
City of Bradford Metropolitan
Borough Council

**Shipley and Canal Road Area
Action Plan**

Infrastructure Delivery Plan

Issue | April 2016

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Appendix A

List of Infrastructure Stakeholders

1 Introduction

1.1 Overview

The National Planning Policy Framework and Planning Practice Guidance require Local Plans to positively plan for development and the infrastructure required in the area to meet spatial objectives. Local Planning Authorities must progress a proportionate evidence base for infrastructure which assesses the quality and capacity of various forms of infrastructure.

Bradford is the fourth largest Local Authority District in England by population and contains England's sixth largest city¹. Bradford District has a rapidly growing population as a result of the inter-related factors of a young demographic age profile, high birth rate, and high levels of net inward migration. Planning positively and securing investment in infrastructure to achieve housing development to support Bradford District's population growth is therefore a key priority.

CBMDC is currently producing a new development plan, called a Local Plan, to guide future growth and development in the district up to the year 2030. A growing population within the district, combined with pressure arising from an evolving population structure, and a strengthening and diversification of key employment sectors will all have impacts on the required infrastructure provision across the Local Plan Period.

Sitting beneath the Local Plan, CBMDC are progressing an Area Action Plan (AAP) for the Shipley and Canal Road Corridor. The Shipley and Canal Road Corridor AAP (SCRC) sets out the long-term spatial vision for the corridor and the strategic policies required make the vision a reality. The analysis and conclusions within this Infrastructure Delivery Plan (IDP) therefore assess the suitability of current Shipley Canal Road infrastructure provision and the extent to which existing infrastructure will be 'fit for purpose' against the land requirements to deliver objectively assessed housing and employment needs.

1.2 Role of this study

To provide a technical evidence base suitable to inform the production of future stages of the Shipley and Canal Road Corridor Area Action Plan area (SCRC), this study has sought to understand:

- The current level of infrastructure provision within the SCRC area and whether this infrastructure is currently fit for purpose to support the existing population.
- The level of planned infrastructure within the SCRC boundary as set out in plans and strategies adopted by CBMDC and the forthcoming strategies from organisations responsible for the delivery of planned infrastructure.
- Whether the current and planned infrastructure scheduled to be delivered will meet the requirements of the SCRC when set against the objectively assessed

¹ Census 2011

housing and employment needs and strategic aspirations – and subsequently whether a gap exists between supply and demand.

- The costs associated with planned infrastructure provision and whether there is a gap between committed, allocated and required investment.
- The scale of the gap between committed, allocated and required investment in infrastructure and the potential means by which this gap could be bridged where no source has been identified. This is particularly important in light of declining Council funding and infrastructure spend.

In 2012, Arup was commissioned to produce a district wide infrastructure study. A great deal of the work carried out as part of the district-wide infrastructure study is still considered to represent an accurate picture and thus there is a direct 'read-across' between the district-wide study and the SCRC infrastructure study. Certain infrastructure needs, for example emergency services, are calculated on a district-wide basis, and so there is little benefit to replicating the study at the micro level represented by the AAP study area. Therefore emergency services provision, waste management and cemetery and crematorium provision are excluded from this study analysis.

2 Policy Context for Infrastructure Delivery

2.1 Overview

This section of the IDP includes a summary of national and sub-regional policy related to infrastructure delivery. The current and emerging Local Planning Policy for the Bradford District is then summarised.

2.2 Understanding of National Policy Context – NPPF and PPG

The National Planning Policy Framework (NPPF) places great importance on Local Plans being evidence based. Paragraph 162 sets out the infrastructure evidence base required for Local Plans. This states that 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, water, 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.

The NPPF also states that Local Plans should ‘plan positively for the development and infrastructure required in the area to meet the objectives, principles and policies of the NPPF’ (paragraph 157).

With regard to infrastructure, paragraph 018, reference 12-018-20140306 of the 2014 Planning Practice Guidance states:

A Local Plan is an opportunity for the local planning authority to set out a positive vision for the area, but the plan should also be realistic about what can be achieved and when (including in relation to infrastructure). This means paying careful attention to providing an adequate supply of land, identifying what infrastructure is required and how it can be funded and brought on stream at the appropriate time; and ensuring that the requirements of the plan as a whole will not prejudice the viability of development.

Early discussion with infrastructure and service providers is particularly important to help understand their investment plans and critical dependencies. The local planning authority should also involve the Local Enterprise Partnership at an early stage in considering the strategic issues facing their area, including the prospects for investment in infrastructure.

The Local Plan should make clear, for at least the first five years, what infrastructure is required, who is going to fund and provide it, and how it relates to the anticipated rate and phasing of development. This may help in reviewing the plan and in development management decisions. For the later stages of the plan period less detail may be provided as the position regarding the provision of infrastructure is likely to be less certain. If it is known that a development is unlikely to come forward until after the plan period due, for example, to uncertainty over deliverability of key infrastructure, then this should be clearly stated in the draft plan.

Where the deliverability of critical infrastructure is uncertain then the plan should address the consequences of this, including possible contingency arrangements and alternative strategies. The detail concerning planned infrastructure provision can be set out in a supporting document such as an infrastructure delivery programme that can be updated regularly. However the key infrastructure requirements on which delivery of the plan depends should be contained in the Local Plan itself.

The evidence which accompanies an emerging Local Plan should show how the policies in the plan have been tested for their impact on the viability of development, including (where relevant) the impact which the Community Infrastructure Levy is expected to have. Where local planning authorities intend to bring forward a Community Infrastructure Levy regime, there is a strong advantage in doing so in parallel with producing the Local Plan, as this allows questions about infrastructure funding and the viability of policies to be addressed in a comprehensive and coordinated way.

Therefore the full understanding of the likely infrastructure requirements to facilitate growth is a key component in ensuring a deliverable plan.

2.3 Sub Regional Policy

2.3.1 Leeds City Region Strategic Economic Plan and Local Growth Fund

The 2012 ‘City Deals’ and the subsequent ‘Growth Deals’ each introduced new freedoms and flexibilities for Local Enterprise Partnerships (LEPs). The Growth Deals in particular introduced the concept of Strategic Economic Plans (SEPs), multi-year plans setting out the economic growth ambitions for each LEP and how these are to be achieved. The Leeds City Region’s Strategic Economic Plan will be delivered in partnership with the West Yorkshire Combined Authority and sets out the ambition to:

- Deliver an additional £5.2bn in economic output.
- Help create an extra 62,000 jobs by 2021.
- Provide £675m in benefits savings to the Exchequer.
- Create an environment where for every £1 invested by the taxpayer, the City Region’s – and the nation’s – economic output will grow by nearly £10.
- Ensure that the City Region will be a net contributor to the public purse.

The plan was subsequently agreed with central government in July 2014 in a deal which approved:

- £573m from the government’s Local Growth Fund to deliver the ambitious economic agenda between 2015 – 2021, with £73m of new funding confirmed for 2015/16.
- £420m between 2015 – 2035 to deliver the West Yorkshire plus Transport Fund.

The closely related West Yorkshire-Plus Transport Fund is targeted specifically at increasing employment and economic growth across the LEP area. This 10 year

programme of investment in transport has been created to help free new and existing businesses from the current restrictions they are experiencing and enable them to create and sustain a substantial number of new jobs.

2.4 Understanding of Local Policy Context

2.4.1 Introduction

The following section outlines the planning policy context for infrastructure planning in the BCCAAP area and the development assumptions agreed in order to appraise future infrastructure requirements.

2.5 Planning Policy Context

The current development plan for Bradford is the Replacement Unitary Development Plan (RUDP) adopted in 2005. CBMDC has been working towards producing a new Local Plan through a number of development plan documents including a Local Plan Core Strategy and supporting Area Action Plans. In due course, CBMDC will produce a Land Allocations DPD. This suite of planning documents will then supersede the RUDP upon adoption.

2.5.1 Emerging Local Plan Core Strategy

The Local Plan Core Strategy upon adoption will set the strategic direction for the district to 2030 and is currently at Submission Draft stage, with examination beginning in March 2015. When adopted, the plan will replace the strategic policies contained within the RUDP. The plan will include broad policies for guiding and restraining development, broad locations for new housing, employment and infrastructure investment. The Core Strategy will not allocate specific sites for new housing and employment development with this instead delegated to future Local Plan documents, the Land Allocations DPD, the Shipley & Canal Road Corridor AAP (S&CRCAAP) and the BCCAAP itself.

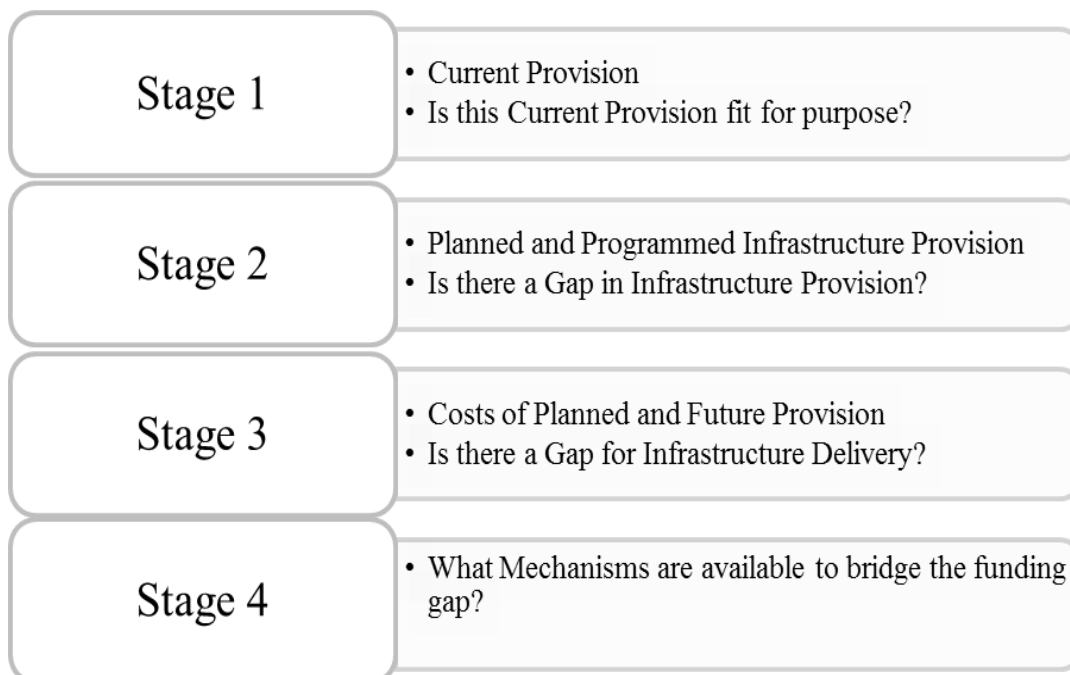
2.5.2 Emerging Shipley & Canal Road Area Action Plan

The Shipley and Canal Road Corridor extends from the northern edge of Bradford city centre, northwards along Canal Road to Shipley, where it encompasses Shipley Town Centre. The Area Action Plan will guide the transformation of the corridor to 2030. The Shipley & Canal Road Corridor provides a major regeneration opportunity for the district, containing areas of housing, open space, industry and employment, and is identified as a priority regeneration area in its own right. Additionally the corridor has been identified as one of four Urban Eco Settlement locations within the Leeds City Region. It will be the role of the SCRC to formally allocate development sites within its boundary.

3 Approach to Producing the Infrastructure Study

3.1 Introduction

This study is based on a four stage process to understand current and future infrastructure provision, taking into consideration the planned areas of growth and regeneration. This approach has made it possible to identify areas in need of further investment and potential funding mechanisms.



To give context to the assessment of current and planned infrastructure, proposed development quantum must be assumed and agreed. The following section therefore sets out this preparatory step prior to undertaking Stages 1 – 4 above.

3.2 Development Quantum Assumptions

3.2.1 Overview

The study considers the infrastructure needed to support the level of growth proposed in the Shipley and Canal Road Corridor between 2014 and 2030. As the emerging Local Plan documents are likely to be subject to some amendment, this section confirms the agreed assumptions for the quantum of development which will underpin the appraisal of infrastructure.

Policy HO1 of the Publication Draft Core Strategy plans for 42,100 new homes between the plan's base year to 2030. Policy BD1 sets the strategic pattern of development for the district, and identifies a target of 3,200 homes to be

accommodated within the corridor during the plan period. The emerging allocations contained within the SCRC Issues & Options demonstrates the potential capacity for between approximately 3059 as shown on Table 3.1 below.

Although the Core Strategy Policy HO5 mandates a minimum density of 30 dwellings per hectare across the district, it recommends that higher densities are pursued within the BCCAAP. The table below reproduces the BCCAAP's suggested densities on a site by site basis.

Table 3.1: Development Assumptions

Site name	Site Ref	Proposal and capacity	Land Use
Shipley Indoor Market Hall	STC1	A1-A4 uses with, office and commercial uses, 20 residential units commercial uses, 20 residential units	Mixed use redevelopment
Land and buildings around market square	STC2	A1-A4 uses and 25 residential units, office and commercial uses	Town centre redevelopment opportunity
South of Market Square	STC3	50 residential units	Residential
Shipley gateway	STC4	A1-A4 uses with, business and commercial uses, 50 residential units	Town centre redevelopment opportunity
Atkinson Street	STC5	8 residential units	Residential
Buildings along Briggate	ST6	A1-A5 uses, business, 20 residential units	Mixed use
Shipley East	SE1	100-150 residential units, supporting retail and business uses	Residential led mixed use
Land around Crag Road Flats	SE2	Residential infilling	30 residential units
Dock Lane, Canalside	DF1	114 residential units with supporting business uses	Residential led mixed use
Junction Bridge, Briggate	DF2	Business, commercial and residential uses	Business/mixed use
Land between Leeds Road and Dock Lane	DF3	60 residential units, supporting business uses	Residential/mixed use
Dockfield Road North	DF4	90 residential units, supporting business uses	Residential Mixed Use
Dockfield Road South	DF5		
Regent House	DF6	93 residential units	Residential redevelopment
Junction of Dock Lane and Dockfield Road	DF7	6 residential units	Residential redevelopment
Dock Lane	DF8	15 residential units	Residential

Dockfield Road	DF9	10 residential units	Residential redevelopment
New Bolton Woods	NBW1	1100 new residential units, supporting retail/leisure uses, new primary school, community facilities and employment uses	Residential led mixed use redevelopment
Frizinghall Road	NBW2	42 residential units	Residential
Thornhill Avenue	NBW3	21 residential units	Residential
North Bolton Hall Road	NBW4	35 residential units	Residential
Flats East Valley Road	NBW5	50 residential units	Residential redevelopment
North Queens Road	NBW6	30 residential units	Residential
Bolton Woods Flats	NBW7	70 residential units	Residential
Bolton Woods Quarry	BWQ	1000 residential units, local retail and community uses to meet day to day needs	Residential redevelopment
Bolton Road Wapping	CCF1	46 residential units.	Residential
Bolton Road	CCF2	16 residential units	Residential
Wapping Road, Bolton Road	CCF3	23 residential units	Residential
Singleton Street	CCF4	60 residential units	Residential redevelopment

It is important to note that at this stage the exact site capacities are largely unknown and there is some uncertainty regarding the exact development quantum on each site owing to some flexibility of uses. However using information supplied by CBMDC based upon known information and typical density multipliers for the Bradford district, it has been possible to forecast the realistic dwelling assumptions shown in the tables above.

Figure 1.1: Shipley Proposed Site Allocations

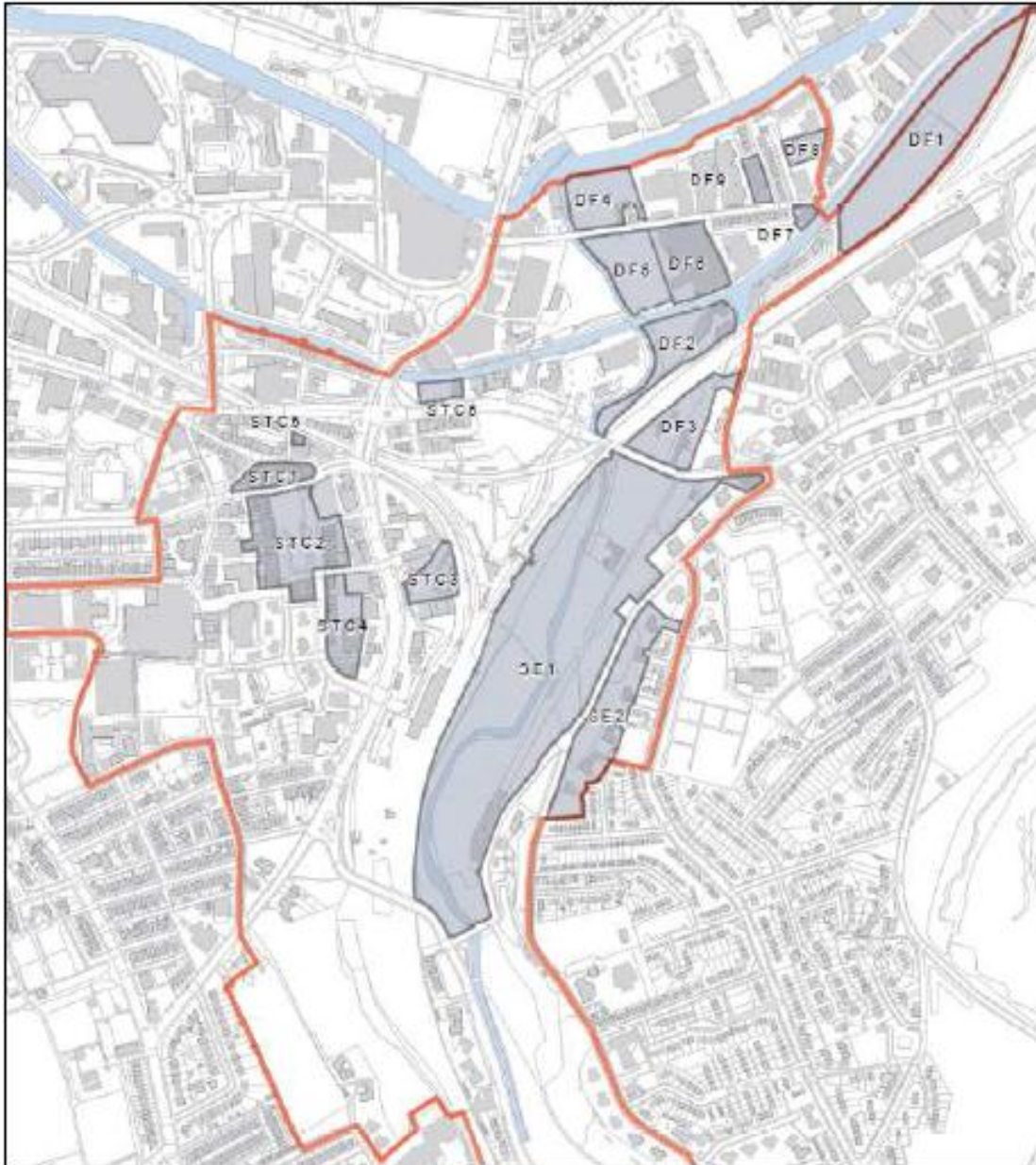
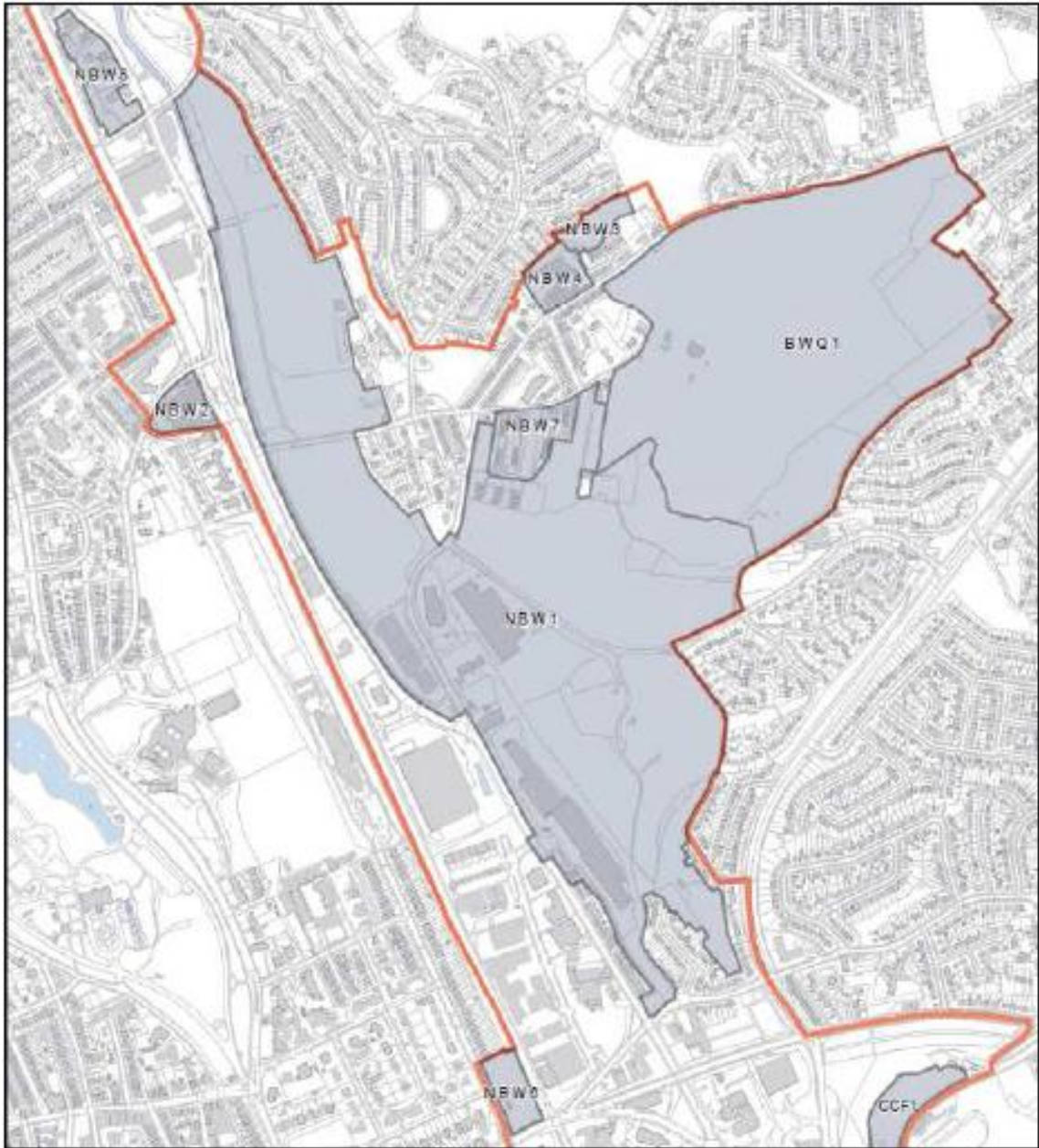


Figure 1.2: Centre Section Proposed Site Allocations



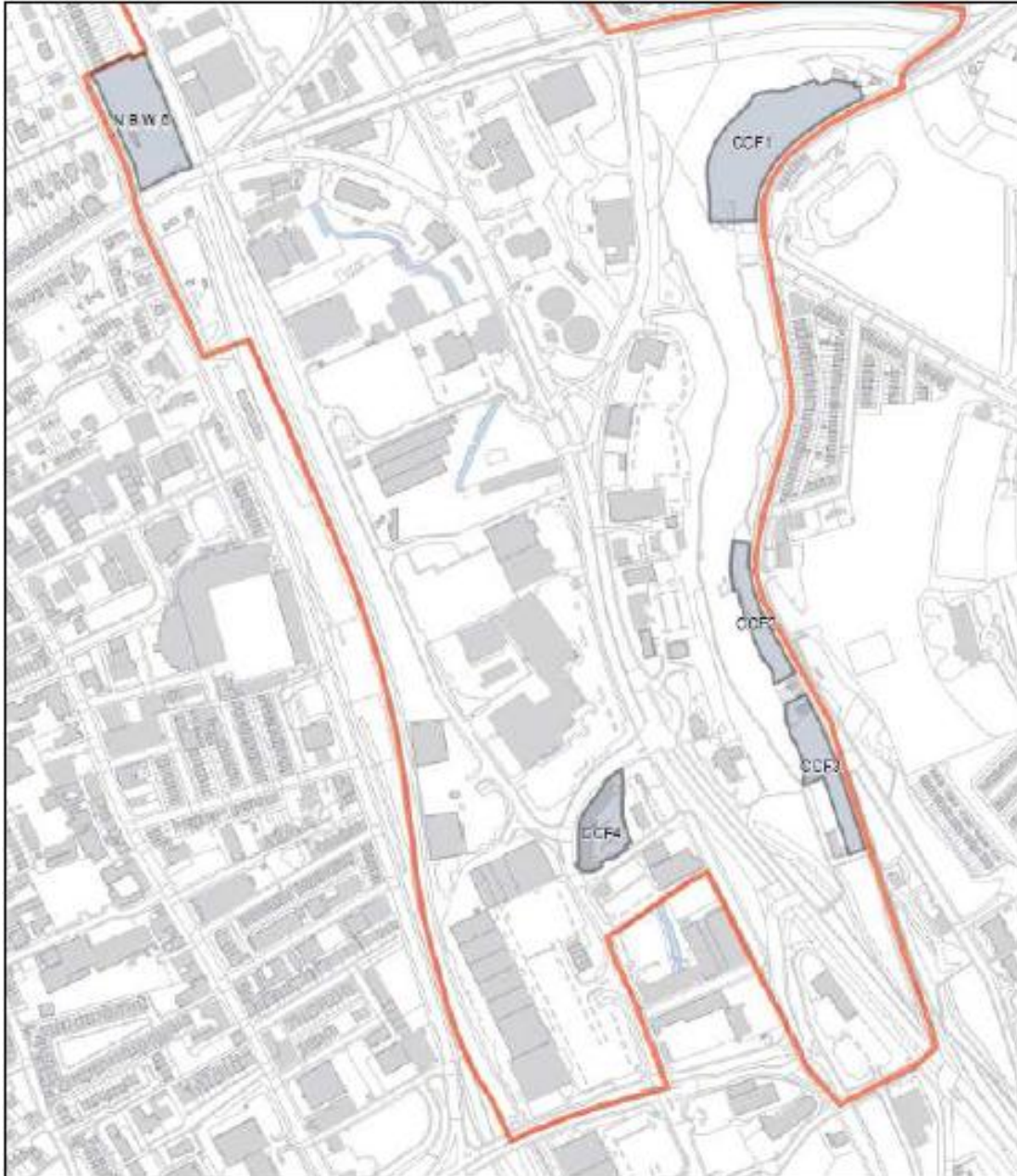


Figure 1.3 City Centre Fringe Proposed Site Allocations

3.2.2 Housing Development Quantum and Sites

At the inception meeting Arup confirmed with CBMDC the sites that should be focus of the study. From table 3.1 above it is proposed to focus in more detail upon the infrastructure requirements necessary to unlock the larger sites (extracted and reproduced below). As confirmed by the assumptions note issued immediately following the meeting, the sites which are the focus of study within the corridor are:

