) cumulative (1 site)	HG2-145, EG2-23	HG2-143
A62/Asquith Ave	Direct contribution (3 sites) cumulative (2 sites)	HG2-145, HG2-148, EG2-23	HG2-146, HG2-147
A6110/A62 Gelderd Rd, Wheatsheaf	Direct contributions (2 sites) cumulative (1 site)	HG2-145, HG2-148	HG2-137
A58/B6135 Drighlington	Direct contributions (1 site)	HG2-143	
A6110/A58 Whitehall Rd, Ringways	Direct contributions (1 site) cumulative (1 site)	HG2-136	HG2-137
A58 Domestic Rd/Domestic St	No sites identified		
A6110/Branch Rd	Cumulative contributions (1 site)		HG2-76
A6110/Tong Rd	Cumulative contributions (2 sites)		HG2-76, HG2-77
A647/B6154 Thornbury Barracks	None – due to delivery of 2015 scheme		
A647/A6120 Dawson's Corner	Cumulative contributions (7 sites)		HG2-63, HG2-65, HG2-66, HG2-67, HG2-69, HG2-73, HG2-204
A647/B6155 Richardshaw Lane	No sites identified		

Location	Site Requirements	Direct impact sites	Cumulative impact sites
A647/Armley Ridge Rd	No sites identified		
A647/Ledgard Way	No sites identified		
A647/A643/A58 Armley Gyrotory	Direct contributions (4 sites) cumulative (5 sites)	MX2-11, EO2-2, EO2-6, HG2-112	EG2-36, MX2-9, MX2-10, MX2-19, MX2-20, HG2-113
A657/A6120 Rodley	Direct contributions (1 site) cumulative (2 sites)	HG2-41	HG2-43, HG2-56
A658/Micklefield La	Cumulative contributions (1 site)		HG2-10
A658/Bayton La	Cumulative contributions (2 sites)		HG2-3, HG2-9
A6038/B6153 Park Rd Guiseley	Direct contribution (1 site)	HG2-4	
A65/Oxford Rd	Cumulative contributions (1 site)		HG2-1
A65/A6120 'Horsforth roundabout'	Direct contributions (1 sites) cumulative (7 sites)	HG2-41	HG2-1, HG2-2, HG2-3, HG2-5, HG2-9, HG2-10, HG2-43
B6157 Bridge Rd/Wyther La/Broad La junctions	No sites identified		
A65/Kirkstall La/Savins Mill La	Direct contribution (1 site)	MX2-4	
A65/Willow Rd	Direct contribution (1 site)	MX2-9	
Willow Rd/Burley Rd	Cumulative contributions (1 site)		MX2-9
A65/A58 Inner Ring Rd	Direct contributions (3 sites) cumulative (3 sites)	MX2-9, MX2-19, EO2-6	HG2-113, EO2-2, MX2-10, MX2-20

Location	Site Requirements	Direct impact sites	Cumulative impact sites
A6120/Low La	No sites identified		
East of Otley Relief Road	To be delivered through East of Otley housing site (UDP requirement)	MX1-26	
A660/A658 Dyneley Arms	No sites identified		
A660/A6120 Lawnswood	Cumulative contributions (2 sites).		HG2-17, HG2-18
A660/St Anne's La/Shaw La	No sites identified		
A660/North La	No sites identified		
A660/Hyde Park Rd	No sites identified		
A6120/Weetwood La	Cumulative contributions (1 site)		HG2-38
A6120/King La	Cumulative contributions (1 site)		HG2-17
King La/Stonegate Rd	No sites identified		

Table 2 : Other Site Requirements

Location	Site Requirements	Direct impact sites	Cumulative impact sites
A6110 Junctions			HG2-205
Pudsey Rd/ A6110		HG2-76	
Leeds City Centre Package			MX2-32, EO2-9
Holbeck Urban Village traffic management, streetscape and pedestrian improvements			HG2-194, HG2-195, MX2-30, MX2-32
Beckett St-Burmantofts St corridor		MX2-37	
A64 / Torre Rd / Lupton Ave		MX2-37	
A1(M) Junction 46, Wetherby		HG2-226	
M621 Junction 2			MX2-9, EO2-6, EO2-2
M621 Junction 7, Stourton			HG2-173
M62 Junction 30, Rothwell			HG2-180
Thornbury Gyratory, Bradford			HG2-63, HG2-65, HG2-66, HG2-69, HG2-73
Cutler Heights La, Bradford			HG2-69, HG2-73

Appendix 3 – Sustainability Appraisal Scoring

1. The scoring for SA objective 13, 15 and 16 has been informed by a ranking criteria devised by the LCC Highways officers to assess the suitability of sites in terms of accessibility, highway access into a site and the effect on the transport network. The criteria are explained in Table 1 below.
2. As part of the update of the Employment Land Assessment and in conjunction with the West Yorkshire Combined Authority, the scoring system for employment sites in terms of accessibility of sites to public transport has been revised at Pre-Submission Changes stage. The scoring criteria outlined in the SA Report was open to significant interpretation as it made reference to meeting Core Strategy standards when there are two separate standards for employment depending on whether the end use is offices or a general employment use.
3. The revised scoring system has been devised to remove this ambiguity using the Core Strategy office accessibility standard as the basis for achieving the highest score for this measure (5) and the general employment accessibility standard as the minimum level of accessibility (scoring 2). Sites which fail to meet the general employment accessibility standard are the least sustainable scoring 1 (or a double negative score) against the relevant SA objectives. The criteria for scoring 3 or 4 lies between the office and general employment standard and thus provides a good or very good level of accessibility for general employment but marginally fails the accessibility standard for office development.
4. Table 1 Guide to Ranking Criteria has been revised to differentiate between sites assessed for housing and employment uses.
5. It should be noted that the “impact on local highway network” score was given at an early stage in the assessment process to allow an initial sifting of sites and predated the transport modelling work and could not take the cumulative impact of the planned development into account. Where site requirements have identified improvement of infrastructure for certain sites, this is as a result of an outcome from the transport modelling work. The “impact on local highway network” score may not accord with the site requirement i.e. a site need not necessarily have scored 3 or less to have a site requirement for infrastructure improvements.

Table 1 Guide to Ranking Criteria

Housing Sites

Transport issue	Score	Criteria
Accessibility to public transport	1	No public transport or local services within walking distance
	2	Public transport offer not in line with Core Strategy standards
	3	Public transport offer not in line with Core Strategy standards but availability of local services (e.g. Local Centre, schools etc)
	4	Meets Core Strategy accessibility standards but lacking in local services
	5	Meets Core Strategy accessibility standards with good footway network and walking distance of local services
Highway access	1	No access achievable
	2	Highway frontage but adequate access / visibility not achievable
	3	Requires development of adjacent site for access
	4	Access achievable with mitigation works e.g. signalised junction
	5	Adequate frontage/s for suitable access/es and visibility splays within site / adopted highway
Impact on local highway network	1	Unsuitable local network and no potential for mitigation
	2	Unsuitable local network but mitigation potential
	3	Local congestion issues
	4	Spare local capacity and suitable network but likely cumulative impact issues
	5	Spare local network capacity and suitable network

Employment sites

Transport issue	Score	Criteria
Accessibility to public transport	1	Average time to access public transport services ²⁰ >40 mins (fails to meet Core Strategy standard)
	2	Average time to access public transport services >20 mins and <=40 mins (equivalent to Core Strategy standard for general employment uses)
	3	Average time to access public transport services >15 mins and <=20 mins
	4	Average time to access public transport services >12.5 mins and <=15 mins
	5	Average time to access public transport services <= 12.5 mins (equivalent to Core Strategy standard for office uses)
Highway access	1	No access achievable
	2	Highway frontage but adequate access / visibility not achievable
	3	Requires development of adjacent site for access
	4	Access achievable with mitigation works e.g. signalised junction
	5	Adequate frontage/s for suitable access/es and visibility splays within site / adopted highway
Impact on local highway network	1	Unsuitable local network and no potential for mitigation
	2	Unsuitable local network but mitigation potential
	3	Local congestion issues
	4	Spare local capacity and suitable network but likely cumulative impact issues
	5	Spare local network capacity and suitable network

²⁰ Under the accessibility to public transport criteria average time to access public transport factors in walk time to a bus stop and the frequency of services serving that stop. It is calculated using the following formula (Average time = x min walks = (0.5 x y min bus frequency) e.g. 5 min walk and 15 min frequency (the Core Strategy accessibility standard for offices) = 5 + (0.5 x 15) = 12.5 mins. Any site within 10 mins walk (800 m) of a railway station also scores 5. See Employment Land Assessment for further details.