	Site name	Reference (SCRC)	Capacity
ShIPLEY East		SE1	100-150
New Bolton Woods	New Bolton Woods	NBW1	Circa. 1,300 dwellings
	Frizinghall Road	NBW2	
	Thornhill Avenue	NBW3	
	North Bolton Hall Road	NBW4	
	Flats East Valley Road	NBW5	
	North Queens Road	NBW6	
	Bolton Woods Flats	NBW7	
Bolton Woods Quarry		BWQ	1,000 dwellings

3.3 Scope of the study

This study builds on the District-wide Infrastructure Study, first produced in 2012 and updated annually by the council, focusing instead on the smaller output area of the ShIPLEY and Canal Road Corridor. The following types of infrastructure were agreed to be assessed:

Infrastructure Sector	Sub-Sector
Transport	Highways, Bus, Park and Ride, Rail, Walking and Cycling
Utility Networks	Electricity, Gas, Water Supply, Waste Water and Telecommunications
Flood Risk and Drainage	Flood Risk and Drainage
Green Infrastructure, Sport and Recreation	Open Spaces, Play Areas, Allotments, Sports Pitches, Sport Centres and Pools
Health	Primary Care and Hospitals
Education	Nursery, Primary School, Secondary School, College and Sixth Form
Community and Cultural	Local Retail Outlets
Decentralised, Renewable and Low Carbon Energy	Decentralised, Renewable and Low Carbon Energy

3.4 Stages of the Study

3.4.1 Stage 1: Determining Current Infrastructure and if it is Fit for Purpose

At this stage the overall assumptions were set which would guide the Infrastructure Delivery Plan and baseline work. This included confirming:

- The infrastructure types which would be covered.
- The scale of housing and economic growth as defined in the development plan and the locational focus of this growth.
- The timescale that the study would cover.
- The approach to reporting the final information.

Stage 1 of this Study focussed on understanding the current infrastructure provision within the city centre and whether it is adequate to meet the needs of the current population.

This was undertaken through a quantitative assessment of current infrastructure and its spatial distribution, and was principally achieved through an extensive review of secondary data sources. This analysis was supplemented by discussions with key stakeholders and local service providers to understand if existing facilities were ‘fit for purpose’.

3.4.2 Stage 2: Identify planned infrastructure provision

Stage 2 of this study involved identifying planned infrastructure provision. Utilising the baseline of current level and condition of infrastructure, it was possible to carry out a broad assessment of planned infrastructure improvements up to 2030. This was based on an analysis of secondary sources and discussions with stakeholders and council officers. Discussions with stakeholders took place in Summer 2014, with a follow up conversation with Education Stakeholders in February 2015 to understand the implications of a new secondary school that opened in the City Centre in September 2014. In June 2015 the flood risk and transport chapters were updated to reflect the draft Strategic Flood Risk Assessment Part 2 and a completed Transport Study.

3.4.3 Stage 3: Confirm implications and any gaps in infrastructure provision to meet growth aspirations

Stage 3 of this study involved confirming if current, planned and committed infrastructure would be sufficient to meet the needs and demands in line with growth objectives. This assessment therefore highlights where there may be gaps in future infrastructure provision. This stage also confirms the cost of bridging the gap in infrastructure provision required to deliver the Council’s planned housing and employment growth.

3.4.4 Stage 4: Identifying Funding Sources to bridge infrastructure gap

Stage 4 required engaging with public sector organisations, traditional funding mechanisms and potential private sector involvement to establish potential funding options which could deliver the infrastructure needed. These options look to understand what funding sources are already committed, what funding sources have been allocated, and whether there is an identified gap between need and committed/allocated funds.

4 Transport

4.1 Information Sources

This section covers an appraisal of the transport network including highways, rail and bus provision and cycling and walking networks.

The following sources of information have been used to populate this chapter:

- A meeting was been held with CBMDC Transport Planners, with a subsequent follow up meeting
- West Yorkshire Local Transport Plan 2011 – 2026 (LTP3).
- Leeds City Region, Strategic Economic Plan, 2014.
- Rail Utilisation Strategy, Network Rail, 2009.
- Bradford City Plan, 2014.
- Transport Study, 2015

4.2 Current Infrastructure and Fit for Purpose

4.2.1 Highways

The main arterial route serving the Shipley and Canal Road Corridor is Canal Road, which provides the link between Bradford City Centre and Shipley. Through discussions with CBMDC officers it was noted that Canal Road is considered to form a critical link to the north of the City Centre and it recognised as having highway capacity issues due to the volume of traffic using the Road. There are also particular highway issues at Otley Road and Valley Road.

Through dialogue with CBMDC officers it was recognised that although there are several good quality north-south routes along the Bradford Shipley Canal Road corridor (Canal Road and Keighley Road) it is generally much harder to make movements across the valley.

CBMDC Officers noted that the network of estate roads in the Wind Hill area have become prone to use as an alternative ‘rat run’ to avoid the Canal Road corridor. High levels of congestion between the Bolton Lane Junction and the junction between Canal Road and Queens Road. CBMDC modelling suggests that reducing the number of options to possible turning options would reduce the levels of congestion.

There is an Air Quality Management Area for the area encompassing the junction of Manningham Lane and Queens Road. This extent of the AQMA is shown on the extract below. This junction is outside the City Centre AAP area, however the implications of trying to improve the air quality on this junction could have implications for traffic on Canal Road.



The Transport Study (2015) for the Shipley and Canal Road Corridor AAP notes that daily flows on Canal Road (A6037) in 2013 were consistent across weekdays with 11,500 vehicles travelling in each direction. Traffic queues along much of Canal Road and Valley Road are recorded in peak periods. The study identifies that 80% of all journeys through the corridor are made by car, with a significant amount of traffic using the corridor originating from beyond the study area.

4.2.2 Rail Provision

The corridor is served by Shipley and Frizinghall Railway Stations, which provide services towards Leeds, Bradford, Skipton and Ilkley as well as connecting services towards Carlisle and Morecambe. The pedestrian access to both stations could be improved, as both involve crossing busy roads.

Frizinghall Railway Station has reasonably poor access, problems with perception of safety at night and a lack of parking.

The Shipley Railway Station provides services from five platforms, which are in a triangle shape. A car park is located in the middle of the triangle. There are some issues of connectivity and real time information across the five platforms. It is

also recognised by the West Yorkshire Combined Authority and CBMDC that additional parking is required at Shipley Station. CBMDC also noted that there are connectivity issues between Shipley Railway Station and Bus Station, including a lack of interchanging real time information.

4.2.3 Bus Provision

There are limited bus routes / services along Canal Road corridor. The public transport corridor is located predominantly along Manningham Lane / Keighley Road to the east of the AAP area. The Transport Study (2015) highlights that Canal Road itself is in part not particularly well served by bus. The average ‘% Bus’ figures for the corridor, and for Canal Road itself (up to 15%), are said to be slightly lower than average across the full Bradford corridor (up to 18%).

4.2.4 Pedestrian / Cycling

There are identified issues with the pedestrian environment at Fox Corner in Shipley, which are mainly due to a lack of pedestrian crossing facilities.

There is a lack of attractive walking routes along the Canal Road Corridor due to the dominance of the private car. A Greenway has been developed along the former Bradford Canal route, however this route currently ends at Queens Road and does not provide a complete route into the City Centre.

The Transport Study (2015) notes that there are a relatively low number of pedestrian and cycling trips through the study area both in terms of modal split and absolute numbers. The study attributes these low figures to the lack of residential and small scale retail frontage activity.

4.3 Planned and Proposed Transport Schemes

4.3.1 Overview

This section includes planned and proposed transport schemes for Bradford Shipley Canal Road Corridor. These schemes have been gathered through discussion with CBMDC Transport Officers. The below schemes have been included in the Infrastructure Delivery Programme, which can be found in section 14 of this report.

4.3.2 Highway

A6037 Canal Road / Stanley Road Junction Improvement Scheme: The provision of a new signalised junction to replace an existing single lane carriageway priority junction between Stanley Road and Canal Road on the A6037. The new junction provides additional capacity, pedestrian crossing facilities and cycle stop lines. The aim of this scheme is to solve a highway pinch point in the corridor. A total of £3.8 million of Pinch Point Funding has been secured for this scheme and it was completed in August 2015.

Bradford Shipley Corridor Improvements: This scheme (formerly Connecting Airedale Stage 3) consists of:

- Dualling of Canal Road.
- Improvements to the Otley Road / Valley Road junction.
- Improvements to the Bradford Road / Otley Road junction (the Branch).
- Improving bus priority along Manningham Lane to provide a continuous bus lane.
- This would tackle rat running along Bolton Road.

The cost of this scheme is £42 million plus and funding would be secured through the West Yorkshire Plus Transport Fund subject to a satisfactory business case. If delivered it is likely to take place in the short to medium term (0 – 10 years). The scheme is planned for delivery in phases post 2019.

ShIPLEY Eastern Relief Road: This scheme consists of:

- Bypass to the east of ShIPLEY town centre between the A6037 Canal Road and A6038 Otley Road.
- Second strategic crossing of River Aire to the east of ShIPLEY town centre.
- Provides access to both the Dockfield Lane regeneration area and development land directly adjacent to the south of ShIPLEY rail station

The cost of this scheme is approximately £40 million. There is no committed funding for this scheme. This scheme is scheduled as a long term scheme (10 – 15 years).

WY+TF Highway schemes: A number of highways schemes are programmed to be delivered or will be on site by 2021 funded by the WY+TF. There are at sites across the Bradford district but once implemented may result in changes to traffic movements and flows across the entire road network.

- Harrogate Road New Line- Widening the existing junction of the A658 Harrogate Road / A657 New Line between Bradford and LBIA. The crossroads are a significant congestion pinch point with delays on all four legs having a detrimental impact on journeys between Bradford and LBIA and also between ShIPLEY/Airedale and Leeds. The majority of the scheme costs (£7m) will be covered by the WY+TF with some developer contribution.
- A650 Hard Ings Keighley, - Widening of the A650 Hard Ings Road, Keighley between the Bradford Road and Beechcliffe roundabouts to relieve congestion in this part of Keighley. The scheme will; be funded through the WY+TF (£10.3m)
- Tong Street Improvements – The A650 Tong Street is one of the most congested roads in Bradford. This scheme proposed to widen the existing carriageway to dual carriageway standard flanked by shared pedestrian and cycling footways. The scheme is expected to cost £17m funded by the WY+TF subject to a satisfactory business case.
- South Bradford Access Route – This project comprises the creation of a new access route in the South Bradford constituency between Thornbury Gyratory and Dick Lane / Dudley Hill in support of residential development in the vicinity of the Holme Wood area. Costs are unknown.

4.3.3 Rail Provision

Tram-train or fixed rail to Leeds Bradford International Airport: There are a number of options that are being considered with regards to improved links between Bradford & LBIA. The preferred long term solution would be a through connection between the Wharfedale and Harrogate Line via a new station close at LBIA. This would allow tram-train vehicles to run from the centre of Bradford to LBIA and provide onward connection to Leeds. A recent report presented to the Transport Committee at WYCA concluded that constructing a fixed link from the district to Leeds Bradford airport would be extremely challenging and involve gradient profiles that exceed those of any current UK light rail system. Nevertheless the Council remains committed to the development of a fixed link (train / tram or light rail) and is pushing for further alternatives to be explored which may include Bus Rapid Transit. This is supported by the Airport and in its recently published draft master plan it includes rail connectivity as a key objective in its surface access strategy. The cost of this scheme is approximately £238 million. There is currently no committed funding for this scheme; however there is potential for some funding to come through the possible funding through the West Yorkshire Plus Transport Fund. This scheme is scheduled as a medium term scheme (5 – 10 years).

LTP Hub Improvement Programme: The aim of this scheme is to provide an enhanced public transport interchange in a safe and pleasant environment. This involves provision of a public transport 'hub' at Shipley to facilitate interchange between local bus services and between bus and rail services. This includes placing real time information on the route between the bus and rail station and improving connections. The scheme includes providing a cycle route into Shipley Station. This scheme has secured £0.5 million of funding from the LTP and is scheduled for short term delivery (0 – 5 years).

Shipley Station Improvements: West Yorkshire Combined Authority are developing a scheme to increase the amount of parking available at the Shipley Railway Station by adding a deck onto the current area of car parking. This scheme has secured funding through the West Yorkshire Plus Transport Fund and is scheduled for completion in the short term (0 – 5 years). A separate project is looking at improving the retail offer at the station, links between the five platforms and access between the station and the town centre, Subject to a satisfactory business case these will be delivered in the short term (0-5 years).

Frizinghall Station Improvements: West Yorkshire Combined Authority are developing a scheme to improve the waiting areas / lighting and perception of safety at Frizinghall Station. This is being funded through WYCA funding and is scheduled for completion in the short term (0 -5 years).

4.3.4 Bus Provision

Bus Network Improvements: This scheme seeks to develop the bus network in line with WYCA and CBMDC specification. This could be carried out by using WYCA quality contracts or, if not, through a partnership agreement. The delivery of this scheme would have minimal capital cost; however, significant revenue risk and would be scheduled to begin in the short term (1 – 5 years).

4.3.5 Pedestrian / Cycling

Fox Corner, Shipley: This scheme involves the development of a small gyratory with the aim of improving pedestrian crossing facilities on Fox Corner. There is potential funding through the LTP and this scheme is scheduled for the short to medium term (0 – 10 years).

Bradford Shipley Greenway Cycle Link from Shipley to Bradford: This scheme involves delivery of a dedicated cycle and pedestrian route from Shipley to Bradford. This scheme is partly complete; the Queen Road to Bradford Forster Square part of the route still needs to be completed. CBMDC are currently seeking to identify funding for this scheme and would like this to occur in the short term (1 – 5 years).

City Connect Cycle scheme: This scheme seeks to improve the Cycle Superhighway between Leeds and Bradford. The route enters Bradford City Centre along the A647 Leeds Road and Barkerend Road.

The scheme also includes improving the tow path along the Leeds to Liverpool Canal from Leeds to Shipley. This scheme is fully funded and will be completed in May 2016.

City Connect 2 Cycle scheme: This scheme seeks to provide a continuous segregated superhighway between the North side of the city centre and the existing cycleway of Canal Road, completing the provision for cyclists to Shipley and beyond. The scheme is fully funded and will be completed by March 2018

4.4 Impact of Development Proposals

As set out in the Infrastructure Delivery Programme (see section 14), CBMDC are promoting a range of strategic transport schemes to provide the capacity for the planned growth in the Shipley and Canal Road Corridor. This will provide the necessary infrastructure to deliver the Area Action Plan aspirations.

In order to support the quantum of growth proposed within the AAP, the Transport Study highlights the following key junctions as ones that should be further investigated for their potential to be remodelled to accommodate increased traffic. These are:

- Queens Road / Manningham Lane;
- Shipley Airedale Road / Bolton Road;
- Queens Road / Kings Road;
- Valley Road / Briggate, Shipley; and
- Otley Road / Leeds Road, Shipley.

Alongside these improvements a range of on-site highway improvements are likely to be required to deliver each proposed development site. These would be site specific transport improvements, which would be funded by the developer of the site.

The Transport Study also identifies a need for new bus services through the corridor, specifically to serve the New Bolton Woods and Bolton Woods Quarry developments.

New Bolton Woods (NBW 2,3,4,5,6,7): A Planning application was submitted to CBMDC in November 2014 for a residential led mixed-use development comprising residential a new local centre, a new primary school, creche/nursery, health centre, leisure uses, petrol station and car showroom, 3G sports pitch and associated open space and infrastructure. The CBMDC transport team have therefore been working with the developer on their proposed access arrangements and impacts on capacity along Canal Road. This scheme proposes the following highway improvements to allow access to the site:

- A new junction from Poplar Road via Valley Road.
- A new junction opposite Hillam Road to provide a signalled cross roads with Canal Road.
- The provision of a signalised junction from to allow vehicles to turn from Valley Road to Gaisby Lane, including provision for the cycle route to cross Gaisby Lane.
- The provision of a new cycle route through the site, to link up with existing cycle provision.

It has been confirmed by CBMDC officers that the Stanley Road Pinch Point scheme also improved accessibility to the New Bolton Woods site.

In the longer term the Bradford Shipley Corridor Improvements will provide improved capacity along Canal Road. However this is not required to deliver the New Bolton Woods Scheme, but is required to allow the delivery of all the full suite of development sites included in the area action plan.

The Bradford Unitary Development Plan includes a safeguarded highway improvement route to realign Canal Road across sites NBW6 and NBW4. However the current proposed highway improvement scheme (Bradford Shipley Corridor Improvements) does not require the realignment of Canal Road. It has therefore been agreed that this land can be developed and does not need to be safeguarded for transport improvements.

The development would have reasonable access to Frizinghall Railway Station and access has recently been improved by the provision of a pedestrian crossing. The proposed development also includes providing additional parking for Frizinghall Station. Currently very few buses run along Canal Road, running instead along Manningham Lane. As part of the New Bolton Woods scheme it is intended that more buses will run along Canal Road to support the scheme.

Bolton Wood Quarry (BWQ): There are access issues facing the development of the Bolton Woods Quarry site. A proposal to connect to the site through Livingstone Road has capacity issues. However there are a number of options to access the site and the future developer would be expected to provide options for providing adequate access. The development would have reasonable access to Frizinghall Railway Station and CBMDC would seek to understand options for connecting the site to the station by bus.

Shipley East (SE1): This site has an extant planning consent for development of a supermarket, with a mix of uses including employment and residential. CBMDC

have worked with the developers on the site to agree appropriate vehicular and pedestrian access. The scheme has safeguarded a route for the Shipley Eastern Bypass and the former Bradford Canal. The route of the pedestrian and cycle Greenway through the site has also been safeguarded. The scheme includes the provision of a roundabout on Leeds Road and the relocation of a heritage building (former Shipley Library) into the development site. The Transport Assessment provided with the planning application indicates that the proposed works will deliver the required highway capacity to accommodate the scheme.

4.5 Delivery and Responsibilities

The responsibility for delivery of the transport improvements necessary to deliver the planned housing and employment growth in the Bradford Shipley Canal Road Corridor falls with the CBMDC, West Yorkshire Combined Authority, and private developer contributions (S106, S278 or Community Infrastructure Levy).

4.6 Summary of Transport Infrastructure

A meeting has been held with the CBMDC Transport team. Bradford has been successful in securing a range of external funding streams and if these are delivered successfully will allow proposed housing and employment land to be delivered.

A summary of the schemes required to deliver the planned housing and employment growth in Bradford City Centre are provided in the Infrastructure Delivery Programme in Section 15.

There is currently a gap in the delivery of transport funding, however CBMDC are investigating funding options and this is set out in Section 14 and 15 of this report.

5 Utilities

5.1 Information Sources

This section covers the primary utility networks linked electricity supply, gas supply, water supply treatment.

The following sources of information have been used to populate this chapter:

Electricity

- Northern Powergrid, Long Term Development Statement (LTDS) November 2013.
- Northern Powergrid-Long Term Development Statement (LTDS) May 2014
- Discussion with Michael Walbank, System Planning Manager, Castleford.
- Bradford City Centre Utilities Study.

Gas

- Northern Gas Networks, Long Term Development Statement (LTDS) 2013
- Northern Gas Networks, Business Reports 2012
- Northern Gas Networks, Stakeholder Report 2013

Telecommunication

West Yorkshire Local Broadband Plan, 2012.

Water Supply and Treatment

- Discussion with Yorkshire Water.

5.2 Current Issues and Fit for Purpose

5.2.1 Electricity

The local electricity distribution network in Bradford District is operated by Northern Powergrid (Yorkshire) plc. The network connects to the National Grid network which is owned and operated by National Grid Company. Electricity is regulated by Ofgem.

The electricity network supplying the Shipley and Canal Road area is well established and robust. There are 4 Grid Supply Points (GSP) close to Shipley and Canal Road area which feed a series of primary substations around the Shipley and Canal Road area. These GSPs are at:

- Bradford within the City,
- Girlington to the west of the city centre,
- Menston to the north east of the area
- Bingley to the north west of the area.

The GSPs serve a large number of primary substations which are strategically well placed around the District and the Shipley and Canal Road area. The main Bradford GSP which serves the majority of Shipley and Canal Road area is situated at Canal Rd, junction of Valley Road and it serves primary substations at Gaisby Lane, Shipley, Idle and Rawson Road. The GSPs and their associated primary substations are set out below:

- Girlington GSP serves Crown Street and Toller Lane substations at the southern end of the AAP.
- Bingley GSP serves Nab Wood primary to the west of Shipley.
- Menston GSP serves Kirk Drive just north of Shipley.

The Bradford GSP also supplies the City Centre and the proposed developments within the City Centre Action Area.

The existing electricity distribution systems within and serving Shipley and Canal Road area are fit for purpose at present.

5.2.2 Gas

The local gas distribution network in the Bradford District is owned by Northern Gas Networks (NGN) and supplied by National Grid. Bradford is well positioned in West Yorkshire being close to the major gas import installations on the East Coast. Northern Gas Networks carries out the day to day maintenance of the system and is responsible for the engineering behind any necessary diversions or reinforcements.

Northern Gas Networks carries out extensive refurbishment programmes of the existing gas mains to bring often old assets up to modern serviceability. This generally is the replacement of existing cast/ductile iron pipes with modern plastic. An extensive amount of this work has been carried out within Bradford. Discussions with NGN staff and examination of the proposed works lists contained within NGN's website do not include any works within Shipley and Canal Road area.

The existing gas distribution system within and serving Shipley and Canal Road is fit for purpose at present.

5.2.3 Broadband and Telecommunications

Digital services have long been recognised as important for citizens' participation in society, the economy and the democratic process. Ofcom, the independent regulator and competition authority for the UK communications industries, has undergone some work to encourage competition which has helped to deliver the three central goals of availability, take-up and effective use of key services.

The digital world is changing. The growth of broadband and mobile services, digital broadcasting and technologies and services, could all provide greater benefits for many customers throughout the Bradford district, including residents, educational establishments and business users.

With the proposed growth and regeneration of commercial, retail and residential developments within the Bradford district, there comes an aspiration to promote

choice and competition, not only in the provision of broadband services to users, but telephony and television services too. The push towards a more digital Britain will offer an opportunity to develop and increase access to council services and offer integrated services to residents and businesses.

The gap between digitally included and excluded people is getting bigger, with a large percentage of people still not using or seeing the benefits of the Internet. People who are not digitally connected and gaining access to Internet services such as tele-conferencing, tele-care, tele-medicine, home working and, online banking and shopping will increasingly be excluded.

In December 2010, the UK Government launched a strategy entitled “Britain’s Superfast Broadband Future” that aimed to establish a framework to support the rollout of superfast broadband and improved ‘basic broadband’.

In the local context, work is underway through the Leeds City Region’s West Yorkshire Local Broadband Plan, delivered in partnership with West Yorkshire authorities, including CBMDC, which aims to improve access to better broadband across the region². The Plan has a specific focus upon addressing underserved locations, providing public sector funding to stimulate the considerable private infrastructure investment required. The main aims of the project can be summarised as being:

- to influence and, where permitted, intervene in the market to provide by 2015 access for at least 90% of all premises in West Yorkshire to Superfast Broadband.
- provide better broadband connectivity of at least 2Mbits/s to the remaining premises.
- deliver solutions that are future proofed i.e. have the potential for future speed uplifts.
- be affordable to customers and continue to offer value for money over time.