Appendix 4 - Leeds Transport Model (LTM)

About the LTM and its Development

1. The LTM is a sophisticated transport model comprising a suite of individual models which work together to provide future year forecasts of travel demand by cars, commercial vehicles and public transport. The model comprises three elements: a highway model, a public transport model (covering both bus and rail) and a demand model. Inputs to the model comprise changes to the highway and public transport networks, including new schemes, changes in the cost of travel and changes in land use.
2. The model was developed on behalf of Leeds City Council between 2008 and 2011. Survey data was collected in the main during autumn 2008, however, this was supplemented by other surveys in 2009 and some bus user surveys in late 2007. The model 'base year' is 2008. During the development process a number of versions of the model were released. The Site Allocations utilises version 3 which is the version used for the NGT Business Case that was considered at the public inquiry in 2014.

Base Year

3. The development of a model such as the LTM is a very expensive and complex process and consequently updates are only undertaken periodically. As noted above the current model base year is 2008, however, the LTM is currently being updated to a new base year of 2015. Following extensive surveys in the spring of 2015 this work has unfortunately taken longer than anticipated and consequently it has not proved possible to utilise the new model to evaluate the proposals in the SAP at this time. The work to assess the site allocations has itself been undertaken over many months and consequently the future year 2028 assessments reported in this report are based on the version 3 model, built upon a 2008 base year, as this is the latest model available. Nevertheless, as the modelling of the SAP is an ongoing process it is planned to utilise the new 2015 model as soon as practicable.
4. Although it has a base year of 2008, traffic levels over the intervening period have not changed very significantly and therefore the use of the LTM represents a reasonable approach to modelling the site allocations proposals until the revised model is available. The model allows for the complex interaction of journeys across the whole city and the city region beyond, taking account of growth both within and outside Leeds District. This is important because census journey to work data shows that 25% of Leeds residents work outside Leeds and 31% of Leeds workers live outside Leeds, as referenced in para 4.7 of the report.
5. The LTM models the effects of traffic congestion and travel choice (including route choice, using public transport and choosing to travel at a different time

of day). A more simplistic approach using up-to-date base counts would not have been able to reflect future year conditions as the LTM can.

6. The 2008 base model is the best available tool at this time. The update to 2015 should eliminate any perceived or actual issues with the use of a 2008 base model. Nevertheless, both models remain strategic models and this modelling work will not replace the need for detailed Transport Assessments for sites as part of the planning process. The use of the LTM to model the SAP does, however, allow LCC to identify key junctions where interventions are likely to be required during the Plan period and to reflect this in the individual Site Requirements, which covers both direct and cumulative impacts.

Model Validation

7. It is standard practice to check that a model replicates reality. The degree to which it has to do this depends on the size of the model and criteria are laid down by the DfT. There are also several criteria used to validate a model.
8. The LTM is a strategic model which provides an overall view of the performance of the network and, as noted above, the highway model is but one component. It has been developed to cover the whole of Leeds and some of the outlying area. Its purpose is to assess the overall 'pressure' on and performance of the network and the validation criteria reflect this, i.e. it is not expected to model flows accurately at an individual link level. Results have to be within a certain tolerance when viewing the network at a high level. A comprehensive validation exercise was completed for the LTM for the 2008 model (see Ref 1 below), and refined for NGT (see Ref 2 and Ref 3 below). This validation covered aspects such as flow, journey time and trip length. As noted earlier, the model used for the site allocations process was Version 3, the same as the NGT scheme.
9. Data sources for the model included classified manual counts and automatic traffic counts (ATCs). Because of the size of the Leeds road network and the number of time periods, traffic flows have been reported on a summary basis and not for individual links. Documentation which specifically shows all the modelled versus observed flows is not held by the Council.
10. Figures 4 and 5 of the original Model Validation Report (Ref 1) show the traffic flow sites used in developing the model and Figure 9 the location of the road side interviews (which were also accompanied by both manual classified and automatic traffic counts). Figure 20 shows the RSI, calibration and validation screenlines.
11. Validation results for the latest version of the model used for the NGT scheme and Site Allocations Plan are shown in Appendix A of Ref 3 (LTM Model Update Report for NGT, Jan 2014). Tables 27 and 28 show the summary results for the model screenlines; Tables 29 to 31 shows the summary performance on a link by link basis; Table 33 shows journey times.