Arup IT&C have carried out a high-level assessment of the telecommunications network in the Shipley and Canal Road Corridor.

Fixed Broadband

Fixed voice telephony and broadband services are predominantly provided by Openreach throughout the Bradford district. Other telecom operators, such as Virgin Media also provide fixed telephony services with the additional benefit of television services; however, it is not clear at this stage whether they have installed the infrastructure necessary to serve all users and businesses within the identified development areas. Further detailed work will need to be undertaken with Virgin Media to ascertain whether they plan to extend their network within the identified areas.

Business and commercial users in the area will also have direct connections to other network operators with a local point of presence such as KCOM, Level 3 and Vodafone (Cable and Wireless). It should be noted that these tend to be business-grade, bespoke services that cost significantly more than standard

² Leeds City Region (2013): <http://www.leedscityregion.gov.uk/LCR-Corporate/media/Media/pdf/WYLBP-Public-Consultation-v2-01.pdf?ext=.pdf>

residential services – which tend not to have associated Service Level Agreements (SLA).

There is a reasonable prospect that Next Generation Access (NGA) providers, other than Openreach and Virgin Media, may establish a fixed presence in Shipley and Canal Road Corridor in the near future, as the potential demand may be sufficient to induce the significant investment necessary. However, from this study it is clear that both Openreach and Virgin Media already have a significant presence in the City Centre, which may prove to be a barrier to entry for any new entrant.

Openreach currently serves Shipley and Canal Road Corridor via their ‘Bradford’ exchange, with the exchange now offering a choice of ISP services who utilise their Fibre to the Cabinet (FTTC) product in the majority of areas; however, their Fibre to the Home (FTTP) offering has not yet been deployed and will not be Openreach’s default service offering for many years to come. Please refer to the following link to receive updates on when exchanges within Shipley and Canal Road Corridor will receive FTTC updates and a list of available ISPs. It can be seen that there is a good range of both residential and business ISP services and products available:

<http://www.superfast-openreach.co.uk/where-and-when/>

For a comprehensive list of available services (without undertaking a detailed requirements capture exercise with each of the telecom service providers) the following website is very good for providing an overarching view of what is available in specific areas of Bradford Shipley Canal Road Corridor:

<http://maps.thinkbroadband.com/>

Mobile Broadband

In order to ascertain the level of 2G, 3G and 4G services within the Bradford Shipley Canal Road Corridor Arup reviewed various sources, including the following Ofcom and mobile provider’s websites:

<http://maps.ofcom.org.uk/mobile-services/>

<http://consumers.ofcom.org.uk/phone/mobile-phones/4G/mobile-coverage-checker/>

The following observations were made from the Ofcom source:

- Bradford Shipley Canal Road Corridor lies in the 95% or more category for 2G services.
- Bradford Shipley Canal Road Corridor lies in the 95% category for 3G services.

However, using the four main mobile operator websites (Three, Vodafone, EE and O2) more detailed observations can be made (see table 6.1 below). These have been provided for each strategic site in section 13.

Table 6.1: Summary of Mobile Internet Availability

Operator	2G Services	3G Services	3G+ services	4G services
Three	Offers a very good service for indoor and outdoor	Offers a very good service for indoor and outdoor	Offers a very good service for indoor and outdoor	Offers a very good service (some indoor services are not good and there is no coverage towards the north east of the city centre towards Five Ends Lane)
Vodafone	Offers a very good service for indoor and outdoor	Offers a very good service for indoor and outdoor	Not applicable	Offers a very good service for indoor and outdoor
EE	Offers a very good service for indoor and outdoor	Offers a very good service for indoor and outdoor	Not applicable	Offers a very good service for indoor and outdoor
O2	Offers a very good service for indoor and outdoor	Offers a very good service for indoor and outdoor	Not applicable	Offers a very good service for indoor and outdoor

5.2.4 Water Supply

The regulated water company in the area is Yorkshire Water (YW). Their regulator is Ofwat. YW is responsible for the full range of the water business from production, treatment, distribution, metering and billing. Yorkshire Water is the only water and waste water treatment provider for Bradford District. Yorkshire Water use local development plans, economic information, population forecasts and other data to plan for growth and new provision.

These plans feed into the Yorkshire Water five year investment plans called AMP periods. Yorkshire Water has been contacted to discuss the proposed development sites in the Bradford Shipley Canal Road Corridor.

Yorkshire Water has confirmed that the Yorkshire Grid system can provide adequate water supply for the proposed site allocations in the corridor.

Figure 5.1: Yorkshire Water's Supply Grid

Source: Yorkshire Water – www.yorkshirewater.com

5.2.5 Water Treatment

The Bradford Shipley Canal Road Corridor is currently served by the Esholt Wastewater Treatment Works (WwTW). Through dialogue with a representative from Yorkshire Water, it has been confirmed that there are no existing capacity issues in relation to waste water treatment in Esholt.

5.3 Planned Schemes

5.3.1 Electricity

The Northern Powergrid (NPG) Long Term Development Statement (November 2014) contains details of Northern Powergrid's proposed works in the short and medium term. There are no plans for upgrade or improvement works proposed within the LTDS except the connection of renewably generated electricity.

NPG regularly undertake planned works to provide connections to their network, alterations/upgrades to the network and existing connections and maintenance and repairs.

5.3.2 Gas

Discussions with Northern Gas Networks (NGN) staff and examination of the proposed works lists contained within NGN's website do not include any works within Shipley and Canal Road.

NGN regularly undertake planned works to provide connections to their network, alterations/upgrades to the network and existing connections and maintenance and repairs.

5.3.3 Telecommunications

Fixed Broadband

The Leeds Bradford Super-connected Cities project has delivered Wi-Fi to Bradford City Centre, helped businesses in Bradford district upgrade their current broadband service using a voucher scheme and delivered Wi-Fi services on strategic public transport between Leeds and Bradford, including the number 72 bus.

Launched in February this year, the Bradford voucher scheme is funded through the government's £150m 'Super-connected Cities' initiative. It is designed to help small and medium-size enterprises transform the way they do business by improving business efficiency and competitiveness. Funding of up to £9m is available to SMEs across the Leeds and Bradford metropolitan districts and companies can apply for broadband connection vouchers via a dedicated website: www.superconnectedleedsbradford.co.uk.

In collaboration with Openreach, the 'Superfast West Yorkshire' project plans to increase superfast broadband (24+Mbps) to at least 97% of households and businesses across the majority of West Yorkshire. As well as providing high-speed fibre, the partnership aims to upgrade all premises in the area to speeds of more than 2Mbps by autumn 2015.

Overall, it is expected that a large element of the upgraded infrastructure will be fibre optic cable (utilising FTTC technology – which lays new fibre to a street cabinet only, not all the way to the home), partially future-proofing it for years to come and allowing upgrades in bandwidth in the future. Areas that require the most investment will be covered by the scheme's partnership with Openreach. However, it should be noted that the project must also adhere to mandatory State Aid rules, which state that public money cannot be used in areas where private companies like Openreach and Virgin Media are planning to invest in the next 3 years; this includes the city centre. Therefore, this may inhibit any new NGA entrants to the city centre.

In early 2015 Virgin Media have announced that they plan to provide new virgin media networks across the UK. This may provide additional networks in Bradford Shipley and Canal Road Corridor. The location of the proposed new networks are still to be confirmed.

Mobile Broadband

The four main mobile operators will continue to deploy and improve on their already very good services within the Shipley and Canal Road Corridor; this is likely to include more focused micro cells that will improve both bandwidth and contention ratios, e.g. permit more users on the existing infrastructure.

5.3.4 Water Supply

There are no scheduled improvements to water supply infrastructure.

5.3.5 Waste Water Treatment

Yorkshire Water are currently preparing a Drainage Area Plan (DAP) for Shipley and East Bradford, which is due for completion in late 2014. The DAP provides information on how all sites currently drain in the Yorkshire Water sewer network.

There are no scheduled improvements to water treatment infrastructure.

5.4 Impact of Development Proposals

5.4.1 Electricity

Methodology

The developments proposed within the Shipley and Canal Road Corridor will increase the demand for electricity, which will have an impact on the electricity network unless the development is self-sufficient. The impact is in proportion to the size of the demand and where the capacity is or is not to meet it.

Electricity demand figures are produced for residential and for other uses such as employment, leisure, retail, storage etc. For the purpose of this report only two categories of demand are considered; residential, and employment which contains all other uses.

Typical demand rates to be applied to residential and employment have been agreed between Arup and Northern Powergrid for the purposes of strategic infrastructure studies. For residential the figure is 2KW/residential unit and for employment it is 120W/m².

Demand figures can be much analysed and manipulated according to use, time, and location, and connection arrangements. For this study the two demand figures are considered to be exclusive and thus the total of the two figures is taken as the maximum demand that the developments require and which the distribution system must have the capacity to provide.

In overall terms for the Shipley and Canal Road area there are:

Residential: 3,112 additional residences planned to be built. These will demand an additional estimated 6.224MW of electricity.

Employment and other uses: The employment demand calculation has more stages. It is first based upon the area of land allocated for employment purposes. This land area has to be factored to determine developed floor areas and in this case 40% of land is considered to be converted to floor area. The demand rate of 120w/m² is then applied to the floor area and from this a total demand figure is determined.

On the above basis a total of 7.7 hectares of land has been identified of which about 3 hectares are considered to be developable employment floor area. Applying a typical demand of 120w/m² results in a total estimated employment demand of circa 3.7 MW.

Where the developed area relates to residential only the area is not included in the assessment. Where the developed area relates to mixed use the whole area has been assessed as employment in addition to the residential.

Impact of development

Based on the methodology set out above the total combined demand for the whole of the Shipley and Canal Road Corridor is circa 10MW. 10MW of energy requires approximately 11MVA of electricity.

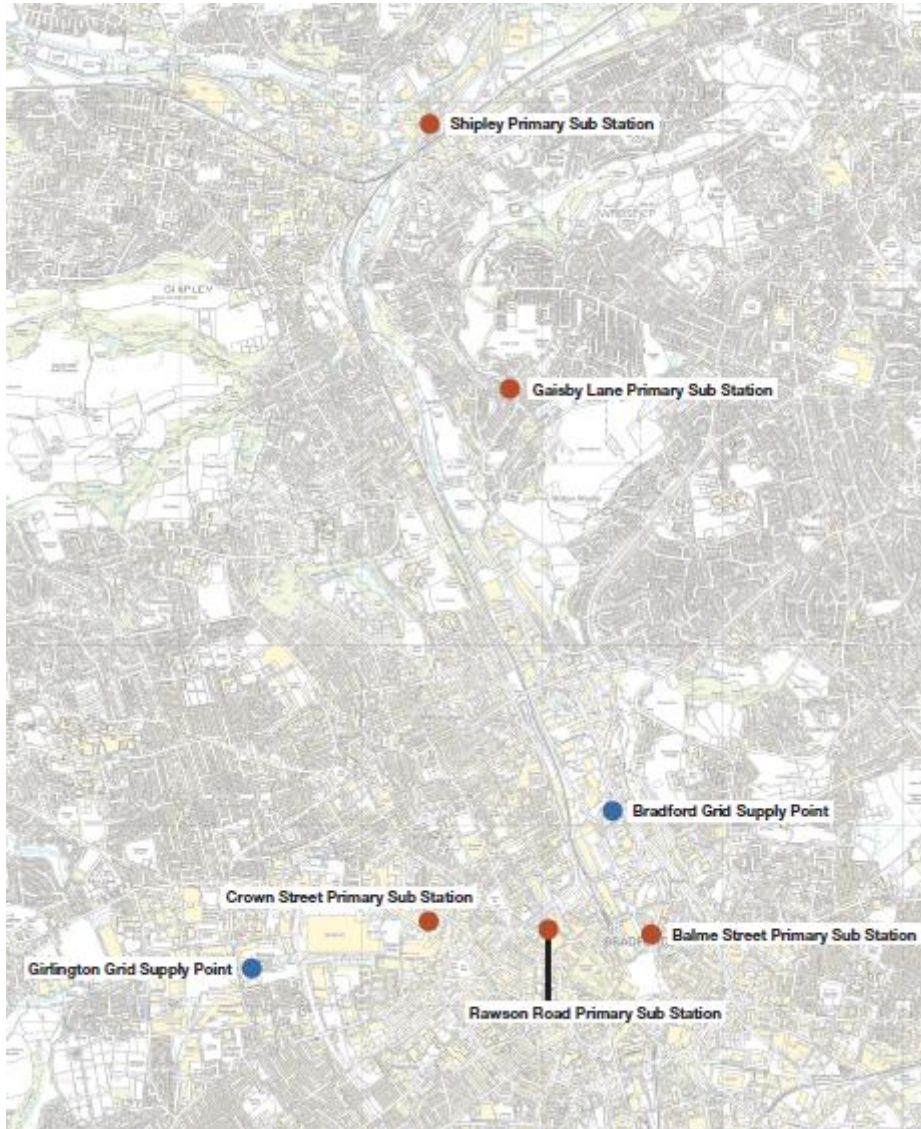
The City Centre is supplied via Grid Supply Points at Bradford (Canal Road), Girdlington and Staygate. Present load at Bradford is circa 92.50MVA against a firm capacity of 117MVA. There is thus at present 24.5MVA spare at this Grid Supply Point though developments within the City Centre may take up to 22MVA of this.

The GSP at Girdlington is available to supply substations which serve Shipley and Canal Road area and this GSP has a present load of approximately 61 MVA against a firm capacity of 117 MVA. The Grid Supply Points and Primary Sub Stations have been presented in Figure 5.2.

Individually no single development has a load which exceeds the capacity of the nearest primary substation to provide it. Collectively the situation changes, resulting in capacity issues.

The addition of the Shipley and Canal Street demands to the City Centre demands will mean that these combined demands exceed Bradford GSP's capacity. To avoid work at a high level increasing the capacity of Bradford GSP it would be more effective to upgrade Crown Street which would enable Girdlington GSP to contribute more of its spare capacity for the future developments. This would mean that Crown Street substation would have to increase its firm capacity up to circa 23MVA to enable it to meet more of the demands from the developments and provide capacity for the southern developments in the Shipley and Canal Road area and the City Centre developments at The Valley (V1.1, V1.2 and V1.3).

Figure 5.2: Grid Supply Points and Primary Sub Stations serving Shipley and Canal Road Corridor and the City Centre



These options have been discussed with Northern Powergrid, however the exact solution will depend on orders for connections by developers. It was agreed with NPg that the costs of these alternatives would be borne by the developments and that roughly they would be a total of circa £4 million. This £4 million can be broken down as follows:

- £2 million to increase capacity at Crown Street from circa 8MVA to 16 MVA to enable local City Centre developments to be supplied from Crown Street.
- £2 million to increase capacity of Crown Street from 16MVA to circa 24MVA to enable Shipley and Canal Road developments to be supplied from Girlington via Crown Street instead of Bradford GSP or £2 million to cable additional circuits into the City Centre from Girlington to relieve the load on Bradford GSP.

Overall an estimated sum of £4 million would be required to be spent on upgrading the Northern Powergrid network to supply the additional developments proposed in Shipley and Canal Street and Bradford City Centre. This has been

split across the two areas and results in an infrastructure gap of £2 million for Bradford City Centre and £2m for Shipley and Canal Road Corridor.

Northern Powergrid have stated that the costs to upgrade the network will need to be paid by the developer of the site that causes electricity capacity issues. A detailed understanding of the likely trajectory of development is required to understand how the electricity capacity can be most efficiently provided.

Discussions with Northern Powergrid concluded that if the developers aggregate their development loads and collaborate for their connections then Northern Powergrid would be able to offer a better technical solution at a much lower overall cost.

The capacity issues relate to the full amount of development proposed in the Canal Road Corridor and City Centre going ahead. At this stage there is no available information on the likely phasing of build out order for these developments. When a build programme becomes available the take up of electricity will show which specific developments have capacity issues.

The developments will be connected via the primary substations to local substations and hence the developments. The capacity issues are examined in more detail for the following large scale development proposed developments. This has taken place at the primary substation level on the following sites:

- Shipley East SE1.
- New Bolton Woods (refs. NBW2,3.4.5.6.7)
- Bolton Woods Quarry BWQ.

The analysis of these sites can be found in Section 13.

The costs of electricity upgrades reinforcements are included in Section 5.6.1. Infrastructure Delivery Programme in Section 15.

5.4.2 Gas

The Northern Gas Networks Business Plan Data Template 2014 to 2021 and informal discussions with Northern Gas Networks support staff indicate that the overall gas network in Shipley and Canal Road area is robust and flexible and that strategic reinforcement of the network would not be necessary to support the proposed housing and employment growth.

The developments are all in locations with relatively close access to Northern Gas Networks' apparatus of sufficient size to provide the capacity of gas to meet the gas demand.

Northern Gas Networks provided plans of the apparatus in the vicinity of the developments to indicate local connection points to the developments. These plans indicated that in public highways on the boundary of all the developments there is apparatus of sufficient size to provide connection capacity to the developments.

Connection costs to Northern Gas Networks will be consistent with the size and length of the new apparatus installed to make the connection. There would be limited additional costs which again are consistent with typical gas connection costs for all developments.

The impact of the proposed developments on Northern Gas Networks is easily absorbed by the existing the network and is consistent with the extra demand placed on the system which has adequate capacity to meet the extra demand.

Local reinforcements will be required to service local developments. The costs of local reinforcements are included in the Infrastructure Delivery Programme in Section 15.

5.4.3 Telecommunications

Overview

Research undertaken from various sources confirms that there are no restrictive measures preventing residents in Bradford Shipley Canal Road Corridor from gaining access to superfast broadband services.

Even with the planned improvements to broadband in the city of Bradford, there is a need to enhance telecommunication infrastructure to meet planned housing and employment growth, and to serve new sites directly. These improvements would be market-led and local strategic infrastructure would be needed at the access layer – which is the cabling from the home to a street cabinet or chamber connection point; as well as cabling from here to a local exchange/Point of Presence (PoP).

The cost of these improvements would need to be met by a developer as part of their scheme. However, there are other methods for attracting and obtaining capital investments from other third party access network providers. Current broadband provision for residential properties is reliant on an aging copper telephony network that was never designed for transporting high-speed data. Though technological advances have enabled providers to deliver some reasonable throughput, the limits of the medium are rapidly being reached. If Bradford wishes to remain at the forefront of digital technology, this infrastructure will need to be replaced.

Fibre to the Home offers an opportunity to build communication networks from the ground up, especially designed for the delivery of a wide range of high-speed and media rich applications and services. This will provide a future proofed communication infrastructure suitable for the 21st century, and one that will support the next generation of digital and technology solutions.

There are a number of different organisations involved in the construction and delivery of services to properties within a development. These include:

- Infrastructure Provider.
- Access Network Provider.
- Service Provider.
- Developer.

It is essential that the demarcation between the roles and responsibilities of each are clarified, and communicated clearly:

Infrastructure Provider

The role of the infrastructure provider is to construct the onsite ducting network, and other spaces required to operate the FTTH infrastructure. The Infrastructure Provider will be responsible for construction of:

- PoP (Point of Presence).
- MMR (Meet Me Room).
- Ducts, terminated at the exterior of each property.
- Associated chambers.

Access Network Provider

The Access Network Provider will be responsible for the daily management and operation of the onsite FTTH infrastructure. They will therefore install the optical fibre within the site-wide ducting constructed by the Infrastructure Provider, and terminate the cabling within the PoP. The Access Network Provider will also supply the active equipment within each property, and terminate the fibre within the unit.

There are two approaches for site operation available to the Access Network Provider:

Private Network

The Access Network Provider will install the fibre within the ducting and will also act as the service provider onsite. There will be no choice of provider, and any competitor would need to construct their own separate onsite ducting infrastructure; this is the model currently employed by Virgin Media within their network.

The disadvantage with this approach is that residents would have a choice of either using the incumbent provider or nothing, since it is unlikely to be financially feasible for an alternate provider to install a new infrastructure for a limited number of residents.

Open Access Network (OAN)

The Access Network Provider will install the fibre within the ducting, but will not retain exclusive use of it. Access to the fibre to each property will be offered to Service Providers on an equal and equivalent basis. The Access Network Provider makes their revenue by renting use of the fibre to Service Providers. They do not deal directly with residents.

Service Provider

Service Providers will deliver their services over the Access Network Providers fibre, and will contract directly with residents. A rental fee is paid by Service Providers to Access Network Providers for use of the fibre. The Access Network Operator will interconnect it to the FTTH infrastructure.

It is technically possible for multiple Service Providers to deliver different services to the same property over the same fibre connection.

Engage with BT Openreach

Openreach is currently in a strong position to provide the Bradford district, holistically and in each individual area, with copper based telephony access circuits. These would provide residents and businesses with basic telephony and broadband services, though would not offer users enhanced or next generation services.

Longer term, Openreach initiatives with FTTC (Fibre to the Cabinet) and FTTP (Fibre to the Premise) technologies are currently improving the bandwidth available, though it is likely that these would proceed in line with the rest of a UK-wide roll-out programme. Therefore, any upgrades would not offer any differentiation for Bradford over other areas.

Engage with a wireless operator

In addition to a fixed infrastructure it is possible to explore the benefits of installing a metropolitan wide wireless infrastructure.

Modelling the capabilities and costs of wireless networks is far more complex than for fibre networks, and the results are highly sensitive to a number of technical variables, giving them less confidence in the numerical value of the results than with fibre study. The results are particularly sensitive to the level of traffic to be carried on the network.

Terrestrial wireless technology could cost-effectively deliver the medium demand scenario to a small percentage of homes, although this would require a large increase in the number of base stations deployed. Under a high demand scenario, however, wireless will almost always be more expensive than fibre-based technologies.

While satellite is typically more expensive to deploy than fixed wireless, it can still play an important complementary role by delivering broadband services to homes that are most difficult to reach by other means.

5.4.4 Water Supply

Dialogue with Yorkshire Water has confirmed that there are no strategic water supply issues in the Bradford Shipley Canal Road Corridor and there is adequate capacity to provide water to the proposed site allocations.

5.4.5 Waste Water Treatment

Dialogue with Yorkshire Water has confirmed that there are no strategic waste water treatment capacity issues related to the delivery of approximately 3,200 new homes and a range of leisure and employment uses in in the Shipley and Canal Road Corridor up to 2030. All the waste water generated from this corridor is treated at the Esholt WwTW.

Discussions with Yorkshire Water have confirmed that there is potential for the proposed development on this corridor could reduce the total amount of solution entering the sewer, but provides the opportunity to divert surface water, currently discharging to sewer, to more sustainable forms of drainage or water course.

It was noted that Yorkshire Water (and CBMDC drainage team) would expect brownfield sites would need to follow the surface water hierarchy and as a last resort a new development drained to sewer would require a 30% reduction in flow

rate based on that existing. This is a drainage issue, however it impacts on the capacity of the sewer network.

YW noted that foul water from the New Bolton Woods site should drain the large diameter sewers in Stanley Road. YW believe the surface water sewers crossing the bottom end of the site are in reality culverted watercourses in which case CBMDC would apply greenfield run-off rates for draining a new development.

5.5 Delivery and Responsibilities

The responsibility for delivery of utility infrastructure is as follows:

- Electricity provision is the responsibility of Northern Powergrid.
- Gas provision is the responsibility of Northern Gas Networks.
- Telecommunications provision is the responsibility of BT and a range of other telecommunication providers.
- Water supply and treatment is the responsibility of Yorkshire Water.

5.6 Summary of Utility Infrastructure

5.6.1 Electricity

The state of the overall distribution network in Bradford is robust and flexible at the Grid Supply Points which are at Bradford and Girdlington. This high level capacity is well distributed to the Primary Substations throughout the Shipley and Canal Road Area all of which, except Crown Street, have at least 35% spare capacity.

The impact of the increased demand throughout the network is absorbed by spare capacity at the Primary Substations (except Crown Street)

The addition of the Shipley and Canal Street demands to the City Centre demands will mean that these combined demands exceed Bradford GSP's capacity. Thus the capacity at GSP at Girdlington needs to be brought in to provide capacity for the southern developments in the Shipley and Canal Road area and the City Centre developments at The Valley.

These options have been discussed with Northern Powergrid, however the exact solution will depend on orders for connections by developers. It was agreed with NPG that the costs of these alternatives would be borne by the developments and that roughly they would be a total of circa £4 million. This £4 million can be broken down as follows:

- £2 million to increase capacity at Crown Street from circa 8MVA to 16 MVA to enable local City Centre developments to be supplied from Crown Street.
- £2 million to increase capacity of Crown Street from 16MVA to circa 24MVA to enable Shipley and Canal Road developments to be supplied from Girdlington via Crown Street instead of Bradford GSP or £2 million to cable additional circuits into the City Centre from Girdlington to relieve the load on Bradford GSP.

Overall an estimated sum of £4 million would be required to be spent on upgrading the Northern Powergrid network to supply the additional developments proposed in Shipley and Canal Street and Bradford City Centre. This has been split across the two areas and results in an infrastructure gap of £2 million for Bradford City Centre and £2m for Shipley and Canal Street

Northern Powergrid have stated that the costs to upgrade the network will need to be paid by the developer of the site that causes electricity capacity issues. A detailed understanding of the likely trajectory of development is required to understand how the electricity capacity can be most efficiently provided.

Discussions with Northern Powergrid concluded that if the developers aggregate their development loads and collaborate for their connections then Northern Powergrid would be able to offer a better technical solution at a much lower overall cost.

5.6.2 Gas

The state of the gas distribution network in Bradford is robust and flexible. The network has sufficient spare capacity throughout the network and this capacity is available within public highways close to the developments. The proximity of these connections to the proposed sites means that the costs of the connections are consistent with typical such connections and there should be no major upgrade costs to Northern Gas Networks assets that would be associated with the developments.

The impact of the increased demand due to development is easily absorbed by the existing network.

5.6.3 Telecommunications

There are no infrastructure issues restricting the ability for superfast broadband to be delivered to the Shipley and Canal Road Corridor, including new sites.

Bradford is well served by 4G mobile internet.

5.6.4 Water Supply and Waste Water Treatment

Through dialogue with Yorkshire Water it has been confirmed that major investment in water supply and waste water treatment infrastructure is not required. Infrastructure provision under a 'business as usual' model would be funded by developers as part of development costs

6 Flood Risk and Drainage

6.1 Information Sources

This section covers provision of flood risk and drainage infrastructure.

The following sources of information have been used to populate this chapter:

- A meeting was held with CBMDC's Drainage and Flood Risk team.
- A range of outputs from the Bradford Beck Flooding map has provided information on flooding levels in the Shipley and Canal Road Corridor.
- Liaison by email with the Environment Agency.
- Preliminary Flood Risk Assessment
- Strategic Flood Risk Assessment Part 1.
- Site specific flood maps from the CBMDC flood risk team.

6.2 Current Issues and Fit for Purpose

CBMDC produced a Preliminary Flood Risk Assessment in 2011³, as part of their requirements as a Lead Flood Authority. This concluded that there were no areas in the whole District, including the Shipley Bradford Canal Road Corridor that fell within the criteria of being 'Indicative Flood Risk Areas'. The assessment noted that CBMDC will continue to monitor flood risk and collect data to monitor flood events.

The Council's Strategic Flood Risk Assessment (SFRA)⁴ highlights that the delineation of the high-risk zone within the Shipley Bradford Canal Road Corridor is relatively straightforward, and does not warrant significant hydraulic modelling for the purpose of a general risk assessment. The Shipley Bradford Canal Road Corridor is at risk of flooding from the Bradford Beck and from fluvial sources in the Shipley area.

Both the Environment Agency and Council confirmed that the City of Bradford has an overflow tunnel to deal with flooding from the Bradford Beck, which runs along the Canal Road corridor.

CBMDC has carried out extensive flood risk modelling of the Shipley Bradford Canal Road Corridor. It has been agreed with the Environment Agency that this data is more accurate than the Environment Agency Flood Mapping, as it recognises that there is an overflow tunnel (3.4m) providing flood defence to Bradford Beck. The Environment Agency fluvial flood risk modelling from the River Aire is accurate and has been used to inform the SFRA level 1.

The CBMDC Drainage Team have developed a model of the Bradford Beck and are able to factor any new development into this model to confirm the impact on flood risk.

³ CBMDC Preliminary Flood Risk Assessment, Preliminary Flood Risk Assessment to comply with the Environment Agency Final Guidance 2011

⁴ CBMDC (2014) Draft Bradford Strategic Flood Risk Assessment. Report JBA Consulting

This model has been used to confirm the flood risk of the proposed site allocations in section 6.4.

The flood risk and drainage issues in this sub area will be managed through the sequential and exceptions tests on all future site allocation and through evidence provided through the emerging Strategic Flood Risk Assessment Part 2, which is scheduled for completion in 2015.

There are parts of the Shipley -Canal Road Corridor that are at risk of flooding from the Bradford Beck and areas of Shipley are at risk of fluvial flooding from the River Aire.

New regulations came into force in April 2015 to require SUDS to be agreed through the planning application process.⁵ This means developers will need to agree their SUDs with CBMDC and developers will need to meet certain SUD standards, as set out in Planning Practice Guidance. The guidance includes a hierarchy of acceptable discharge solutions with infiltration to the ground the most preferred and connection to sewers the least preferred (but still permissible).

6.3 Planned Schemes

There are no committed flood alleviation schemes in the Shipley Canal Road Corridor as confirmed by both the Environment Agency and the Council's Flood Risk and Drainage Section. This has been confirmed through dialogue with Flood Risk Officers and the Environment Agency.

Through dialogue with the CBMDC drainage team it has been confirmed that the Council will seek to implement Local SUD standards in the Shipley and Canal Road Corridor when the above regulations come into force in April 2015. This means that an area wide approach to the development of SUDs will be promoted.

The junction at Stanley Rd. and Canal Rd. is currently being remodelled to accommodate an extra carriageway. This construction of the additional lane will cause the Bradford Beck to be realigned. This will have to be included in the CBMDC model.

Yorkshire Water are currently preparing a Drainage Area Plan (DAP) for Shipley and East Bradford, which is due for completion in late 2014. The DAP provides information on how all sites currently drain in the Yorkshire Water sewer network.

6.4 Impact of Development Proposals

CBMDC provided an output from their flood model showing flooding the depth of flood water in a 1:100 event. This has been compared with the EA mapping which showed Flood Risk Zone 3 and Flood Risk Zone 2. The CBMDC flood data means the majority of the Bradford Shipley Canal Road Corridor is not at risk of flooding from fluvial culverted sources.

A Strategic Flood Risk Assessment (SFRA) Part 2 has been produced to support the Bradford Shipley Canal Road Corridor Flood Risk Assessment.

⁵ <https://consult.defra.gov.uk/water/delivering-sustainable-drainage-systems>

As noted in section 6.3 Yorkshire Water is planning to carry out a Drainage Area Plan in AMP 6 (2015 – 2020). However CBMDC has yet to formalise a strategy for drainage requirements arising from development across the Shipley and Canal Road AAP area.

Yorkshire Water have noted that redevelopment of this corridor could provide an opportunity to divert surface water, currently discharging to sewer, to more sustainable forms of drainage or water course. Yorkshire Water and the CBMDC drainage team would expect brownfield sites to follow the surface water hierarchy and if, as a last resort, a new development drained to sewer would require a 30% reduction in flow rate based on that existing.

CBMDC are seeking to develop Local SUDs standards to deliver a holistically planned network of surface water storage across the wider area. This is because site-by-site mitigation (i.e. SUDs) is less efficient than a single solution. The flood zones along the corridor are shown in Figures 6.1, 6.2 and 6.3.

Shipley East (SE1): Parts of the Shipley East site are within Flood Risk Zone 3, as they are at risk of flooding from the Bradford Beck. The extant planning consent on this site included flood risk measures to reduce the risk of flood risk damage to properties including stand-off distances from the Beck and urban design features. CBMDC have approved this planning consent and the flood risk measures have been considered acceptable. The Flood Risk on this site is shown on Figure 6.2 below.

New Bolton Woods: CBMDC are currently negotiating the drainage and flood risk solution for the New Bolton Wood site. CBMDC are trying to tackle flood risk nearer to the city centre by measures on this site.

There are drainage issues related to contaminated land at King George V playing fields. The site is currently not being proposed for full remediation by the developer, instead they are proposing to ‘cap’ the contamination. This poses issues with contaminants flooding into local river networks. CBMDC officers are currently working with the developer to agree a way forward.

Through discussions with Yorkshire Water it has been confirmed that foul water can drain into the large diameter sewers in Stanley Road. It was also noted that the surface water sewers crossing the bottom end of the site are in reality culverted watercourses and that CBMDC would apply greenfield run-off rates for draining a new development. The Flood Risk on this site is shown on Figure 6.2 below.

The following table shows the findings of the 2015 updated SFRA at New Bolton Woods:

Site Reference	AAP	Comments
NBW2	SCRC	Proposed residential site wholly outside of Flood Zone 3a but some risk from Flood Zone 2
NBW3	SCRC	Site area >1 ha with some surface water risk
NBW4	SCRC	Proposed employment site with minimal fluvial and surface water risk. Also at risk from climate change

NBW5	SCRC	Site area >1 ha
NBW6	SCRC	Proposed mixed use site wholly outside of Flood Zone 3a but at risk from Flood Zone 2. Also at risk from climate change

Bolton Woods Quarry (BWQ): This site is technically not at risk of flooding from any external sources. However surface water will need to be managed on the site either using a site based approach or a corridor wide approach to surface water management. The 2015 Level 2 SFRA includes the following draft flood maps which show the proposed allocations in relation to flood zones 3, 3b and 2.

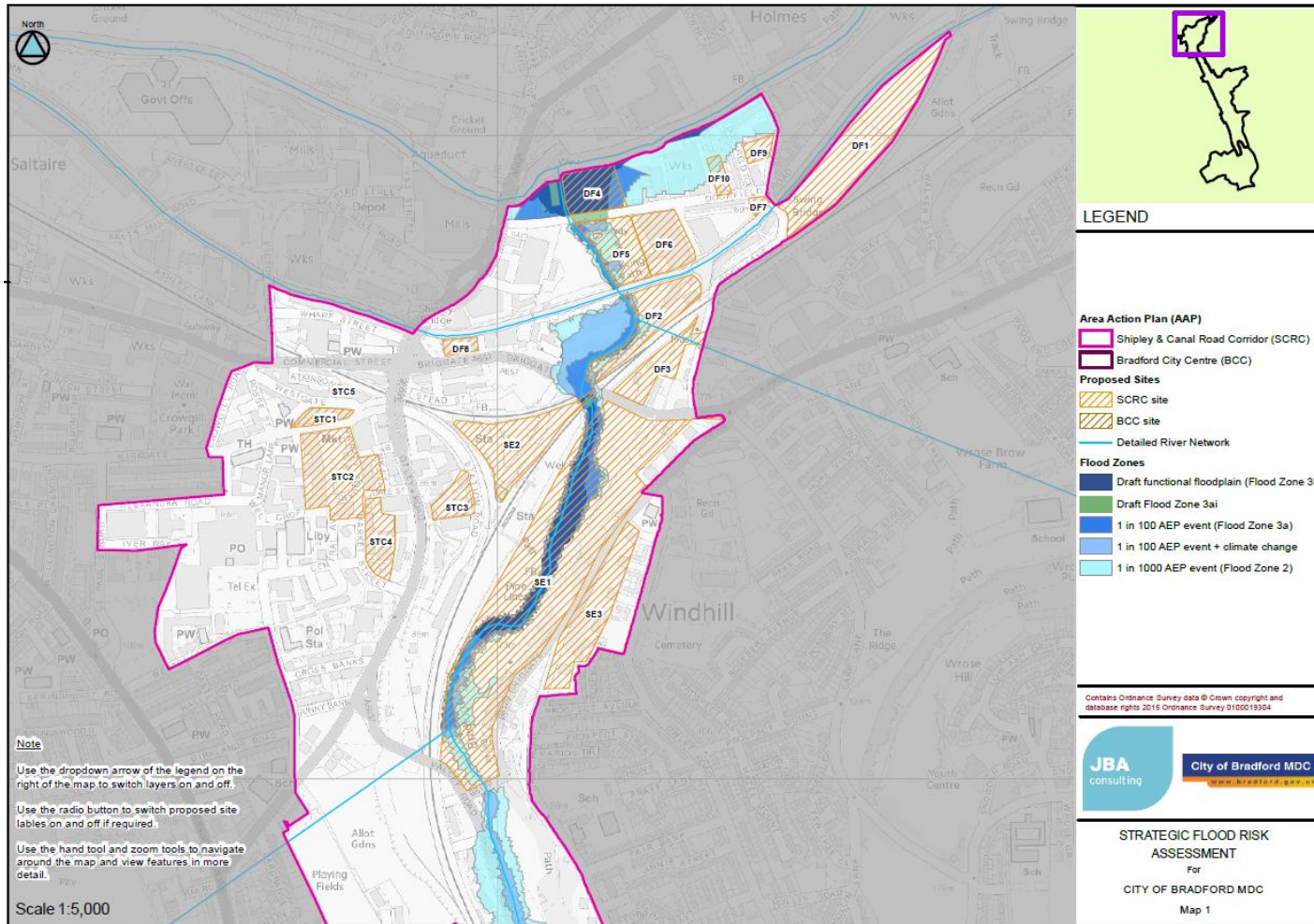
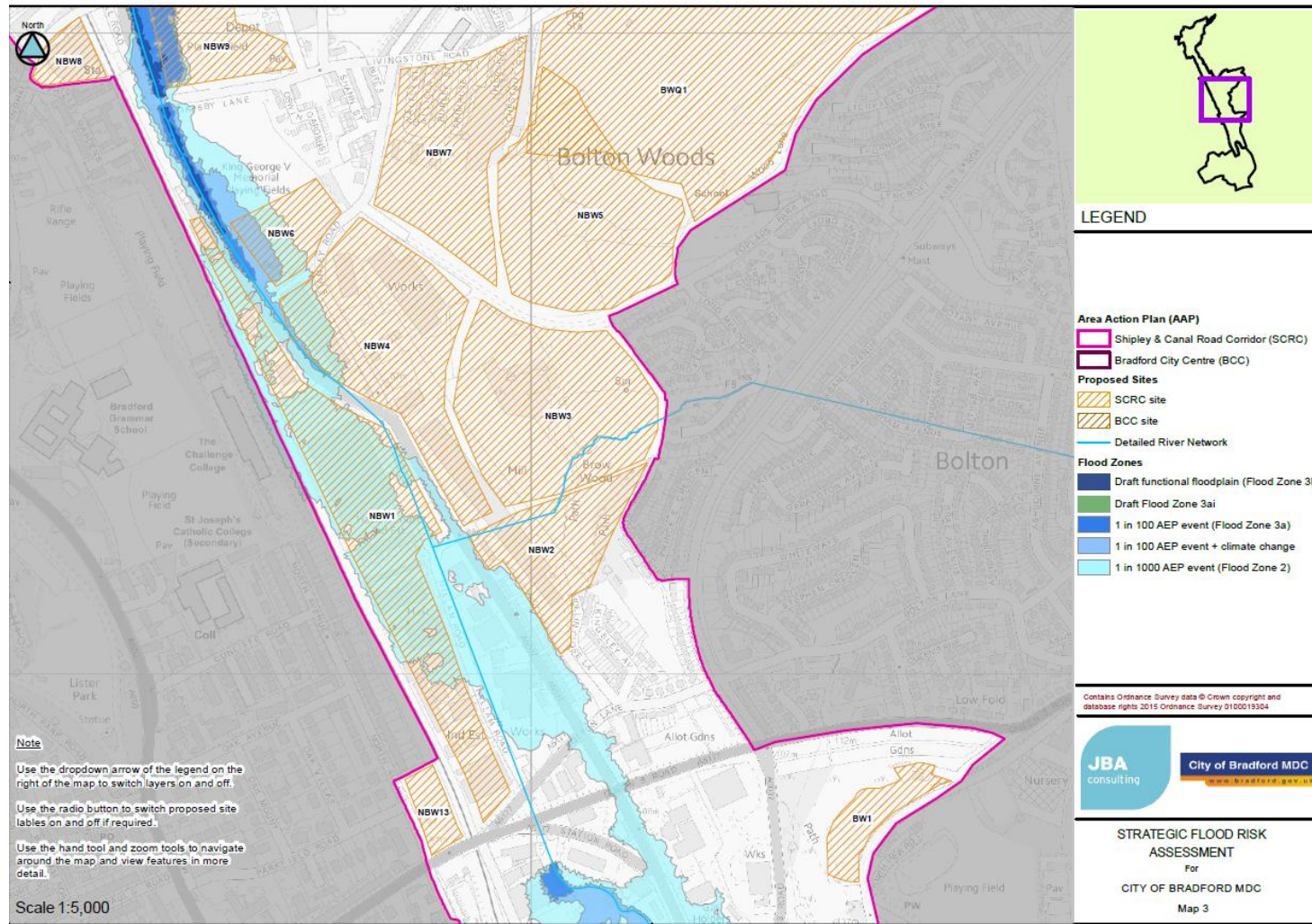


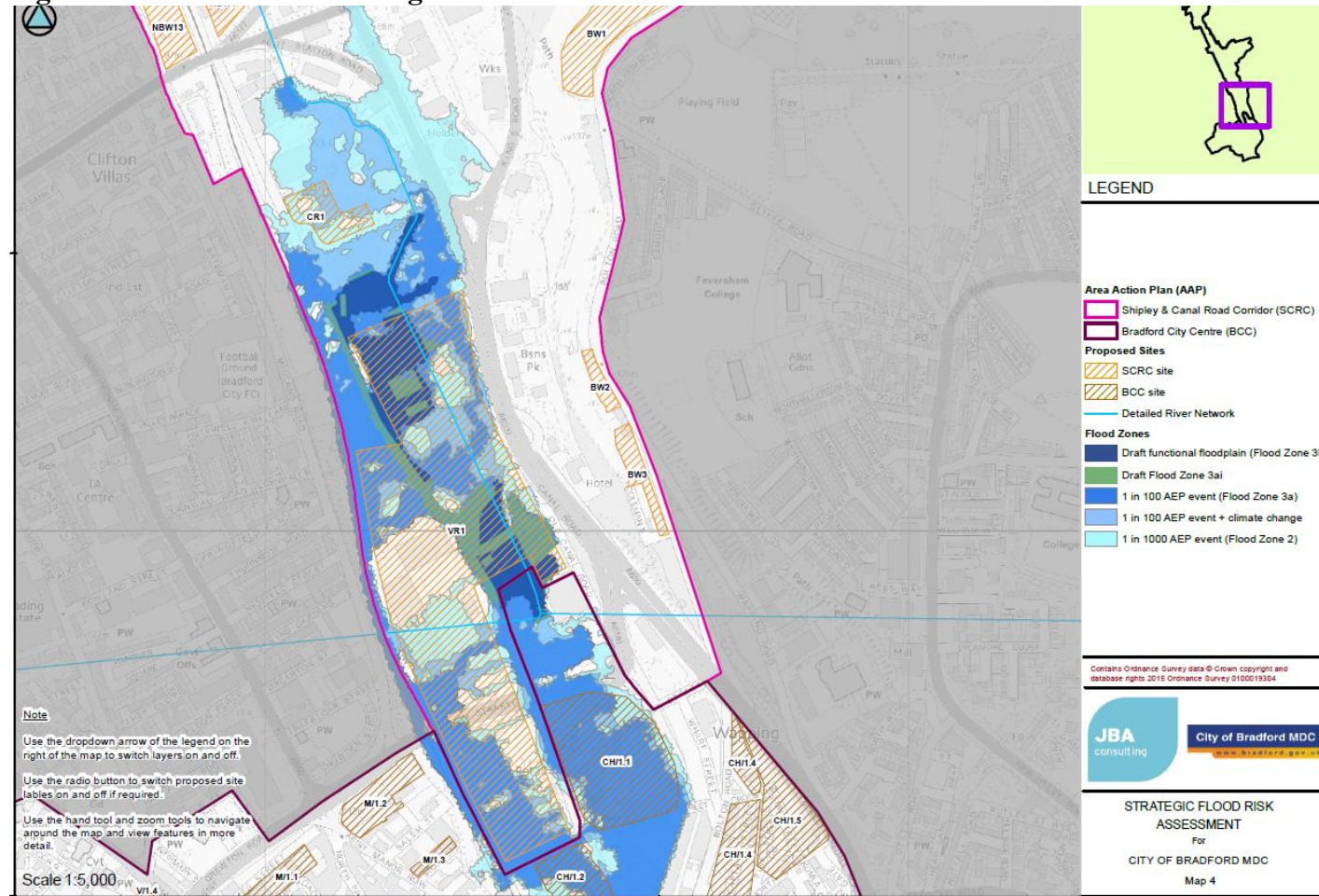
Figure 6.1: Extract from Strategic Flood Risk Assessment Part 2 Flood Zones

Figure 6.2: Extract from Strategic Flood Risk Assessment Part 2 Flood Zones



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Figure 6.3: Extract from Strategic Flood Risk Assessment Part 2 Flood Zones



6.5 Delivery and Responsibilities

The responsibility to tackle fluvial flooding lies with the Environment Agency. Whilst the responsibility to tackle surface water flooding lies with CBMDC, who will have increased responsibility to sign off SUDs through planning applications from April 2015. Yorkshire Water also have an interest in surface water if their assets (sewers) are being used as a means to disposing of surface water.

6.6 Summary of Flood Risk and Drainage Infrastructure

There are no major flood risk issues limiting the delivery of housing and employment sites in the Shipley Canal Road Corridor. A site by site approach to flood risk management will need to be implemented by the developer.

CBMDC are seeking to develop Local SUDS standards, which will be implemented through CBMDC's increased responsibility to sign off SUDs through planning applications from April 2015. The Local Standards will set an area wide approach to managing surface water in the corridor. This is being progressed as part of the SFRA part 2.

There are no known gaps in delivery and funding of flood risk infrastructure.

7 Green Infrastructure, Open Space and Public Space

7.1 Information Sources

This section covers provision of open space, play areas and allotments.

The following sources of information have been used to populate this chapter:

- Bradford Open Space, Sport and Recreation Study (2006).
- A Green Infrastructure study for the Shipley and Canal Road Corridor (2014). The aim of the study is to:
 - Help applicants, developers and planners ensure that proposals for development make the most of potential opportunities to improve existing GI and create new GI for the overall benefit of the Shipley Road corridor;
 - Develop a long term vision and strategic framework to support the delivery of GI across the Shipley and Canal Road Corridor and
 - Help identify of implementation including issues relating to delivery and funding, enabling the economic value of GI assets to be incorporated into the decision making process.
- A joint green infrastructure and sports meeting was held with CBMDC's Countryside and Public Rights of Way Officers in June 2014.

It has not been possible to meet with the Council's Allotments Officer however an understanding of allotment provision has been gained through discussions with the Countryside and Public Rights of Way Officers.

7.2 Current Issues and Fitness for Purpose

7.2.1 Green Space in the Shipley and Canal Road Corridor

The Council's current district-wide Open Space, Sport and Recreation Assessment was completed in 2006. There is therefore a need to update the Assessment in order to reflect changes to the open space stock occurring district-wide in the intervening 8 years. CBMDC is currently considering to update the Open Space Assessment in the next few years. The 2006 study and dialogue with CBMDC Officers has confirmed that the Shipley and Canal Road area records a deficit of both formal play space and open space. This is set out in the 2006 report and no significant new provision has been provided in subsequent years, although the newly opened Greenway running parallel to Canal Road, has created some additional usable open space.

Through discussions with CBMDC officers it was confirmed that much of the informal amenity space created within new development schemes is of a high quality, but generally it is often poorly located in terms of accessibility, especially when viewed in relation to proposed new housing sites.

The Shipley and Canal Road Corridor Green Infrastructure Study categorised the Green Infrastructure in the Corridor into a typology within the Green Infrastructure Study, as shown on Figure 7.1.

553 Green Infrastructure assets were mapped totalling approximately 128.21ha out of a total of 262.61 ha. This equates to 48.8% which indicates that the corridor is therefore relatively well covered by existing Green Infrastructure assets.

Natural and semi natural space makes up approximately 50% of the GI asset area (65ha). These are found along the eastern boundary of the corridor where steep topography has limited development.

Greenspace accounts for over 21ha (16%) of the GI asset total area. Such areas are often referred to as 'green deserts' in that there are again few or no paths or basic facilities and yet the way in which they are managed means there is also very little habitat present. That said, they can form an important part of community facilities such as informal meeting and 'kick about' areas. Such areas are found throughout the SCRC, particularly around public housing and other buildings.