LTM References

LTM Reports, all publicly accessible from the NGT website, can be found here:

Ref 1: Leeds Transport Model -Highway Assignment Model Development and Validation Report, September 2011:

[http://www.ngtmetro.com/uploadedFiles/Content/Documents/Archive/Appendix7LTMHighwayModelValidationReport\(1\).pdf](http://www.ngtmetro.com/uploadedFiles/Content/Documents/Archive/Appendix7LTMHighwayModelValidationReport(1).pdf)

Ref 2: LTM Highway Local Model Validation Report for NGT Business Case, March 2012:

<http://www.ngtmetro.com/uploadedFiles/Content/Documents/Archive/Appendix9NGTLMVRv4.pdf>

Ref 3: LTM Model Update Report for NGT, January 2014:

<http://www.ngtmetro.com/WorkArea/DownloadAsset.aspx?id=4294968248>

Ref 4: LTM data and Traffic Surveys Report, January 2010:

<http://www.ngtmetro.com/Documents/Appendices/Appendix-3---Data-and-Traffic-Surveys-Documents/>

Appendix 5 - Highway Interventions to Deal with Extra Traffic Arising from Development

Identification of Locations with Extra Congestion

1. Table 2 in this report lists the locations where the LTM modelling described above shows that congestion will worsen significantly. Paragraph 6.41 states:-

Table 2, below, lists junctions where congestion is forecast to worsen significantly by 2028 and interventions will be potentially required in addition to those already planned... It also includes a number of other junctions immediately adjacent to developments. A number of these schemes have been identified within the WYPTF and contributions will be required to support their delivery. Other junctions can be linked directly to specific developments while others experience cumulative impacts that are relatively modest from individual sites but in combination have a marked impact on congestion.

2. If a junction is not on the list in Table 2, then the modelling is not suggesting a significant worsening of congestion as a result of the Site Allocations. A significant worsening has been defined as locations where modelled delays increase on any entry by an average of more than 30 seconds per vehicle during the peak hours. Of course if a junction is already congested, but does not get significantly worse (by this margin), then it will not appear on the list.
3. In addition, a number of other junctions are included in the list where significant housing developments are proposed adjacent to the junction. This is an evolving piece of work and will be re-visited as the site allocations process progresses, including tests with the new 2015 version of the model.
4. It should be noted that this evaluation has in the main been limited to the main A road network and motorways. This is because the model network does not include all local roads within Leeds, nor does it include sufficient zone detail to allow flows on minor roads to be modelled reliably. Where appropriate, the effect of new development on local roads will be covered by Transport Assessments.
5. The report, in Para 6.40, states that, despite infrastructure improvement schemes, 'There will nevertheless remain additional congestion caused within Leeds that cannot be effectively mitigated against.' The Site Allocations process has not claimed that the highway interventions and transport schemes will completely eliminate the effect of a significant growth in population. The Council believes that the process which has been followed is sound, and that the LTM represents the best available tool to assess the impacts, and to subsequently identify locations for mitigation.
6. The work undertaken by the Council for this current process has exceeded any previous plan development, in terms of the use of transport models and the sophistication of planning for new development.

Junction designs

7. The modelling work undertaken has included the effects of planned or committed major transport schemes, as reported in this Background Paper report. The modelling has identified locations where delays worsen significantly, but has not included junction improvement schemes within the modelling to mitigate the effects of the extra congestion. The forecast highway conditions therefore are a worst case.
8. Appropriate schemes will be designed, funded and delivered using an appropriate mechanism, including using developer contributions as specified in the Transport Background Paper.
9. As each development is brought forward through the planning process, it will still have to satisfy the Highway Authority that the impact is acceptable. The Site Allocations process is not circumventing the need for proper Transport Assessments to be prepared by the developer and for the developer to make appropriate contributions to highway improvements.
10. The Council does not at this stage have detailed junction designs for the locations identified in Table 2, referred to above, because it would be premature to do this. Nevertheless, the Council has identified at a high level how feasible improvements could be based upon the physical land constraints around each junction, as reported in the report. Further high level work is being undertaken to examine potential schemes at these locations to inform further discussion and where appropriate these will be included in future model tests. As stated in para 6.42: 'It should be noted that there are very likely to be some locations on this list where site constraints will preclude a comprehensive solution.' There are also likely to be locations where an improvement at one location may simply shift the queues downstream and a decision will have to be made to decide whether the original improvement is therefore appropriate.