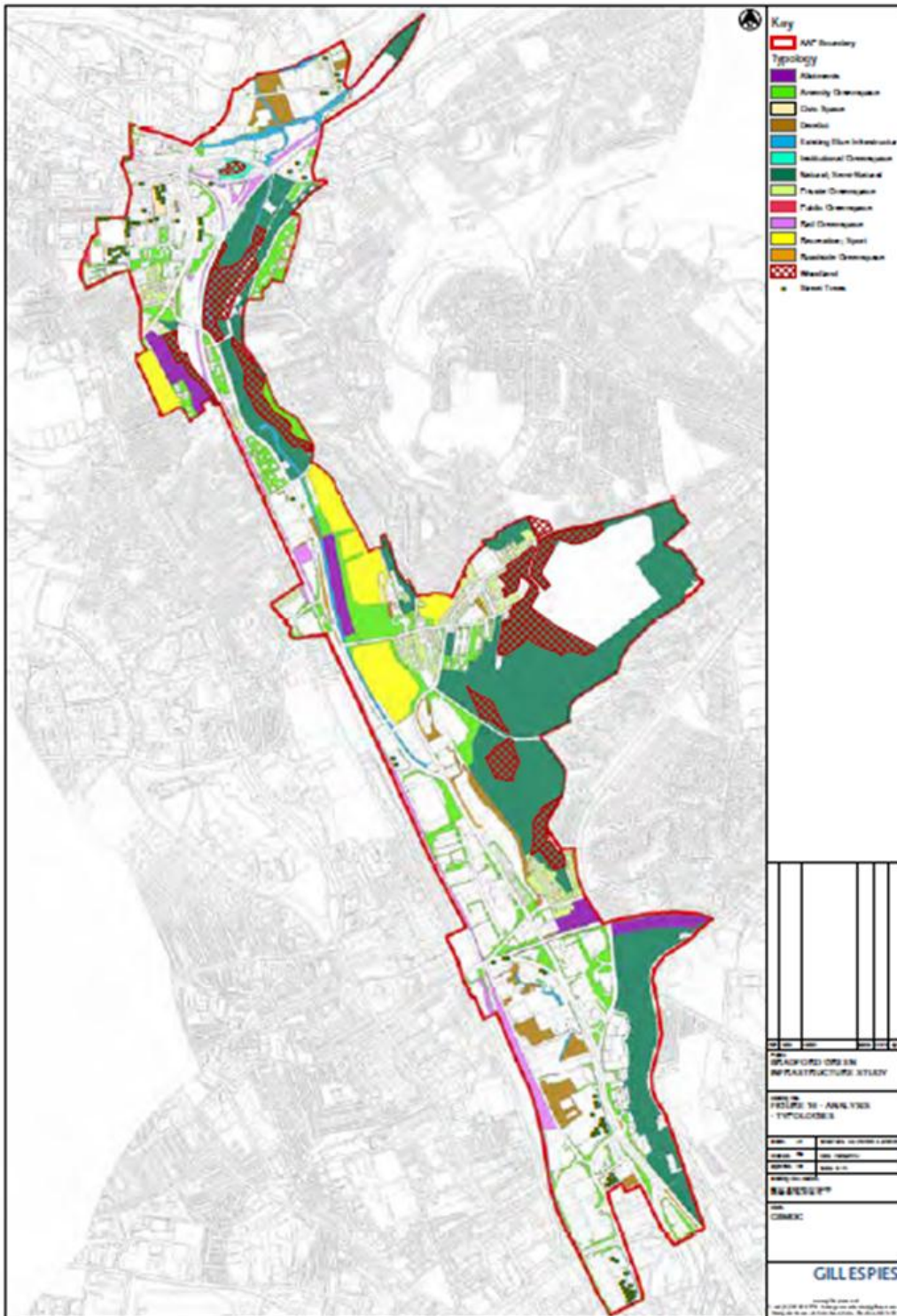
There are a relatively large number of allotments located within the SCRC, occupying almost 6ha (5%). One of those allotments located to the east of Frizinghall Station has been found to lie on contaminated ground and will therefore shortly cease to be allotments, creating potential to enhance its value as a GI asset.

Private greenspace accounts for just over 6ha. The value of private gardens should not be undervalued as these can often provide an uninterrupted link across large areas. The SCRC currently has a relatively low number of residential gardens. However, future residential development will increase this type of asset.

Public greenspace is limited to one small (0.16ha) area, this being a small section of Shipley Central Park, only the very eastern extent of which is included within the corridor boundary and should therefore effectively be discounted.

There is also one notable civic space identified, that being Shipley's market square which occupies an area of approximately 0.75ha.

Figure 7.1: Green Infrastructure in the Corridor



7.2.3 Green space outside the Corridor

The Green Infrastructure Study notes that the Shipley and Canal Road Corridor benefits from a number of formal and informal green spaces large parks located within easy reach of the corridor boundary, including:

- Lister, Peel.
- Northcliffe.Park.
- Roberts Park.

These large parks are amongst the green space which are more likely to be accessed by sustainable transport (walking or cycling) than by private transport. It is therefore important to consider sustainable transport links to these parks from within the corridor. There are further large areas of informal green spaces which link the corridor directly to open countryside.

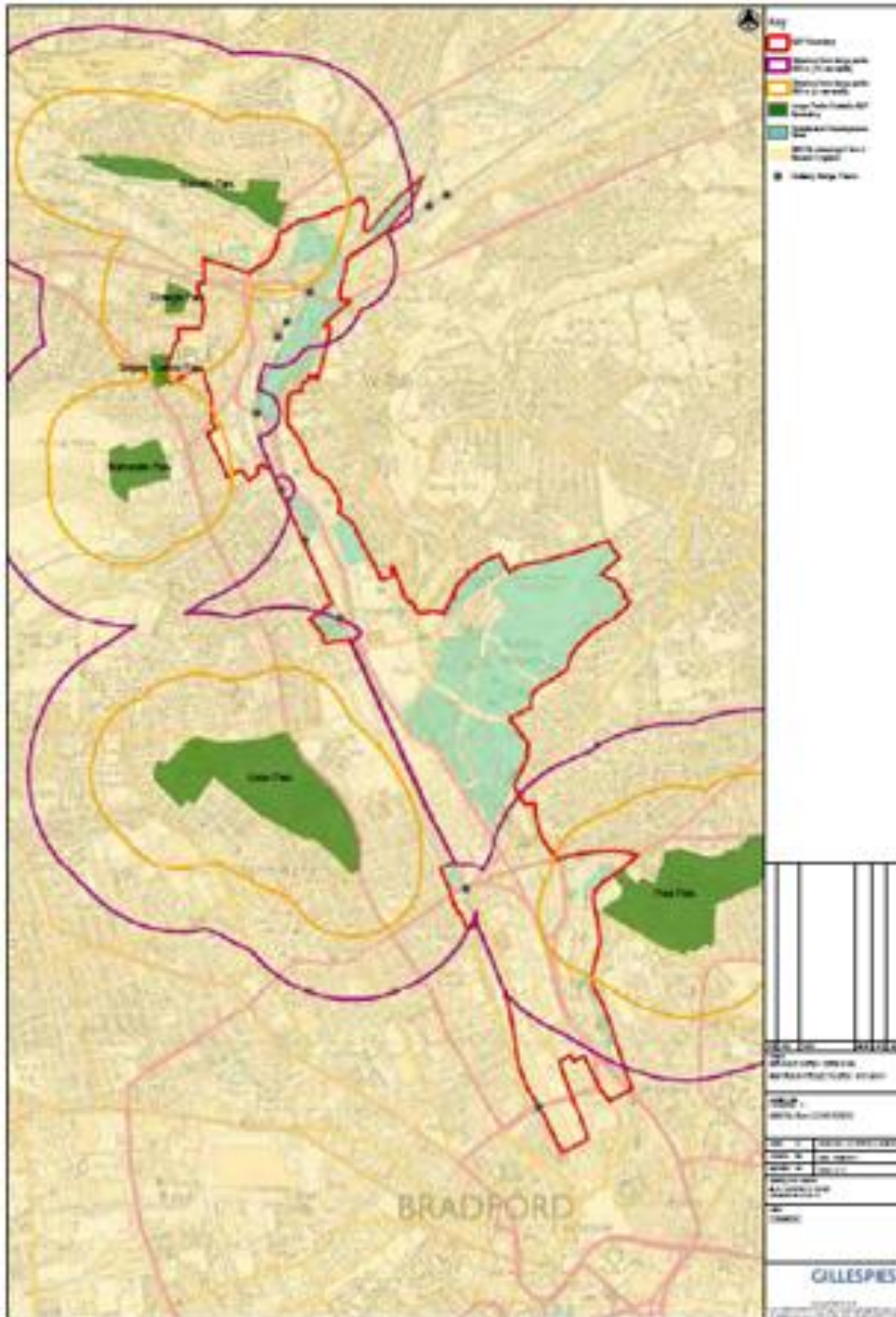
To the north east, green space in and around Windhill links the corridor to Green Belt which separates Bradford from neighbouring Leeds.

To the west, blocks of informal woodland intersperse the more formal Northcliffe Park and neighbouring golf courses, this Green Infrastructure stretching to the west and again joining directly to open countryside.

To the north, often wide belts of Green Infrastructure pass in and around the settlement of Charlestown, linking the corridor directly to the open countryside to the north and ultimately to the Dales.

Figure 7.3 also illustrates 300m and 600m buffers to illustrate those areas in 5 and 10 minute walking distances from the parks. These 'buffers' have been modified to reflect the fact that access is often restricted by the location of links across the railway. Figure 7.3 therefore illustrates that, whilst there are a large number of formal, high quality green spaces within a 10 minute walking distance of much of the corridor, there is a distinct lack of coverage to the central section of the corridor, particularly to the east. There is also a small area to the south of the corridor although this is predominantly in employment use and therefore proximity to large formal green space is less of an issue.

Figure 7.3: 300m and 600m buffers around Large Parks



7.2.4 Allotments

There are three allotments within or very close to the Shipley and Canal Road Corridor AAP boundary, including:

- Red Beck, Shipley.
- Bolton Lane, Bradford.

- Queen Road, Bradford.

CBMDC does have a waiting list for allotments. However CBMDC are currently working to fully utilise the allotments in Council ownership and bring unused allotments back into use. There is therefore potential for new Shipley and Canal Road Corridor residents to access allotments across the District.

7.3 Planned Schemes

7.3.1 Proposals

CBMDC has no plans to provide any new open space in the Shipley and Canal Road Corridor. However there are plans to complete the greenway, which currently finishes at Queen Street and does not provide access to the City Centre. This scheme hit funding issues when the contamination levels at the Frizinghall Allotments meant that funding could not cover the required costs of remediation. CBMDC are currently investigating funding options to decontaminate the Frizinghall Allotments and continue the greenway to the City Centre.

The New Bolton Wood Scheme seeks to provide new cycleways and link to the existing greenway along the route of Bradford Beck.

The Green Infrastructure Study identifies recommends the following interventions. They will be considered through the next draft of the Shipley and Canal Road Corridor Area Action Plan.

Project 1: The Eco-Settlement Park: The Eco-Settlement park would comprised of a collection of formal green spaces at the heart of the corridor. The location of the Eco-Settlement park would take advantage of the collection of existing green infrastructure assets located broadly to the west of Bolton Woods Quarry. These GI assets are currently comprised of playing fields, disused allotments, amenity grassland and woodland, all located along the route of the canalised Bradford Beck.

Project 2: The Dales Way Link Park: A series of informal green spaces accompanying the Dales Way Link which provides a more tranquil alternative to the 'The Greenway'.

Project 3: The Greenway: The GI strategy builds upon the AAP vision for the Greenway. The aim is for it to become a green route, utilising existing GI assets to keep the route off main roads where at all possible.

Project 4: Habitat Highways: The railway, Bradford Beck and Canal road become 'Habitat Highways' through the use of existing and proposed GI assets and through the increased use of SUDs. Additional east-west links are created, further strengthening the network. These 'Habitat Highways' are managed to facilitate habitat creation and the mobility of species into the wider GI network.

Project 5: Pedestrian/Cycle: Links Safe, attractive and legible pedestrian and cycle links promote connectivity which can be a significant factor in the successful regeneration of the corridor. These links connect key areas and assets

such as the Leeds-Liverpool Canal / River Aire gateway, the Eco- Settlement and its park, Shipley and the City Centre, informal greenspace and formal large parks outside of the corridor and numerous local facilities such as schools, community and recreational amenities. Legible, safe routes, made attractive by existing and new green infrastructure assets are key to the success of such a sustainable travel network.

7.4 Impact of Development Proposals

Natural England's Accessible Natural Greenspace Standards make recommendations as to the distances in which green space should be accessible by sustainable means, i.e. walking, cycling or public transport. Those standards recommend that there is good quality green space of at least 2 hectares in size, no more than 300 metres (5 minutes walk) from home and at least one accessible 20 hectare site within two kilometres of home.

The Green Infrastructure Study concludes that there is a range of good quality formal large parks in the area and whilst the corridor is well covered in relation to access to informal, more natural green space, a large proportion of the corridor lacks easy access (10 minutes walking distance) to good quality formal public open space. This gap in provision coincides with the location of the Bolton Woods Masterplan and Bolton Woods Quarry development sites.

The general approach to green infrastructure and open space fostered by CBMDC is to either seek financial contributions towards improving existing open spaces or to seek on-site open space provision if the site is sufficiently large. CBMDC confirmed there are known issues regarding maintenance of open space when provided by the developer on site. To mitigate this impact, CBMDC will seek to request revenue funding for on-site open space or require a maintenance contractor to provide ongoing maintenance for the open space.

Shipley East (SE1): This site has an extant planning consent for a supermarket, residential development and other uses. This includes a linear footpath or play area to serve this development.

New Bolton Woods (NBW 2,3,4,5,6,7): The main open space contribution within the corridor is set to be delivered at the New Bolton Woods site. Through discussions with CBMDC it was confirmed that a planning application for residential development is currently being determined by CBMDC. It is expected that the developer will provide and maintain its own open space provision in the form of a natural on-site linear park. Although the final provision is being agreed through the planning application, there could be the scope to accommodate some on site play space provision which could contribute towards partially rectifying some of the identified deficit.

In terms of green infrastructure, CBMDC has carried out a series of improvements to the woodland near the site identified as NBW9. Officers confirmed that the development as planned will not impact upon these improvements.

Bolton Woods Quarry (BWQ): The Bolton Woods Quarry site offers the potential to provide mountain bike/rock climbing type facilities as part of the site's wider redevelopment, aligning with the current national emphasis on providing for these types of opportunities in cities to ease pressure on the rural environment.

7.5 Delivery and Responsibilities

The delivery of open space and play areas is generally the responsibility of CBMDC, potentially using a range of funding streams including developer contributions (S106) and other funding streams (e.g. Heritage Lottery Funding).

7.6 Summary of Green Infrastructure, Open Space and Public Space

In summary, the Shipley Canal Road Corridor Green Infrastructure study finds that:

- Almost 50% of the SCRC is comprised of GI assets making this a very 'green/blue' corridor.
- Natural/semi Natural Greenspace accounts for almost 50% of those GI assets with a further 16% being Amenity Greenspace. There is no formal public open space.
- There are a large number of both formal and informal green spaces outside of the corridor boundary, which the SCRC GI network has the potential to link into. This includes a number of regionally and sub-regionally important GI corridors as identified by Natural England.
- A large proportion of the corridor lacks easy access (10 minutes walking distance) to good quality formal public open space. This gap in provision coincides with the location of the Bolton Woods Masterplan and Bolton Woods Quarry development sites.
- The corridor has strong existing north-south links and there is potential to create further strong east-west links. All of these links could connect to wider GI assets located outside of the corridor boundary.

The Green Infrastructure Study and the Council's Open Space, Sports and Recreation Assessment dating from 2006 recognises that there is a deficiency in open space provision across the Shipley and Canal Road corridor. Whilst the formal Assessment is now somewhat dated and will need updating ahead of the Core Strategy examination, local knowledge confirms that little has changed across the corridor since in the intervening years. Despite this, and reflecting the need to update the audit, there has been some new additions to the total stock of open space including the Greenway.

There are no immediate plans for new open space provision; however planned developments at New Bolton Woods, Bolton Woods Quarry and Shipley East offer the potential to create new, on-site, provision within the AAP boundary. Whilst in isolation these net additions will not rectify existing deficiencies, they will ensure that the planned increase in population brought by the large scale housing schemes does not result in further escalating open space deficiencies.

CBMDC has historically sought contributions for open space provision off site. However going forward, and in light of ever increasing budget constraints, it is likely that on site provision for large scale sites will be a preferable approach.

Whilst there is limited open space and play area provision in the AAP boundary. Lister Park is located just outside the AAP boundary and provides accessible

Green Space. Therefore whilst additional open space is required there are funding sources in place and therefore no gap in funding.

8 Playing Pitch and Sports Provision

8.1 Information Sources

This section covers provision of playing pitches and sports provision.

The following sources of information have been used to populate this chapter:

- Playing Pitch Strategy and Assessment Report (produced by Knight, Kavanagh and Page, December 2014)
- A joint green infrastructure and sports meeting was held with the Council's countryside and rights of way team in June 2014.

It has not been possible to meet with the Council's Allotments Officer however an understanding of allotment provision has been gained through discussions with the Countryside and Public Rights of Way Officers.

8.2 Current Issues and Fit for Purpose

Paragraph 73 of the NPPF requires planning policies to be based on 'robust and up-to-date assessments of the needs for open space, sports and recreation facilities and opportunities for new provision'. These assessments should 'identify specific needs and quantitative or qualitative deficits or surpluses of open space, sports and recreational facilities in the local area'.

Knight, Kavanagh and Page produced the Playing Pitch Strategy for Bradford Metropolitan Borough Council (November 2014), which seeks to provide a clear, strategic framework for the maintenance and improvement of existing outdoor sports facilities and ancillary facilities between 2014 and 2021. This document builds upon the September 2011 'Strategy for Sport and Physical Activity in the Bradford district 2011-2015' by providing a detailed audit of playing pitch provision within the Bradford District, including assessment of need, demand and fitness for purpose.

The PPS has been agreed by Sports England and the sport National Governing Bodies (NGBs). The strategy utilises Sport England's Facilities Planning Model (FPM) to analyse gaps in sports provision by individual sport. FPM data is sufficiently detailed to allow the assessment of sports halls, swimming pools, and artificial grass pitch provision. Data can be viewed at levels up to and including census Output Areas.

Using the detailed audit within the PPS, it is possible to assess the levels of deficit for each type of provision. As the Knight Kavanagh and Page Playing Pitch Assessment is completed on a 'Strategic Area' basis, which does not align with the extent of the AAP, a balanced judgement of provision within the boundary has been considered. For this reason also, it is useful to reflect capacity and quality issues within the context of provision across the wider District.

Football

Although the Council owns the majority of sites within the District, there are a number of pitch providers, including academies, colleges, private sport clubs and

Bradford University. The Bradford District FA have identified that the quality of ground maintenance has significantly reduced across the District.

A number of clubs (40) across the district report plans to increase the number of teams they provide. The PSS Assessment Report identifies that the largest number of active teams play in Shipley, and area which has significant levels of mini-football teams and also the largest number of junior teams.

AAP Summary: Carlton Bolling College, Challenge College, Derek Ogden Memorial Playing Fields, King George V Playing Fields and Northcliffe Park, are within or neighbouring the AAP boundary. These pitches are operating at or below capacity. The changing rooms at the King George V Playing Fields are considered to be in need of significant improvement and ongoing maintenance.

Bradford District Overview: Overall there is considered to be a deficit of football pitches across most analysis areas, and there is no surplus across Bradford for adult match equivalent sessions at peak time.

Cricket

Clubs playing on local authority pitches highlights that the standard of cricket pitches is generally adequate for the level and standard played within the District. For the wider Bradford District, the Playing Pitch Strategy objective requires the 'meeting of unmet demand for access to additional pitches and work to increase the quality of existing provision. Demand for Cricket across this wider area is very strong, with 192 senior teams and 147 junior teams.

AAP Summary: Community provision at Bradford Grammar is considered to be of a Standard Quality and there is spare capacity at this site. The King George V Playing Fields provision is considered to be poor, however have no spare capacity, and Northcliffe Park provision is considered to be of a poor quality which cannot accommodate further play. Bradford Grammar provides a standalone non-turf wicket.

Bradford District Overview: Overall there is a deficit of cricket pitches across all analysis areas, with the greatest levels of overplay in Bradford West, Keighley and Shipley. Future demand for six grounds as well as latent demand leads to a shortfall citywide of 25.2 grounds, of which the greatest shortfall is 6.7 grounds in the Shipley Analysis Area (north of the AAP area).

Rugby

In total, there are 31 rugby union pitches located across 12 sites in Bradford. Of these, 20 pitches are available for community use. The Playing Pitch Strategy identifies that the objective for rugby union comprises 'working towards meeting identified current and future deficiencies and increase quality as required'.

With regard to Rugby League, there are 37 dedicated rugby league pitches in Bradford across 27 sites. Of these, 33 pitches are available for community use and four senior pitches are not available for community use. The Objective for Rugby League within the Playing Pitch Strategy is to 'work towards improving the quality of provision and reduce levels of overplay'.

AAP Summary: There are three senior union pitches available within the Shipley and Canal Road Corridor at Bradford Grammar. This provision is considered to be of a 'good' quality, however an assessment of capacity cannot be undertaken as these pitches are currently unavailable for community use. Bradford Salem RFC is nearest provision located outside the AAP boundary. The club is identified as having no spare capacity for training, and reports a need for additional changing facilities for women and access improvements.

There is no Rugby League provision within the Shipley and Canal Road Corridor.

Bradford District Overview: Eight rugby union clubs operate in Bradford which amounts to a total of 58 teams across the District. There are no actual reports of unmet demand or displaced demand within Bradford, however the Playing Pitch Strategy Assessment indicates that there is an additional need to accommodate 15 match equivalents from latent and arising future demand. Identified levels of overplay can be attributed to training sessions taking place on match pitches.

The Playing Pitch Strategy Assessment Report identifies that the majority of rugby league pitches and their ancillary facilities in Bradford are rated as 'poor' quality and 30% are rated as standard. Based on latent and future League demand within Bradford, there is a large deficit of 18 match equivalent sessions.

Hockey

There is a total of six clubs within Bradford with 45 respective teams. Supply constitutes nine full-sized sand-based AGPs, of which almost all are located on education sites. The objective for hockey provision within the Playing Pitch Strategy is to 'maximise access to existing provision and work towards improving the quality of existing provision'.

AAP Summary: Bradford Grammar represents the only Hockey provision within the AAP area which the site assessment work rates as being of a 'good' standard. There is extensive use by both the Bingley Bees Hockey Club and the Ben Rhydding Hockey Club for training and hockey matches. This provision is also extensively used for football, resulting in little spare capacity at peak time.

Bradford District Overview: There is a lack of capacity on current provision in Keighley to accommodate existing demand (both unmet and displaced) expressed by Ben Rhydding Hockley Club. Airedale Hockley Club reports that if it had access to additional pitches, that is could field an additional two senior and three junior teams.

Bowls

There are 62 Bowling greens within Bradford which cater for a total of 46 clubs. Bowling Green distribution is evenly spread throughout Bradford. The Playing Pitch Strategy Objective for Bowls in Bradford is to 'maximise access to existing provision and work towards improving quality'.

AAP Summary: There are five bowling green sites within, or neighbouring, the boundary of the Area Action Plan Area; four of which are Local Authority owned. All of the Greens within the AAP area are assessed as good or excellent quality, and capacity is considered to be as follows:

- Peel Park (neighbouring the Area Action Plan boundary) requires the use of two greens as they have three teams competing on Monday and Saturday leagues. The third Green is rarely used.
- It is likely that one Green at Lister Park (neighbouring the Area Action Plan boundary) can accommodate all play at the site.
- Crowghyll Park (neighbouring the Area Action Plan boundary) could accommodate additional members.
- Northcliffe Park (within the Area Action Plan boundary) is currently used by Shipley BC and could accommodate use by Crowghyll BC.
- The Shipley Club (within the Area Action Plan boundary) is a private club which is currently used by four teams in Wednesday league. The Green is nearing capacity.

Bradford District Summary: All Greens, excluding the Lido Bowling Green, are considered to be of good or excellent quality. The Playing Pitch Strategy assessment identifies that through consultation it is considered that there is some capacity on the majority of Bowling Greens in Bradford. A green may have no spare capacity on an afternoon/ evening when a popular league is operating but may be empty for the rest of the week.

8.3 Planned Schemes

Although lying beyond the boundary of the Shipley and Canal Road Corridor AAP, CBMDC has confirmed that they have an aspiration to deliver a new 25 metre swimming pool in Bradford City Centre. A potential site has been identified at Britannia Street Mill and Car Park in the south of the City Centre. CBMDC are currently investigating funding options for the swimming pool and potential for other leisure uses to complement the swimming pool (e.g. a gym).

Crucially this will be within a 20 minute drive time as recommended by the Amateur Swimming Association (ASA), swimming's NGB in the UK. This will equate to an improvement in terms of both quality and quantity and accessibility of sports infrastructure across the AAP area.

Discussions with CBMDC officers confirmed that high proportion of available sports pitches are over played. CBMDC are progressing a District wide Sports Facilities Strategy to reconsider swimming pool, sports centre provision and playing pitch provision. This may include closing services and opening new services.

To date separate reviews of the below provision has been carried out:

- swimming provision and the supply of swimming facilities.
- sports halls.
- sports pitches.

The District wide Sports Facilities Strategy will be informed by the Facilities Planning Model, which seeks to assess whether the capacity of existing facilities for a particular sport is capable of meeting local demand for that sport, taking into account how far people are prepared to travel to such a facility.

The findings from these reviews and a strategy for future sports provision will be reported in the single Sports Facilities Strategy.

8.4 Impact of Development Proposals

The emerging Sports Facilities Strategy will provide an indication of the future strategy for sports facilities in the District. Section 13 includes a proforma setting out infrastructure requirements per strategic site allocation. The main findings are set out below.

ShIPLEY East (SE1): There is no formal sports provision in ShIPLEY. However this site is not large enough to provide any sports provision on site and a commuted sum would be sought to improve provision elsewhere. There is an extant planning consent for this site, for a supermarket and residential development.

New Bolton Wood (NBW 2,3,4,5,6,7): As identified earlier, plans for New Bolton Woods may result in the loss of the King George Playing Pitches. The planning application for the New Bolton Woods includes the provision of a 3G sports pitch on the King George Playing Pitches. CBMDC Officers have been engaged with the developer in considering options for mitigating their loss, including developing an option to create playing pitches on the Wrose Wreck Recreation Ground.

Bolton Woods Quarry (BWQ): The Bolton Woods Quarry site offers the potential to provide mountain bike/rock climbing type facilities as part of the site's wider redevelopment, aligning with the current national emphasis on providing for these types of opportunities in cities to ease pressure on the rural environment.

Section 13 of this report includes site proformas detailing infrastructure issues for the larger sites in the ShIPLEY and Canal Road Corridor.

8.5 Delivery and Responsibilities

Overall delivery responsibility for playing pitches, like open space, will ultimately rest with CBMDC, however there will be an on-going role through negotiation for developers to contribute towards providing playing pitches either on site, as could be appropriate at large scale strategic sites, or off site within the immediate locale.

The playing pitch strategy should be utilised as a tool to guide the appropriate siting of new playing pitch provision to meet the needs of the overall district. CBMDC can potentially access a range of funding streams including developer contributions (£106) and other funding streams (e.g. Sports England or Football Foundation funding). Private sector sports provision also has a role to play in providing sports facilities; however private facilities can have higher costs than council run facilities.

8.6 Summary of Playing Pitch and Sports Provision

Based on the Playing Pitch Strategy the ShIPLEY and Canal Road Corridor does lack playing pitch and sports provision. However residents have the opportunity to access playing pitches across the City.

New developments would be expected to contribute towards improving existing sports provision or providing new provision through developer contributions.

CBMDC are currently developing a District wide Sports Facilities Strategy, which will consider the full Council provision of facilities across the District.

There are no known gaps in delivery and funding of playing pitch and sports provision.

9 Community and Cultural

9.1 Information Sources

This section considers the following community and cultural facilities

- Museums and Galleries.
- Libraries.

The following sources of information have been used to populate this chapter:

- A brief discussion with CBMDC's Museums & Galleries Manager and the Council's Assistant Director Culture, Tourism and Commercial Services.
- The emerging CBMDC Cultural Strategy.
- It has not been possible to arrange a meeting with the Council's Libraries Officer, however libraries were briefly discussed with the Council's Assistant Director Culture, Tourism and Commercial Services.

9.2 Current Issues and Fit for Purpose

9.2.1 Museums and Galleries

The majority of the Bradford Districts museum and gallery provision is in Bradford City Centre. The Shipley and Canal Road Corridor has excellent access to Bradford City Centre by rail or private car. This means residents can readily access the amenities in the City Centre.

There are two museums that are located just outside the boundary of the Shipley and Canal Road Corridor Area Action Plan boundary. They are:

- Cartwright Hall is a civic art gallery located in Lister Park.
- Salts Mills and the wider Saltaire World Heritage Site.
- Bradford City Football Stadium at Valley Parade.

CBMDC are working within an environment of public sector funding constraints. This limits what they are able to fund in relation to new museum and galleries. This means CBMDC are seeking to focus their efforts and attempting to influence private or community spending to achieve the required outcomes.

9.2.2 Library

There are no libraries within the Shipley and Canal Road Corridor. However there are a number of libraries that are accessible in Central Library in the City Centre, Eccleshill, Shipley, Manningham and Wrose.

9.3 Planned Schemes

There are no planned community and cultural schemes.

9.4 Impact of Development Proposals

The Shipley and Canal Road Corridor is well served by community and cultural facilities in Bradford City Centre and other cultural provision outside the area action plan boundary.

The existing cultural facilities have capacity for increased usage and private sector provision is an option depending on the cultural services required.

There is no identified gap in community and cultural provision linked to the planned new housing and employment in the Shipley and Canal Road. The planned growth would support the existing offer and attract existing provision.

There is scope for CBMDC to request support for public art through S106 contributions on a case by case basis, if this is deemed appropriate.

9.5 Delivery and Responsibility

The delivery and operation of community and cultural facilities is the responsibility of CBMDC, charity organisations and the private sector.

9.6 Summary of Community and Cultural Infrastructure

Within the district, the current main provision of museums and galleries is in Bradford City Centre. The Shipley and Canal Road Corridor is well served by community and cultural facilities in Bradford City Centre and other cultural provision outside the area action plan boundary.

CBMDC are working within an environment of public sector funding constraints. This limits what they are able to fund and means CBMDC are seeking to focus their efforts and are trying to influence private or community spending to achieve the required outcomes.

There is therefore no gap in the provision of community and cultural facilities.

10 Education

10.1 Information Sources

This section covers the provision of primary and secondary schools.

The following sources of information have been used to populate this chapter:

- A meeting has been held with the Council's Education Team.
- Data on school places provided by the CBMDC Education Department and follow up discussion have been held with the team in June 2015.

10.2 Current Issues and Fit for Purpose

There are currently no primary or mainstream secondary schools within the Shipley and Canal Road Corridor Area Action Plan (AAP) boundary.

The nearest primary schools are:

- Frizinghall.
- Poplars Farm.
- Shipley CE.
- High Crag.

The nearest secondary schools are:

- One in a Million by the Bradford City Football Ground.
- Titus Salt School in Baildon.
- Oasis Academy Lister Park (Challenge College).

The BD2 postcode, which covers the Shipley and Canal Road area, has one of the highest levels of primary school provision shortages in the District. Birth rate patterns show that there is likely to be a significant shortage of secondary school places from 2016 onwards. Whilst this is a district wide issue, the ramifications will also affect the AAP area. The Council normally uses a 5% working surplus; however currently in the District as a whole the surplus is approximately 2%.

10.3 Predicting School Places

The Local Authority (LA) uses data on GP registered children and demographic trends to predict future school provision. There are some caveats to using this data, for example there are uncertainties around high migration groups as some may not be registered with GPs. The registered GP data is considered to be the most accurate way of confirming children in the Bradford District.

The Bradford District experiences a high level of churn amongst its cohort of school children each year, with large numbers both leaving and joining its schools (i.e. moving in or out of the District). Over the last 10 years the number of reception children in Bradford Primary schools has increased from approximately 6,500 to over 8,000. Secondary numbers have increased but by only approximately 600. The demand for places will change as primary numbers work through to secondary ages. It is predicted that there will be a need to expand secondary provision significantly which will be exacerbated by new housing developments

Each year the LA is required to use the GP registered children data to confirm future requirements to the Department for Education (DfE). This can take into account developments with planning consent, but does not consider sites allocated through local plans or the phasing of the sites in local plans. In the last return the LA were asked to confirm the S106 contributions that they had secured and this was then deducted from the total funding received. This funding stream for new school places is called Basic Needs Funding.

The majority of new school places are generated from the existing population living in existing houses. However the LA factors in school places that are predicted to be generated from new housing development sites using an in-house formula for primary and secondary school provision.

The formula can be used to create a cost per required school place, which is requested by CBMDC through a S106 if there is inadequate primary or secondary provision in the vicinity of the proposed development site.

Primary School Provision

The in-house formula for predicting primary school places uses the Department for Education's costs for a school place and assumes 1 to 2.5 children per school year (7 years for primary school places) for every 100 new homes.

Number of school places x number of years at primary school (7) x number of dwellings / 100 (per 100 homes) x cost of a primary school place defined by DfE (£13,345)

Therefore for a 200 unit scheme of 2 and 3 bedroom houses (2 school places per school year for every 100 new homes) the calculation would be as follows:

$$2 \times 7 \times 200 / 100 \times £13,345$$

This results in 28 additional primary school places and a **total contribution of £373,660** or **£1,868 per dwelling** for primary school provision.

The number of school places expected to be generated from different sizes of dwelling is shown in table 10.1 below.

Table 10.1: Predicted Primary School Places

Primary School places	Primary School Places per dwelling
2 bedroom Apartment	1 school place primary school years (7 years) per 100 units
Houses	2 school place primary school years (7 years) per 100 units
Houses with four bedrooms or more	2.5 school place primary school years (7 years) per 100 units

Secondary School Provision

The in-house formula for predicting secondary school places uses the Department for Education's costs for a school place and assumes 1 to 2.5 children per school year (6 years for primary school places) for every 100 new homes.

Number of school places x number of years at primary school (6) x number of dwellings / 100 (per 100 homes) x cost of a secondary school place defined by DfE (£20,110)

Therefore for a 200 unit scheme of 2 and 3 bedroom houses (2 school places per school year for every 100 new homes) the calculation would be as follows:

$$2 \times 6 \times 200 / 100 \times £ 20,110$$

This results in 24 additional secondary school places and a **total contribution of £ 486,640** or **£2,413 per dwelling** for secondary school provision.

The number of school places expected to be generated from different sizes of dwelling is shown in table 10.2 below.

Table 10.2: Predicted Primary School Places

Secondary School places	Secondary School Places per dwelling
2 bedroom Apartment	1 school place secondary school years (6 years) per 100 units.
Houses	2 school place secondary school years (6 years) per 100 units.
Houses with four bedrooms or more	2.5 school place secondary school years (6 years) per 100 units.

10.4 Planned Schemes

The LA continually monitor take up of school places. There are currently no new schools planned within the corridor.

10.5 Impact of Planned Growth

10.5.1 Overview

There is some limited primary school capacity at Primary Schools that could serve the Shipley and Canal Road Corridor. However if the proposed new housing sites attract families to the Shipley and Canal Road Corridor there will be a requirement to provide additional primary school provision.

Discussions with the Local Authority Education Department has confirmed that there is an acute need for additional secondary school places to serve both planned new housing in the Shipley and Canal Road Corridor, the City Centre and the wider District.

CBMDC are currently exploring options for a new secondary school location in the Shipley and Canal Road Corridor or City Centre. A new secondary school in this location would absorb the need arising from the planned development forecast in the Shipley and Canal Road Corridor AAP and it would also be capable of satisfying some of the demand arising across the rest of the District good transport linkages to corridor and City Centre. There is also potential for a 'through school' to be provided to serve ages 5 to 18 year olds.

Section 13 includes a proforma setting out infrastructure requirements per strategic site allocation. The main findings are set out below. The remaining strategic sites have not been assessed as open space requirements only directly relate to proposed residential allocations.

Shipley East (SE1): Shipley East is currently not accounted for in provision requirement calculations that the LA sent to DfE. This is because the planning application was approved after the return was made to DfE. It will be included in the next return and contribution from the developer would be requested. The planning application included approximately 100 new dwellings. The nearest primary schools are Shipley CE and High Craggs. There is limited capacity in these schools. It was noted that a new secondary school in the City Centre could provide the necessary capacity for this site, but there were other secondary schools in the vicinity. However it was noted that new housing developments in Fagley area would impact on the Titus Salt School's capacity in Baildon.

New Bolton Woods (NBW 2,3,4,5,6,7):

Poplars Farm is currently the nearest primary school to New Bolton Woods, with Oasis Academy at Lister Park, and St. Joseph's (a religious school) being the nearest secondary schools. Through dialogue with the LA it has been confirmed that all the schools in the vicinity have limited capacity. As a significant development in the corridor, the New Bolton Woods site will be expected to make contributions through Section 106 towards education provision

Bolton Woods Quarry (BWQ): Bolton Woods Quarry is currently not accounted for in provision requirement calculations that the LA send to DfE. If a planning application is submitted for the Bolton Woods Quarry then, contributions will be dealt with through S106. It was noted that a new secondary school in the City Centre could provide the necessary capacity for this site, but there were other secondary schools in the vicinity.

Poplars Farm is currently the nearest primary school to New Bolton Woods, with Oasis Academy at Lister Park, and St. Joseph's (a religious school) being the nearest secondary schools. Through dialogue with the LA it has been confirmed that all the schools in the vicinity have limited capacity.

10.5.2 Likely New School Places

Approximately 3,059 new dwellings are planned for the Bradford Shipley Canal Road Corridor through the Bradford Shipley Canal Road Corridor Area Action Plan.

Using the CBMDC formula set out in section 10.3 an indication of the likely number of new school places generated by the proposed new housing can be made.

Based on an assumption that 70% of proposed dwellings are houses (under four bed rooms), 15% are 2 bed room apartments and 15% are houses with four bedrooms or more) the new residential development would generate 412 additional primary school places and 353 additional secondary school places.

This is based on the assumption that there is no capacity in the existing schools.

10.6 Funding

The funding to create additional school places through expansion of existing schools is mainly funded through the Basic Need Funding. This is funding received from central government, however it is currently very small and limited to expansion only

In the past there have been additional pots of funding that are provided by central government and the LA. This has included Targeted Basic Need (which was extra funding for the LA based on a predicted increase in school places). This was provided once in 2011 / 2012, but did not create any provision in Bradford City Centre.

In 2011 / 2012, Bradford bid for two new secondary schools through the Priority Schools Building Programme (PSBP) for funding. The bids were unsuccessful although a bid to significantly re-model or re-build four existing secondary schools in the wider District was successful. A second round of PSBP has been announced and the LA plan to submit a bid for this funding. This is more about improving the existing fabric of schools, rather than providing new schools.

Free schools apply for capital funding directly from central government and use this to build their premises. Free schools can request to use Council owned land or buildings, but the funding should still come straight from central government.

S106 provides some income to the LA, however they do not rely heavily on this funding. This is because there is no guarantee of receiving S106 contributions and they are sometimes paid after the provision needs to be provided.

10.7 Delivery and Responsibilities

The responsibility for delivery of additional school provision falls with the CBMDC as the Local Authority.

10.8 Summary of Education Infrastructure

There is a need across the ShIPLEY and Canal Road Corridor for both primary and secondary school places. Whilst a secondary school could be accommodated elsewhere within the district, and not necessarily within the corridor itself, the pressure on primary school places in combination with established provision practices mandate the delivery of a new school within the AAP boundary itself. This is currently set to be addressed through the delivery of a school as part of the New Bolton Woods site.

CBMDC will be able to address future provision needs through either expansion of the existing school stock facilitated by developer financial contributions (i.e. Section 106), or, on the more strategic sites, by negotiation with the developer to make an on-site provision.

CBMDC are currently exploring options for a new secondary school location in the Shipley and Canal Road Corridor or City Centre. A new secondary school in this location would absorb the need arising from the planned development forecast in the Shipley and Canal Road Corridor.

Approximately 3,059 new dwellings are planned for the Bradford Shipley Canal Road Corridor through the Bradford Shipley Canal Road Corridor Area Action Plan. Using the CBMDC formula set out in section 10.3 an indication of the likely number of new school places generated by the proposed new housing can be made.

Based on an assumption that 70% of the proposed dwellings are houses (under four bed rooms), 15% are 2 bed room apartments and 15% are houses with four bedrooms or more) the new residential development would generate 412 additional primary school places and 353 additional secondary school places.

The provision of new schools will be delivered through the following funding mechanisms:

- Priority Schools Building Programme (no funding currently available).
- Basic Needs Allowance (only if allocated by the DfE).
- Developer contributions (S106 or CIL).

11 Health

11.1 Information Sources

This section covers the health provision, including GP surgeries and hospitals.

The following sources of information have been used to populate this chapter:

- A meeting with CBMDC's Director of Public Health.

11.2 Current Issues and Fitness for Purpose

The Shipley and Canal Road Corridor is served by two Clinical Commissioning Groups (CCGs). The area between the City Centre and Shipley is managed by the Bradford City CCG and Shipley is covered by the Bradford District CCG. Health care is funded by GP surgeries receiving a funding allocation for each registered patient. The fund is higher for the under-fives and over 75s and higher still for the over 85s.

The funding of additional GP and hospital provision and its procurement is controlled by the NHS West Yorkshire Local Area Team, whilst the quality of the services provided is the responsibility of the CCG.

Health care is funded by GP surgeries receiving a fund for each registered patient. The fund is higher for the under 5s and over 75s and higher again for the over 85s.

Residents living in a certain area do not need to access their closely GPs surgery. They are able to register with any GP or access hospital facilities in any part of the Country.

It is now accepted that a single GP doctor will have between 1500 – 5000 patients on their books. The level of patients will depend on the needs of the community (e.g. how often each patient comes to the GP).

The GP provision either within the AAP boundary or close to the boundary include:

- The Fountains Hall Medical Centre, Fountain Street.
- Frizinghall Medical Centre, Keighley Road.
- Wrose Health Centre, Kings Road.
- Claredon Medical Centre, Alice Street.
- Manningham Medical Practice, Lumb Lane.
- The Ridge Medical Practice 3, Heaton Road.
- Windhill Green Medical Centre, 2 Thackley Old Road.
- Westcliffe Medical Centre, Westcliffe Road, Shipley.
- Shipley Medical Centre, Alexandra Road.

There are no hospitals in the Shipley and Canal Road Corridor, but the closest hospital is the Bradford Royal Infirmary.

11.3 Fit for Purpose

The Bradford City CCG has a very high demand for primary care. The CCG struggles to attract and retain quality staff. There are issues with the overall quality of the service provided by the CCG and it serves the most deprived population of any CCGs in the country. The CCG have struggled to proactively work on the prevention of disease. This means that they are very reactive to health issues.

The lack of spending on prevention of disease has resulted in the CCG not spending their full budget in the past few years. This has meant that whilst the CCG's budget has increased in the last few years in an attempt to tackle deprivation in the CCG area, the CCG has not received all the funding because of historical underspend.

The Bradford City CCG potentially has a high proportion of unregistered users. These users tend to access emergency care through hospitals rather than GP services. This means the CCG does not receive funding for these people as they are not registered in the area.

Residents living in a certain area do not need to access their closest GPs surgery. They are able to register with any GP or access hospital facilities in any part of the country.

It is now accepted that a single GP doctor will have between 1,500 and 5,000 patients on their books. The number of patients will depend on the needs of the community e.g. how often each patient comes to the GP.

There is a shortfall in NHS dentists in the whole of Bradford, including the City Centre. This shortfall is a concern for the NHS and CCGs because there is a known issue with poor dental health in Bradford. For example NHS statistics show that Bradford children have very poor dental health.

11.4 Planned Schemes

There are no planned improvements to GP, dentistry or hospital provision in the Shipley and Canal Road Corridor.

11.5 Impact of Development Proposals

There are a number of GP providers within the vicinity of the proposed new development on the Shipley and Canal Road Corridor.

The CBMDC Public Health team noted that registered patients in this area will be monitored and additional provision provided as required.

There may also be interest from the existing GPs to provide further services. Alternatively, depending on the total level of new people that register for GP places there may be an opportunity to provide a City Centre GP surgery or GP in the corridor. The mechanism used to decide whether a new facility is required would be the GP surgeries in the surrounding area highlighting capacity issues and potentially offering to operate a facility or highlighting that one is needed. Alternatively existing GPs might raise the issue through the Local Medical Committee.

The NHS West Yorkshire Local Area Team would decide whether funding is provided for a new facility, existing facilities expanded or extra GPs provided.

All the proposed development sites would have adequate access to existing Hospital and Accident and Emergency services and the Bradford Royal Infirmary.

All the proposed development sites within the Shipley and Canal Corridor would have adequate access to existing Hospital and Accident and Emergencies services and the Bradford Royal Infirmary.

Section 13 includes a proforma setting out infrastructure requirements per strategic site allocation. The main findings are set out below.

Shipley East (SE1): The new residential developments at Shipley East could access GP provision in Shipley.

New Bolton Wood: The new residential developments at New Bolton Wood could access GP provision in Shipley, Manningham or Wrose. However there is potential that a health centre could be provided as part of a mix of non-residential uses on this site.

Bolton Wood Quarry (BWQ): The new residential developments at Bolton Wood Quarry could access GP provision in Shipley, Manningham or Wrose.

11.6 Delivery and Responsibilities

The funding of additional GP and hospital provision and its procurement is controlled by the NHS West Yorkshire Local Area Team, whilst the quality of the services provided is the responsibility of the Bradford City and Bradford District Clinical Commissioning Groups (CCGs).

11.7 Summary of Health Infrastructure

Based on discussions with the CBMDC Public Health team it is considered that there is existing GP provision which could provide sufficient initial GP capacity for a growing residential population in the Shipley and Canal Road.

There may also be interest from the existing GPs and to provide further services. Alternatively depending on the total level of new residents that require GP provision there may be an opportunity to provide a City Centre GP surgery or a new GP surgery on the corridor. The mechanism used to decide whether a new facility is required would be the GP surgeries in the surrounding area highlighting capacity issues and potentially offering to operate a facility or highlighting that one is needed. Alternatively the GPs might raise the issue through the Local Medical Committee.

The NHS West Yorkshire Local Area Team would decide whether funding is provided for a new facility, whether existing facilities should be expanded or whether extra GPs should be provided.

All the proposed development sites would have adequate access to existing Hospital and Accident and Emergency services and the Bradford Royal Infirmary.

There is therefore no funding gap for the provision of health services in Shipley and Canal Road Corridor.

12 Larger Sites Information and Analysis

12.1 Summary of Sites

This section provides a detailed appraisal of the infrastructure issues on the larger// strategic proposed site allocations in the Shipley and Canal Road Corridor. The identified sites were agreed with CBMDC at the inception meeting for this commission.

Table 13.1 provides a summary of the strategic/ larger proposed site allocations in the City Centre. The infrastructure issues are then set out by site from section 13.2 onwards.

Table 13.1: Summary of Strategic / Larger Proposed Site Allocations in the Shipley and Canal Road Corridor

Site name	Reference	Capacity
Shipley East	SE1	Approx. 101
Frizinghall Road	NBW2	Known as New Bolton Woods Estimated 1,300 dwellings
Thornhill Avenue	NBW3	
North Bolton Hall Road	NBW4	
Flats East Valley Road	NBW5	
North Queens Road	NBW6	
Bolton Woods Flats	NBW7	
Bolton Woods Quarry	BWQ	Estimated 1,000 dw.

12.2 Shipley East

Site Name and Reference	Site Capacity and Proposed Use
Shipley East (SE1)	Focus as a mixed use development
Current land use	This site is currently an informal green space, with the Bradford Beck running through the middle. There is extensive tree cover on the site A footpath runs through the site connecting Leeds Road and Valley Road. There is an extant planning consent for a supermarket, housing and retail / employment uses on this site.
Known abnormal of development issues	There is potential for contamination on this site, which has been investigated through the consent on the site.
Transport Issues and Requirements	The site is located adjacent to Shipley Railway Station. The current consent on the site includes a blocked up underpass to Shipley Station being reopened to allow residents to have direct access to the railway station. The site has two potential access points, from Leeds Road or the Valley Road end of Crag Road. The extant planning consent includes the delivery of a new roundabout on Leeds Road and the relocation of the former Shipley Library into the development site.

	<p>The extant planning consent includes safeguarding the route of Shipley Eastern Relief Road.</p> <p>The Transport Study (2015) suggests that reconfiguration of the Leeds Road/Crag Road junction will be necessary in order to avoid significant increases in queues and delay. This would form part of any future proposal for this site.</p>
Utility Provision	<p>Electricity: This development is at northern end of the area and the development quanta for this site covers the proposed 101 new residences plus an allowance for the mixed use development. It is understood that the proposed mixed use development may become residential and therefore a demand consistent with approximately 300 homes has been allowed. The total estimated demand from this development site is 872.0KW. The nearest sub-station to this site is Shipley which has about 8MW spare capacity at present.</p> <p>Individually no single development has a load in the Shipley Canal Road Corridor exceeds the capacity of the nearest primary substation to provide it. Collectively the situation changes, resulting in capacity issues.</p> <p>Gas: There are no gas supply issues affecting this site.</p> <p>Water Supply: Yorkshire Water has confirmed that there are no water supply capacity issues affecting this site.</p> <p>Water Treatment: Yorkshire Water has confirmed that the waste water from this site would drain to Esholt. There is adequate capacity in the sewer network and at Esholt Wastewater Treatment Works to provide the necessary capacity for the site.</p> <p>Yorkshire Water would promote surface water drainage solutions on site or into the Bradford Beck, rather than the sewer network.</p>
Telecommunications	<p>Fixed Broadband</p> <p>Four or more 'principal' operators provide broadband services at this exchange. Service in this area has been deregulated.</p> <ul style="list-style-type: none"> - BT Wholesale - O2 - Sky - TalkTalk <p>Mobile Broadband</p> <p>Three – 4G indoor and outdoor EE - 4G indoor and outdoor O2 - 4G indoor and outdoor Vodafone - indoor and outdoor</p>
Flood Risk and Drainage issues	<p>Part of this site is located in Flood Risk Zone 3 and is at risk of flooding from the Bradford Beck.</p> <p>The extant planning consent includes measures to reduce the risk of flooding, including stand-off distances from the Beck and design features. Yorkshire Water would encourage surface water to be dealt with on site, and it should only enter the sewer as a last resort. This is in line with the SUD hierarchy.</p> <p>The Level 2 SFRA (2015) notes that flood depths in some small pockets, particularly in the northern part of the site, within Flood Zone 3a.</p> <p>Surface water risk on-site is noted as minimal and consideration should be given to leaving the at risk areas as open space and incorporating appropriate SuDS techniques.</p>
Open Space and Sports requirements	<p>The nearest open space to this site is Northcliffe Park. CBMDC would either seek delivery of play space or open space on-site or consider a contribution to improvements at Northcliffe Park. The extant consent includes a linear footpath and play area to serve this development.</p>

	There is no formal sports provision in Shipley. However this site is not large enough to provide any sports provision on site and a commuted sum would be sought to improve provision elsewhere.
Community and cultural provision	This site is well-served by community and cultural provision in Shipley or via train towards Bradford or Leeds. There is a mechanism in place for CBMDC to request a S106 related to provision of art. However a decision regarding whether to request this contribution would depend on the nature of the proposal on the site.
Education requirement	<p>If a residential use was developed on this site then education requirements would apply.</p> <p>Shipley East is currently not accounted for in provision requirement calculations that the LA send to DfE. This is because the planning application was approved after the return was made to DfE. It will be included in the next return and contribution from the developer would be requested. The planning application included approximately 100 new dwellings.</p> <p>Primary provision: The nearest primary schools are Shipley CE and High Crag. There are currently limited places available at both these primary school. However if these places are taken before the site is built out then a contribution towards primary school places would be required depending on the capacity at the point of planning application and the type of the residential development.</p> <p>Secondary provision: The nearest secondary school is at One in a Million Secondary School in Manningham. One in a Million is a very small secondary school and not yet operating in all year groups.</p> <p>There is some capacity in this secondary school. However if these places are taken before the site is built out then a contribution towards secondary school places would be required depending on the capacity at the point of planning application and the type of the residential development.</p> <p>It was noted that a new secondary school in the City Centre could provide the necessary capacity for this site.</p>
Health provision	<p>The nearest hospital is the Bradford Royal Infirmary.</p> <p>There are number of GP surgeries in Shipley that could accommodate extra patients if required. As discussed in the health provision chapter if additional GP provision is required the existing facilities will be extended or a new GP surgery will be delivered in the City Centre or Shipley Canal Road Corridor. The most appropriate solution will depend on the size of the population housed in the Shipley and Canal Road Corridor and their health needs.</p>

12.3 New Bolton Woods

Site Name and Reference	Site Capacity and Proposed Use
New Bolton Woods	Focus as a residential led development.
Current land use	This site is currently undeveloped land and playing pitches. A planning application for 1,200 dwellings by URBO, a joint venture including CBMDC is expected to be submitted in late 2014.
Known abnormal of development issues	There is potential for contamination on this site focused on the King George V Playing Fields, which has been investigated through the consent in partnership with CBMDC.
Transport Issues and Requirements	The site is located to the east of Canal Road. The access to the site would be from Poplar Park Road and Gaisby Lane. In the longer term the Bradford Shipley Corridor Improvements would provide improved capacity along Canal Road. However this is not required to deliver the

	<p>New Bolton Woods Scheme, but is required to allow the delivery of all the full suite of development sites included in the area action plan.</p> <p>The development would have reasonable access to Frizinghall Railway Station and access has recently been improved by the provision of a pedestrian crossing. The proposed development also includes providing additional parking for Frizinghall Station. Currently very few buses run along Canal Road, running instead along Manningham Lane. As part of the New Bolton Woods scheme it is intended that more buses will run along Canal Road to support the scheme.</p> <p>There is potential for this scheme to include a fast food retail unit, this makes it difficult to accommodate a 2 metre wide cycleway across the retail development at Stanley Road (as part of the Greenway scheme). CBMDC officers are working with the developer on this issue.</p> <p>The Transport Study (2015) suggests that at current mode shares, the New Bolton Woods and Bolton Woods Quarry sites (together with sites in Shipley) will generate 200 new bus trips, equivalent to 4 additional buses along Canal Road each hour. This could rise to 6 buses per hour if a target mode share of 20% could be achieved.</p>
Utility Provision	<p>Electricity: The New Bolton Woods sites are a number of proposed sites around New Bolton Woods. The individual quanta within each site is uncertain though overall 1200 new homes are proposed. There is also employment proposed within some of the sites though the quanta is not clear.</p> <p>The sites can be grouped into two; NBW9 and NBW11 together as one group since these are contiguous and situated alongside Bradford Beck. The other sites; NBW2, NBW3, NBW4, NBW5, NBW6 and NBW7 form the second group. These sites are contiguous</p> <p>The additional demand due to the proposed 1200 new houses is circa 2400KW. An additional demand of 1000KW is considered to be sufficient to cover the proposed employment. Thus proposed new demand from the development is circa 3400KW.</p> <p>Gaisby Lane is the nearest substation to all the above sites and has at present a spare capacity of circa 8500KW. This substation is well positioned to serve all these developments.</p> <p>Individually no single development has a load in the Shipley Canal Road Corridor exceeds the capacity of the nearest primary substation to provide it. Collectively the situation changes, resulting in capacity issues.</p> <p>Gas: Gas: There are no gas supply issues affecting this site.</p> <p>Water Supply: Yorkshire Water has confirmed that there are no water supply capacity issues affecting this site.</p> <p>Water Treatment: Yorkshire Water has confirmed that the waste water from this site would drain to Esholt. There is adequate capacity in the sewer network and at Esholt Wastewater Treatment Works to provide the necessary capacity for the site. YW noted that foul water from the New Bolton Woods site should drain the large diameter sewers in Stanley Road.</p> <p>YW believe the surface water sewers crossing the bottom end of the site are in reality culverted watercourses in which case CBMDC would apply greenfield run-off rates for draining a new development.</p>
Telecommunications	<p>Fixed Broadband</p> <p>Four or more 'principal' operators provide broadband services at this exchange. Service in this area has been deregulated.</p> <ul style="list-style-type: none"> - BT Wholesale - O2 - Sky - TalkTalk

	<p>Mobile broadband</p> <p>Three – 4G outdoor only</p> <p>EE - 4G indoor and outdoor</p> <p>O2 - 4G indoor and outdoor</p> <p>Vodafone - indoor and outdoor</p>
Flood Risk and Drainage issues	<p>The majority of this site falls within Flood Risk Zone 1. However a strip of the site to the east of Canal Road is in Flood Risk Zone 3 related to the flood risk from the Bradford Beck.</p> <p>CBMDC are currently negotiating the drainage and flood risk solution for the New Bolton Wood site. CBMDC are trying to tackle flood risk nearer to the city centre by measures on this site.</p> <p>There are drainage issues related to contaminated land at King George V playing fields. The site is currently not being proposed for full remediation by the developer, instead they are proposing to ‘cap’ the contamination. This poses issues with contaminants flooding into local river networks. CMBDC officers are currently working with the developer to agree a way forward.</p> <p>The Level 2 SFRA notes that existing Green Space at NBW11 should be extended to cover the area within Flood Zone 3a, with the residential development taking place outside of this. This would mean that 44% of the site should be reserved as Green Space. At site NBW12 the study notes that area of existing functional floodplain should be retained.</p>
Open Space and Sports requirements	<p>The main open space contribution within the corridor is set to be delivered at the New Bolton Woods site. Through discussions with CBMDC it was confirmed that a planning application for residential development on this site is expected in late 2014. It is expected that the developer will provide and maintain its own open space provision in the form of a natural on-site linear park. Although the final provision is yet to be agreed, there could be the scope to accommodate some on site play space provision which could contribute towards partially rectifying some of the identified deficit.</p> <p>In terms of green infrastructure CBMDC has carried out a series of improvements to the woodland near the site identified as NBW9. Officers confirmed that the development as planned will not impact upon these improvements.</p> <p>The New Bolton Woods development may result in the loss of the King George Playing Pitches. The latest proposals for New Bolton Woods were set to include the loss of the King George Playing Pitches. CBMDC Officers have been engaged with the developer in considering options for mitigating their loss, including developing an option to create playing pitches on the Wrose Wreck Recreation Ground.</p>
Community and cultural provision	<p>This site is well served by community and cultural provision via train towards Bradford or Leeds. There is a mechanism in place for CBMDC to request a S106 related to provision of art. However a decision regarding whether to request this contribution would depend on the nature of the proposal on the site.</p>
Education requirement	<p>If a residential use was developed on this site then education requirements would apply.</p> <p>Primary Provision: Poplars Farm is currently the nearest primary school. There are currently no new schools planned within the corridor. As a significant development in the corridor, the New Bolton Woods site will be expected to make contributions through Section 106 towards education provision</p> <p>Secondary provision: Oasis Academy at Lister Park and St. Bede’s & St. Joseph’s Catholic College (a religious school) are the nearest secondary schools. Through dialogue with the LA it has been confirmed that all the schools in the vicinity have limited capacity. However if these places are taken before the site is built out then a contribution towards secondary</p>

	<p>school places would be required depending on the capacity at the point of planning application and the type of the residential development.</p> <p>It was noted that a new secondary school in the City Centre could provide the necessary capacity for this site.</p>
Health provision	<p>The nearest hospital is the Bradford Royal Infirmary.</p> <p>There are number of GP surgeries in Shipley and surrounding areas that could accommodate extra patients if required. As discussed in the health provision chapter if additional GP provision is required the existing facilities will be extended or a new GP surgery will be delivered in the City Centre or Shipley Canal Road Corridor. The most appropriate solution will depend on the size of the population housed in the Shipley and Canal Road Corridor and their health needs.</p>

12.4 Bolton Woods Quarry

Site Name and Reference	Site Capacity and Proposed Use
Bolton Woods Quarry (BWQ)	Focus as a residential led development.
Current land use	This site is currently an operational quarry.
Known abnormal of development issues	Unknown.
Transport Issues and Requirements	<p>The site is located to the east of Canal Road. The likely vehicular access to the site would be from Gaisby Lane or Bolton Hall Road. Discussions with CBMDC officers highlighted that there are access issues facing the development of the Bolton Woods Quarry site. A proposal to connect to the site through Livingstone Road has capacity issues. However there are a number of options to access the site and the future developer would be expected to provide options for providing adequate access.</p> <p>In the longer term the Bradford Shipley Corridor Improvements would provide improved capacity along Canal Road. It is currently unclear if there would be adequate highway capacity for this development to be delivered prior to the Bradford Shipley Corridor Improvements being delivered. The Bradford Shipley Corridor Improvements is expected to commence after 2019.</p> <p>The development would have reasonable access to Frizinghall Railway Station and CBMDC would seek to understand options for connecting the site to the station by bus. Pedestrian access to the railway station has recently been improved by the provision of a pedestrian crossing.</p> <p>The Transport Study (2015) suggests that at current mode shares, the New Bolton Woods and Bolton Woods Quarry sites (together with sites in Shipley) will generate 200 new bus trips, equivalent to 4 additional buses along Canal Road each hour. This could rise to 6 buses per hour if a target mode share of 20% could be achieved.</p>
Utility Provision	<p>Electricity: This is a large site covering most of the existing quarry and surrounding land. The proposal is for 1000 new homes which would demand approximately 2000KW. This site is close to Gaisby Substation which has spare capacity of circa 8500KW (5100KW after accounting for the above developments around New Bolton Woods). There is sufficient spare capacity to support the developments and the substation is well positioned to serve this development area.</p> <p>Individually no single development has a load in the Shipley Canal Road Corridor exceeds the capacity of the nearest primary substation to provide it. Collectively the situation changes, resulting in capacity issues.</p>

	<p>Gas: There are no gas supply issues affecting this site.</p> <p>Water Supply: Yorkshire Water has confirmed that there are no water supply capacity issues affecting this site.</p> <p>Water Treatment: Yorkshire Water has confirmed that the waste water from this site would drain to Esholt. There is adequate capacity in the sewer network and at Esholt Wastewater Treatment Works to provide the necessary capacity for the site.</p> <p>YW believe the surface water sewers crossing the bottom end of the site are in reality culverted watercourses in which case CBMDC would apply greenfield run-off rates for draining a new development.</p>
Telecommunications	<p>Fixed Broadband</p> <p>Four or more 'principal' operators provide broadband services at this exchange. Service in this area has been deregulated.</p> <ul style="list-style-type: none"> - BT Wholesale - O2 - Sky - TalkTalk - Virgin Media (in some areas) <p>Mobile broadband</p> <p>Three – 4G outdoor only</p> <p>EE - 4G indoor and outdoor</p> <p>O2 - 4G indoor and outdoor</p> <p>Vodafone - indoor and outdoor</p>
Flood Risk and Drainage issues	<p>This site falls within Flood Risk Zone 1. However surface water will need to be managed on the site either using a site based approach or a corridor wide approach to surface water management. The Level 2 SFRA notes that there is a nominal surface water risk.</p>
Open Space and Sports requirements	<p>The Bolton Woods Quarry site offers the potential to provide mountain bike/rock climbing type facilities as part of the site's wider redevelopment, aligning with the current national emphasis on providing for these types of opportunities in cities to ease pressure on the rural environment.</p>
Community and cultural provision	<p>This site is well served by community and cultural provision via train towards Bradford or Leeds. There is a mechanism in place for CBMDC to request a S106 related to provision of art. However a decision regarding whether to request this contribution would depend on the nature of the proposal on the site.</p>
Education requirement	<p>If a residential use was developed on this site then education requirements would apply.</p> <p>Bolton Woods Quarry is currently not accounted for in provision requirement calculations that the LA send to DfE. If a planning application is submitted for the Bolton Woods Quarry then, contributions will be dealt with through S106.</p> <p>Primary Provision: Poplars Farm is currently the nearest primary school.</p> <p>Secondary provision: Poplars Farm is currently the nearest primary school to Bolton Woods Quarry, with Oasis Academy at Lister Park, and St. Joseph's (a religious school) being the nearest secondary schools. Through dialogue with the LA it has been confirmed that all the schools in the vicinity have limited capacity. However if these places are taken before the site is built out then a contribution towards secondary school places would be required depending on the capacity at the point of planning application and the type of the residential development.</p> <p>It was noted that a new secondary school in the City Centre could provide</p>

	the necessary capacity for this site.
Health provision	<p>The nearest hospital is the Bradford Royal Infirmary.</p> <p>There are number of GP surgeries in Shipley and surrounding areas that could accommodate extra patients if required. As discussed in the health provision chapter if additional GP provision is required the existing facilities will be extended or a new GP surgery will be delivered in the City Centre or Shipley Canal Road Corridor. The most appropriate solution will depend on the size of the population housed in the Shipley and Canal Road Corridor and their health needs.</p>

13 Infrastructure Delivery Programme

13.1 Overview

This section takes the evidence and analysis from Sections 4 through to 13 and sets out how the level of current, planned and future infrastructure will / could be delivered. This section:

- presents the indicative costs associated with delivering the planned and future infrastructure required to support the long term growth objectives in Hull.
- outlines how CBMDC could look to prioritise and facilitate the delivery of infrastructure.
- summarises potential funding sources that CBMDC could explore to deliver its infrastructure requirements.

In simple terms, this part of the report takes the overall cost of each infrastructure type and sets that within the context of any existing funding, so as to determine any funding gaps. From here it will be possible to identify potential options for bridging the funding gaps and ensure Bradford can be proactive in looking to deliver the infrastructure required to deliver the Shipley and Canal Road Corridor Area Action Plan (S&CRCAAP).

The costs and information shown in Table 13.1 have been determined through an analysis of the evidence base and discussions with relevant contacts in CBMDC, other public and private sector organisations and wider stakeholders.

13.2 Shipley and Canal Road Corridor infrastructure Requirements and Investment

Overview

Table 13.1 below represents a summary of the infrastructure required in Shipley and Canal Road Corridor up to 2030. This includes an indicative assessment of costs, committed funding sources and the subsequent funding gaps that exist.

There are certain infrastructure types where funding gaps do exist. This relates to infrastructure which will play an important role in delivering the future housing and economic growth in Shipley and Canal Road Corridor.

The infrastructure has been split into essential and desirable infrastructure.

‘Essential’ infrastructure is defined as infrastructure that is required to make development acceptable in planning terms.

‘Desirable’ infrastructure is described as infrastructure which would improve the capacity and deliver place making benefits.

Essential Infrastructure

The infrastructure falling into this category, which currently does not have committed funding comprises:

Transport

Transport, Cycling and Pedestrians:

There are two essential cycling and pedestrian schemes which currently do not have committed funding:

- Improvement to the pedestrian environment and crossing facilities at Fox Corner (£2 million), Shipley. This scheme could potentially gain funding through the Local Transport Plan.

There are no essential highway, rail or bus schemes without committed funding.

The gap in infrastructure funding for essential transport infrastructure equates to £4 million, as set out in Table 14.1.

Utilities

Individually no single development has a load in the Shipley Canal Road Corridor exceeds the capacity of the nearest primary substation to provide it. Collectively the situation changes, resulting in capacity issues.

The combination of the Shipley and Canal Street demands and the City Centre demands will mean that these combined demands exceed Bradford GSP's capacity. Thus the capacity at GSP at Gillingham needs to be brought in to provide capacity for the southern developments in the Shipley and Canal Road area and the City Centre developments at The Valley. Overall an estimated sum of £4 million would be required to be spent on upgrading the Northern Powergrid network to supply the additional developments proposed in Shipley and Canal Street and Bradford City Centre. This has been split across the two areas and results in an infrastructure gap of £2 million for Bradford City Centre and £2m for Shipley and Canal Street

Northern Powergrid have stated that the costs to upgrade the network will need to be paid by the developer of the site that causes electricity capacity issues. A detailed understanding of the likely trajectory of development is required to understand how the electricity capacity can be most efficiently provided.

The ability for Northern Powergrid to contribute towards this costs will be dependent on the build out rates proposed development and how quickly Northern Powergrid can 'claw back' the costs of the upgrades through network charges. This will need to be discussed further with Northern Powergrid when there is further detail on the trajectory and build out rates of the development sites. The actual solution will depend upon which developments start first and where they are in relation to other developments and the substations. The developments will be connected via the primary substations to local substations and hence the developments.

There is therefore a funding gap for essential electricity provision.

There is no funding gap for essential gas infrastructure.

There is no funding gap for essential water supply and treatment infrastructure.

Telecommunications

There is no funding gap for essential telecommunications infrastructure.

Flood Risk and Drainage

There is no funding gap for essential flood risk and drainage infrastructure.

Green Infrastructure, Open Space and Public Space

CBMDC are progressing an Open Space Strategy, which will consider options for increasing usable open space in Shipley and Canal Road Corridor. There is no committed funding to increase open space, however CBMDC will access a range of funding sources including external funding available on a bid by bid basis, developer contributions and CBMDC capital funding. New developments will be expected to provide open space on site or contribute towards improvements to existing open space in the corridor.

There is therefore a gap in essential open space funding, however the exact gap in funding will be confirmed by the future Open Space Strategy.

Sports, Leisure and Recreation

CBMDC are progressing a Sports Facilities Strategy (including finding of the Playing Pitches Strategy), which will be informed by a Facilities Planning Model (FPM). This will confirm future requirements and a strategy to deliver sports provision including sports hall, swimming pools and sports pitches.

There is therefore a gap in sports, leisure and recreation funding, however the exact gap in funding will be confirmed by the Sports Facilities Strategy as this will confirm the future plans for sports provision.

Community and Cultural

There is no funding gap for essential community and cultural infrastructure.

Education

The delivery of 3,059 new residential units in the Shipley and Canal Road Corridor will create a need for new primary and secondary school places. Additional provision will be required through extension of existing schools.

The LA have identified a need for a new secondary school or 'through school' in either the Shipley and Canal Road Corridor or the City Centre to serve new residential development and the demand for school places generated by the existing growing population. A new secondary school, Dixons McMillan, opened on the edge of the City Centre in September 2014, though this is predicted to satisfy existing need rather than future need. A deficit in provision therefore still remains when growth in the whole area and adjacent district is considered.

CBMDC are working to identify a potential site and funding for a new school, with funding potentially coming from developer contributions and potential additional funding from central government linked to the acute need for a new school.

Using the CBMDC in-house formula for calculating the cost of additional primary or secondary school places the worst case gap (based on their being no available school places) equates to a total funding requirement of £14.4 million. This requirement could be met through a new school, however some additional capacity could be created by extending existing primary schools.

Health

The Bradford City and Bradford District Clinical Commissioning Group (CCG) and NHS West Yorkshire Local Area Team will provide any necessary additional GP provision in the City Centre. Therefore any future gap in provision will be delivered through NHS funding and there is gap in the funding of health infrastructure.

Climate Change and Renewables

There is no funding gap for climate change and renewable infrastructure.

13.2.1 Desirable Infrastructure

The infrastructure falling into this category, which currently does not have committed fund comprises:

Transport

Transport, Highways:

The delivery of the Shipley Eastern Relief Road (£40 million) is a long term scheme that does not have a committed funding source. CBMDC are investigating potential funding sources for this scheme.

Transport, Rail provision:

The development of a busrapid transit, tram train or fixed rail link to Leeds Bradford International Airport (£238 million) does not have committed funding. There is potential for this scheme to be funded through the West Yorkshire Plus Transport Fund.

The gap in infrastructure funding for desirable transport infrastructure equates to £258 million, as set out in Table 14.1.

There are no desirable bus or cycling / pedestrian schemes without committed funding.

Utilities

This study has not identified any desirable utilities infrastructure. All requirements are essential.

Telecommunications

There is no funding gap for desirable telecommunications infrastructure.

Flood Risk and Drainage

There is no funding gap for desirable flood risk and drainage infrastructure.

Green Infrastructure, Open Space and Public Space

This study has not identified any desirable green infrastructure, open space and public space infrastructure. All requirements are essential.

Sports, Leisure and Recreation

This study has not identified any desirable sports, leisure or recreation infrastructure. All requirements are essential.

Community and Cultural

There is no funding gap for desirable community and cultural infrastructure.

Education

This study has not identified any desirable education infrastructure. All requirements are essential.

Health

This study has not identified any desirable health infrastructure. All requirements are essential.

Figure 14.1: Essential Infrastructure Requirements in the Shipley and Canal Corridor

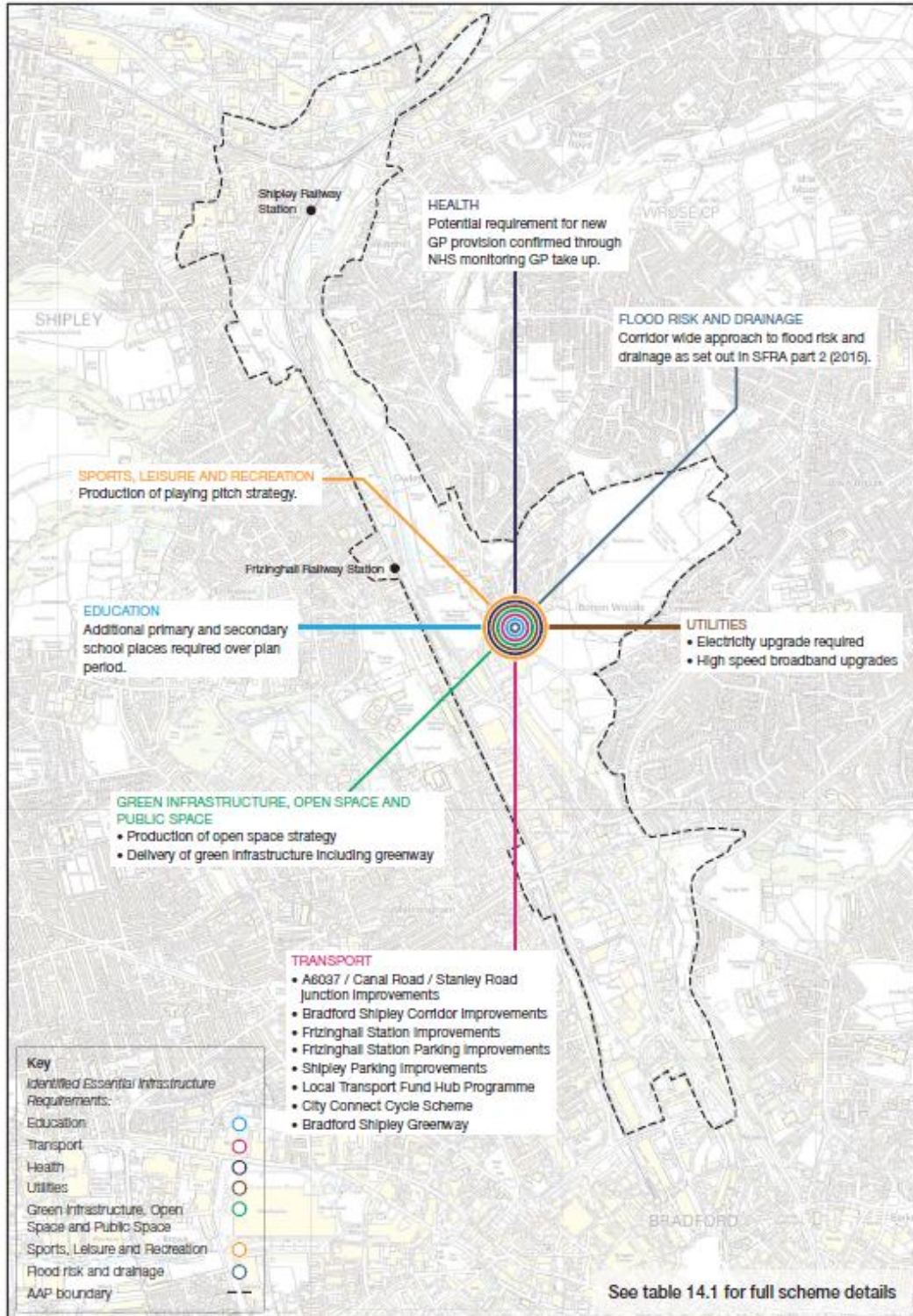


Table 14.1: Infrastructure Delivery Programme

Location (Where)	Scheme	Essential / Desirable	Need for scheme (Why)	Requirements of scheme	Lead delivery agency/ management organisation	Delivery mechanism	Cost	Delivery phasing (When)	Gaps in funding	Baseline source
Transport										
Highways										
Shipley Canal Road Corridor	Bradford Shipley Corridor Improvements	Essential	Address congestion issues on the Canal Road corridor and encourage re-routing of strategic traffic.	This scheme (formerly Connecting Airedale Stage 3) consists of: <ul style="list-style-type: none"> • Dualling of Canal Road. • Improvements to the Otley Road / Valley Road junction. • Improvements to the Bradford Road / Otley Road junction (the Branch). • Improving bus priority along Manningham Lane to provide a continuous bus lane. • This would tackle rat running along Bolton Road. 	CBMDC	Funding secured through the West Yorkshire Plus Transport Fund.	£46 million	Medium term 5 – 10 years (delivery planned for post 2019)	No gap.	Discussions with CBMDC Transport Officers.
Shipley	Shipley Eastern Relief Road	Desirable	Provide a bypass to the congested Shipley town centre and unlock land at Dockfield Lane.	<ul style="list-style-type: none"> • Bypass to the east of Shipley town centre between the A6037 Canal Road and A6038 Otley Road. • Second strategic crossing of River Aire to the east of Shipley town centre. • Provides access to both the Dockfield Lane regeneration area and development land directly adjacent to the south of Shipley rail station 	CBMDC	To be determined	c £40m	Long Term 10 – 15 years	No committed funding confirmed	Discussions with CBMDC Transport Officers.
Rail Provision										
Shipley Canal Road Corridor	Tram-train, BRT or fixed rail to Leeds Bradford International Airport	Desirable	Would provide improved international connections via LBIA.	Direct link between Bradford & LBIA. Connection of the existing Harrogate Line to a new station close to LBIA. This would allow tram-train or BRT vehicles to run from the centre of Bradford to LBIA and provide onward connection to Leeds.	CBMDC / WYCA	Possible funding through the West Yorkshire Plus Transport Fund.	£238 million	Medium term 5 – 10 years	No committed funding confirmed.	Discussions with CBMDC Transport Officers.
Shipley Canal Road Corridor	Frizinghall Station Improvements	Essential	Improve station environment.	A WYCA scheme to improve the waiting areas / lighting and perception of safety at the station.	WYCA	WYCA funding	£unknown	Short to medium term 0 – 10 years	No gap.	Discussions with CBMDC Transport Officers.
Shipley Canal Road Corridor	Frizinghall Station Parking Improvements	Essential	To provide additional parking.	Additional parking to serve the railway station is being provided as part of the New Bolton Woods scheme. A pedestrian crossing to link to the future parking has already been provided.	Private developer CBMDC	Private developer funding CBMDC	£unknown	Short to medium term 0 – 10 years	No gap.	Discussions with CBMDC Transport Officers.
Shipley Canal Road Corridor	Shipley - Parking Improvements	Essential	To increase parking at Shipley Station	The provision of decked parking at Shipley Station.	WYCA/ CBMDC	WY+TF	£TBC	Short Term 0 – 5 year	No gap	Discussions with CBMDC Transport Officers.
Bus Provision										
District Wide	Bus Network	Essential	Improve public transport access and encourage modal shift.	Development of bus network in line with WYCA and CBMDC specification if WYCA opts for quality contracts or if not, through a partnership agreement.	WYCA	Could be delivered as part of any West Yorkshire quality contract scheme or through a partnership agreement.	Minimal capital cost; however, significant revenue risk.	Short / Medium term 0 – 10 years	No committed funding confirmed.	Discussions with CBMDC Transport Officers.
Cycling and Pedestrian										

Location (Where)	Scheme	Essential / Desirable	Need for scheme (Why)	Requirements of scheme	Lead delivery agency/ management organisation	Delivery mechanism	Cost	Delivery phasing (When)	Gaps in funding	Baseline source
City Centre	City Connect Cycle scheme	Essential	To provide improved cycle facilities between Leeds and Bradford.	A Cycle Superhighway between Leeds and Bradford. The route enters Bradford City Centre along the A647 Leeds Road and Barkerend Road. The scheme also includes improving the tow path along the Leeds to Liverpool Canal from Leeds to Shipley.	CBMDC/ LCC and WYCA	Delivered by WYCA, LCC and CBMDC. £18.05m from Department for Transport. £10.89 in Local Authority Contributions and the rest from third party contributions.	£29.5m	Short term 0 – 5 years (complete by May 2016)	No gap	Discussions with CBMDC Highway Officers.
Shipley Canal Road Corridor	City Connect 2 Cycle scheme	Essential	To provide improved cycle facilities between Shipley and Bradford.	To provide a continuous segregated superhighway between the North side of the city centre and the existing cycleway of Canal road, completing the provision for cyclists to Shipley and beyond.	CBMDC/ and WYCA	Delivered by WYCA, and CBMDC. £22.1m from Department for Transport. £8.1 in Local Authority Contributions and the rest from third party contributions.	£2.5m (£30.2 across W Yorks)	Short term 0 – 5 years (complete by March 2018)	No gap	
Shipley Canal Road Corridor	Fox Corner, Shipley	Essential	Would address congestion and delays to public transport in central Shipley.	Development of a small gyratory with the aim of improving pedestrian crossing facilities on Fox Corner.	CBMDC	Possible funding through LTP. CIL	£2 million	Short to medium term 0 – 10 years	No committed funding confirmed.	Discussions with CBMDC Transport Officers.
Utilities										
City Centre	Drainage Area Plan	Desirable	To confirm drainage issues.	Yorkshire Water plan to undertake a Drainage Area Plan (DAP) in AMP6 (2016 – 2020), as there has been some localised flooding incidents in the area.	YW	YW AMP6 Funding	Unknown	Short to medium term 0 – 10 years	No gap.	Discussions with Yorkshire Water
Shipley and Canal Road Corridor and City Centre	Electricity Upgrades	Essential		Overall an estimated sum of £4 million would be required to be spent on upgrading the Northern Powergrid network to supply the additional developments proposed in Shipley and Canal Street and Bradford City Centre. This has been split across the two areas and results in an infrastructure gap of £2 million for Bradford City Centre and £2m for Shipley and Canal Street Northern Powergrid have stated that the costs to upgrade the network will need to be paid by the developer of the site that causes electricity capacity issues. A detailed understanding of the likely trajectory of development is required to understand how the electricity capacity can be most efficiently provided. Discussions with Northern Powergrid concluded that if the developers aggregate their development loads and collaborate for their connections then Northern Powergrid would be able to offer a better technical solution at a much lower overall cost. The capacity issues relate to the full amount of development proposed in the Canal Road Corridor and City Centre going ahead. At this stage there is no available information on the likely phasing of build out order for these developments. When a build programme becomes available the take up of	Northern Powergrid	Northern Powergrid Developer Contributions	£2 million	Short to medium term	Gap in funding	Discussions with Northern Powergrid

Location (Where)	Scheme	Essential / Desirable	Need for scheme (Why)	Requirements of scheme	Lead delivery agency/ management organisation	Delivery mechanism	Cost	Delivery phasing (When)	Gaps in funding	Baseline source
				electricity will show which specific developments have capacity issues.						
Telecommunications										
District wide	Leeds Bradford Super-connected Cities	Essential	To deliver high speed broadband to support economic growth.	<p>A joint bid for ultra-fast broadband funding has been submitted by Bradford and Leeds City councils.</p> <p>A £9m broadband voucher scheme to help businesses in Bradford and Leeds districts upgrade their current broadband service.</p> <p>An £800,000 scheme to put wifi services on strategic public transport between the cities.</p> <p>A £1.6m investment in wifi located within public buildings.</p>	CBMDC and LCC	Funding secured by CBMDC and LCC.	£11.4m	Short term 1 – 5 years	No gap	NA
District wide	Superfast Broadband	Essential	To deliver high speed broadband to support economic growth.	<p>The new project, ‘Superfast West Yorkshire’, plans to extend high-speed fibre broadband to 97 per cent of households and businesses across the majority of West Yorkshire.</p> <p>As well as providing high-speed fibre, the partnership aims to upgrade all premises in the area to speeds of more than 2Mbps.</p>	CBMDC, BT	A £21.96 million contract between BT, Bradford Council and three other local authorities has been agreed to transform broadband speeds across most of West Yorkshire by the end of autumn 2015.	£21.96	Short term 1 – 5 years	No gap	NA
District Wide	Telecommunication Improvements	Desirable	To allow Bradford to compete as a business location and allow home working.	On-going improvements to broadband provision across the District.	Virgin Media, BT, Other providers	This will be market led improvements, paid for by telecommunication providers or developers.	unknown	Medium term 5 – 10 years	No gap	NA
Flood Risk and Drainage										
City Centre	Drainage Area Plan	Desirable	To confirm drainage issues.	Yorkshire Water plan to undertake a Drainage Area Plan (DAP) in AMP6 (2016 – 2020), as there has been some localised flooding incidents in the area.	YW	YW AMP6 Funding	Unknown	Short to medium term 0 – 10 years	No gap.	Discussions with Yorkshire Water
City Centre	Strategic Flood Risk Assessment	Essential	Delivery of SFRA part 2 to support AAP	<p>To produce a SFRA part 2 and consider potential new SUD standards linked to CBMDC having an increased role in SUD approval from April 2016.</p> <p>Each site will be required to meet national SUD requirements on an individual site basis.</p>	CBMDC	CBMDC	Unknown	Short to medium term 0 – 10 years (Draft produced in June 2015)	No gap.	Discussions with CBMDC officers
Green Infrastructure, Open Space and Public Space										
District Wide	Open Space Strategy	Essential	To confirm current and required open space and play areas.	<p>An Open Space Strategy is required to provide up to evidence to support the emerging Core Strategy and Shipley and Canal Road Corridor Area Action Plan.</p> <p>The Open Space Strategy is likely to include measures to:</p> <ul style="list-style-type: none"> Completion of the greenway into Bradford City Centre. Requirement for development sites to provide open space and play space on site or 	CBMDC Developer Contributions	<p>CBMDC Parks Budgets</p> <p>Heritage Lottery, Local Landfill Tax, Sports England and other funding sources:</p> <p>S106</p>	Unknown, will be worked up through the Open Space Strategy	Throughout the plan period.	Unknown, to be worked up through the Open Space Strategy.	Dialogue with CBMDC.

Location (Where)	Scheme	Essential / Desirable	Need for scheme (Why)	Requirements of scheme	Lead delivery agency/ management organisation	Delivery mechanism	Cost	Delivery phasing (When)	Gaps in funding	Baseline source
				contribution towards improvements elsewhere.						
ShIPLEY Canal Road Corridor	Green Infrastructure Study	Desirable	To improve GI provision.	<p>The ShIPLEY and Canal Road Corridor Infrastructure Study identifies a number of interventions to improve the amount of Green Space and access to corridor: The interventions will be investigated further through the emerging ShIPLEY and Canal Road Corridor Area Action Plan. The interventions are set out in section 7.3 and include:</p> <ul style="list-style-type: none"> Project 1: The Eco-Settlement Park. Project 2: The Dales Way Link Park. Project 3: The Greenway. Project 4: Habitat Highways. Project 5: Pedestrian/Cycle. 	CBMDC Developer Contributions	<p>CBMDC Parks Budgets</p> <p>Heritage Lottery, Local Landfill Tax, Sports England and other funding sources:</p> <p>S106</p>	Unknown	Throughout the plan period.	Unknown.	Dialogue with CBMDC.
Sport, Leisure and Recreation										
District Wide	Playing Pitch Strategy	Essential	To confirm current and required playing pitch provision.	<p>The Playing Pitch Strategy identifies a number of deficits in playing pitch provision in the ShIPLEY Canal Road Corridor and across the District. CBMDC are now working on a delivery strategy to provide new playing pitches across the District.</p>	CBMDC	<p>CBMDC Sports Budgets</p> <p>Sports England and Football Foundation.</p> <p>S106</p>	Unknown	Throughout the plan period.	Unknown, to be worked up through the Playing Pitch Implementation Plan	Dialogue with CBMDC.
District Wide	Sports Facilities Strategy	Essential		<p>The Sports Facilities Strategy will be informed by a Facilities Planning Model (FPM), which is a computer-based supply/demand model. The model is a tool to help assess the strategic provision of sports facilities in an area. FPM is currently applicable for assessing the provision of sports halls, swimming pools, and artificial grass pitches.</p> <p>To date separate reviews of the below provision has been carried out:</p> <ul style="list-style-type: none"> swimming provision and the supply of swimming facilities. sports halls. sports pitches. <p>The findings from these reviews and a strategy for future sports provision will be reported in the single Sports Facilities Strategy.</p>	CBMDC Developer Contributions	<p>CBMDC Council Sports Budgets</p> <p>Sports England and Football Foundation.</p> <p>S106</p>	Unknown	Throughout the plan period.	Unknown, to be worked up through the Sports Facilities Strategy.	Dialogue with CBMDC.
Community and Cultural										
No identified improvements in community and cultural provision										

Location (Where)	Scheme	Essential / Desirable	Need for scheme (Why)	Requirements of scheme	Lead delivery agency/ management organisation	Delivery mechanism	Cost	Delivery phasing (When)	Gaps in funding	Baseline source
Education										
Shipley Canal Road Corridor	Primary School Provision	Essential		<p>Approximately 3059 new dwellings are planned for the Bradford Shipley Canal Road Corridor through the Bradford Shipley Canal Road Corridor Area Action Plan.</p> <p>Using the CBMDC formula set out in section 11.3 an indication of the likely number of new school places generated by the proposed new housing can be made.</p> <p>Based on an assumption that 70% the dwelling are houses (under four bed rooms), 15% are 2 bed room apartments and 15% are houses with four bedrooms or more) the new residential development would generate 412 additional primary school places.</p> <p>This would need to be provided by expansion of existing primary schools or provision of a new 'through school' serving 5 to 18 year olds.</p> <p>This is based on the assumption that there is no capacity in the existing schools.</p>	CBMDC	CBMDC Basic Needs Allowance \$106	<p>Using the CBMDC formula £6.5 million of funding is required to provide 412 primary school places. This includes 10% professional fees and 10% land costs.</p> <p>The cost of a through school is set out in the Secondary school section.</p>	Short to medium term 0 – 10 years	Gap in Funding	Dialogue with CBMDC Officers.
Shipley Canal Road Corridor	Secondary School Provision	Essential	To provide secondary school places	<p>CBMDC are currently exploring options for a new secondary school location in the City Centre or in the Bradford Shipley Canal Road Corridor. A new secondary school in this location would absorb the need arising from the planned development forecast in the City Centre AAP and it would also be capable of satisfying some of the demand arising across the rest of the district owing to the city centre's superior transport linkages. There is also potential for a 'through school' to be provided in the City Centre to serve ages 5 to 18 year olds.</p> <p>Approximately 3059 new dwellings are planned for the Bradford Shipley Canal Road Corridor through the Bradford Shipley Canal Road Corridor Area Action Plan.</p> <p>Using the CBMDC formula set out in section 11.3 an indication of the likely number of new school places generated by the proposed new housing can be made. Based on an assumption that 70% the dwelling are houses (under four bed rooms), 15% are 2 bed room apartments and 15% are houses with four bedrooms or more) the new residential development would generate 353 additional secondary school places.</p> <p>This is based on the assumption that there is no capacity in the existing schools and these needs would be met by a new secondary school or through school.</p> <p>A new secondary school opened on the edge of the</p>	CBMDC	CBMDC Basic Needs Allowance \$106	<p>Using the CBMDC formula £8.5 million of funding is required to provide 353 secondary school places. This includes 10% professional fees and 10% land costs.</p>	Short to medium term 0 – 10 years	Gap in Funding	Dialogue with CBMDC Officers.

Location (Where)	Scheme	Essential / Desirable	Need for scheme (Why)	Requirements of scheme	Lead delivery agency/ management organisation	Delivery mechanism	Cost	Delivery phasing (When)	Gaps in funding	Baseline source
				City centre in 2014. However a gap in provision remains at a district wide level.						
Health										
District Wide	Provision of Healthcare	Essential	Potential provision of additional GP and Dentistry provision.	<p>There may be a requirement to increase GP provision to serve the new housing planned in the Shipley and Canal Road Corridor.</p> <p>This could be provided through either provision of extra GPs in existing surgeries, expansion of existing GP facilities in the vicinity of the Shipley and Canal Road Corridor or new provision in the City Centre or the corridor.</p> <p>The mechanism used to decide what additional GP provision is required would be the GP surgeries in the area surrounding area highlighting capacity issues and potentially offering to operate a facility / or highlighting one is needed. Alternatively the GP's might raise the issue through the 'Local Medical Committee'.</p> <p>The 'NHS West Yorkshire Local Area Team' would decide whether funding was provided to increase provision and how this was carried out.</p>	<p>NHS West Yorkshire Local Area Team</p> <p>Bradford City Clinical Commissioning Group</p>	NHS funding per person registered for healthcare in the City Centre.	Unknown	On-going	No gap	CBMDC Public Health Team

14 Funding Sources

14.1 Overview

This section examines the potential funding mechanisms for financing strategic infrastructure investment in Bradford.

There is a broad range of potential approaches to funding strategic infrastructure. Individual project characteristics, including type of economic and financial outputs generated, play a key role in determining the most appropriate approach for any particular project. The purpose of this analysis is to outline the key potential mechanisms and key players, both in the public and private sectors. Consideration is also given to how policy changes may affect the funding environment in the future.

14.2 Changes in infrastructure funding

There have been significant changes to the public funding environment in recent years, largely in response to the depth of the previous recession and on-going constraints in public sector expenditure. The way in which future infrastructure projects are likely to be funded has also changed as a consequence.

The government has made boosting private sector investment in infrastructure a priority, alongside achieving long-term reductions in public expenditure. There are a number of challenges in achieving this objective. In particular, the ability of the government to ensure the right environment such that there is a sufficient appetite for investing in long-term assets by prospective investors, both at home and abroad, will be critical. To support this objective, the government recently published a guide to investing in UK infrastructure⁶, targeted at encouraging private sector investment from an international investor base.

Changes have also occurred in relation to the bodies responsible for local growth, most significantly through the introduction and continuing development of Local Economic Partnerships (LEPs). LEPs have an influential role in future local infrastructure investment.

Further to this backdrop, the funding environment is subject to further potential changes arising from the Chancellor of the Exchequer's 2014 Autumn Statement due on 3rd December 2014 and the next general election due in May 2015. Accordingly, there are considerable policy uncertainties in the short-term.

14.3 Leeds City Region LEP: Role and funding mechanisms

LEPs have assumed many of the responsibilities of Regional Development Agencies (RDAs) and are gaining an increasing range of powers in respect of funding and income generation.

In the context of their role in delivering strategic infrastructure projects, the LEPs have the following powers and responsibilities:

⁶ 'Investing in UK Infrastructure' HM Treasury/UKTI (July 2014).

- **Growing Places Fund** – Allocations from the Growing Places Fund have been made to the LEPs to be spent on infrastructure;
- **Local Growth Fund** – Ability to apply for funds from the Single Local Growth Fund from 2015-16;
- **European Structural and Investment Funds** - Responsibility for delivering part of the EU Structural and Investment Funds for 2014-2020 as of June 2014; and
- **Access to cheaper borrowing through the government** – Access to cheaper borrowing through government loans.

These powers and responsibilities will be important in enabling the LEPs to deliver their ‘Growth Deals’ and ‘Strategic Economic Plans (SEPs)’ outlining their plans for economic growth. The Leeds City Region’s Strategic Economic Plan⁷ sets out the LEP’s ambition for economic growth of the City Region. The plan was agreed with central government in July 2014 in a ‘Growth Deal’ that approved the following allocations:

- **Local Growth Fund** - £572.9 million, of which £62.2 million is confirmed for 2015/16 and £233.3 million for 2016/17 to 2021; and
- **West Yorkshire plus Transport Fund** - £180 million over 6 years (2015-16 to 2020-21); and a further £420 million over the period 2021/22 to 2034/35 subject to an independent review.

The status of these two funds is outlined below.

14.3.1 Local Growth Fund (LGF)

Local Growth Fund (LGF) is bringing together resources to support housing, transport and skills. These are some of the key drivers of local growth and central government expects Local Enterprise Partnerships to reflect these themes strongly in their investments.

The first round of Local Growth Fund resources can be used by Local Enterprise Partnerships to support those local economic growth priorities agreed in their Strategic Economic Plan.

The Leeds LEP has agreed an initial list of priority projects with central government. These projects are currently undergoing the due diligence process. Bradford One, which relates to an investment in an office development in City Park, is included in this first round of projects and has secured £5.2 million of LGF investment (£0.4 million in 2015/16).

Future rounds of Local Growth Fund will be an important potential source of funding for infrastructure projects in Bradford. Competition for funds will be intense however and it will be important for a robust case to be put forward for projects. Projects that can demonstrate strong economic outputs and deliverability, as well as being of strategic importance to Leeds City Region as a whole will have a greater chance of securing funding.

What is clear from experiences across the country is that LGF should not be approached as the sole source of funding for a project however (unless there are

⁷ ‘Strategic Economic Plan 2014, Part A: Growth Plan’ (March 2014).

exceptional circumstances). There is a need to match LGF with other sources including private sector funds, local council and European funds as far as possible. It is also anticipated that LEPs will increasingly seek a financial return (where viable) on projects going forward in order to maximise their resources.

14.3.2 West Yorkshire Plus Transport Fund (WY+TF)

The Leeds City Region Local Enterprise Partnership and West Yorkshire Combined Authority alongside Local Authority Partners have secured a local transport fund of £1 billion for implementation of major public transport and highways schemes for the next 20 years. The fund is predicated on creating a transport levy via a precept on local authority council tax, topped up by securing other bespoke funding sources including a top slice of LTP funding and devolved Department for Transport Major Scheme Funding.

As part of the Leeds City Region ‘Growth Deal’, central government has agreed to co-invest in the WY+TF to provide a multi-year flexible fund that will allow the West Yorkshire Combined Authority to oversee significant investments in inter-city and intra-city connectivity schemes. The deal with government will provide £180 million over 6 years (2015-16 to 2020-21); provided as £30 million per annum. A further £420 million will be provided over the period 2021/22 to 2034/35, subject to an independent review.

This commitment could be worth up to £600 million over 20 years depending on the economic impact of local investments. When combined with local commitments, it could deliver a £1 billion Transport Fund in the Leeds City Region.

Bradford has been successful at accessing this fund for short term and longer-term schemes, as set out in Section 14. The ability of projects to deliver housing will also be important since the fund aims to deliver 11,350 homes.

14.4 Other mechanisms

14.4.1 Collaboration with the Homes and Communities Agency (HCA)

The HCA will continue to collaborate with the Leeds City Region LEP and Local Authorities on the development of pipeline projects and alignment of investment. Accordingly, there will continue to be opportunities to work together with these organisations in order to develop and deliver projects.

14.4.2 New Homes Bonus (NHB)

The New Homes Bonus is a grant paid by central government to local councils for increasing the number of homes and their use.

The bonus is paid each year for 6 years. It's based on the amount of extra Council Tax revenue raised for new-build homes, conversions and long-term empty homes brought back into use. There is also an extra payment for providing affordable homes. The £917 million of New Homes Bonus allocations announced for 2014 to 2015 brings the total to £2.2 billion over the 4 years between 2011 and 2015.

Local councils can decide how to spend the New Homes Bonus. In principle, it can be used to pay for infrastructure requirements. However, government requires councils to consult communities about how they will spend the money, especially communities where housing stock has increased.

The delivery of new homes bonus is dependent on housing delivery and net housing growth performance, to which there is inevitably a fair degree of risk.

Between July and September 2013 the government consulted on a proposal to pool the New Homes Bonus as a part of the Local Growth Fund. Following an announcement at Autumn Statement 2013 that pooling would proceed only in London. Further consultation has been undertaken and there could be further refinements to how the scheme operates.

14.4.3 Business rate retention

On 1 April 2013 a new system of business rates retention began in England. Before April 2013 all business rate income collected by councils formed a single, national pot, which was then distributed by government in the form of formula grant.

Through the Local Government Finance Act 2012, and regulations that followed, the Government gave local authorities the power to keep up to half of business rate growth in their area by splitting business rate revenue into the 'local share' and the 'central share'. The central share is redistributed to councils in the form of revenue support grant in the same way as formula grant. Local share tax base growth is retained within local government.

Whilst this change gives financial incentives to councils to grow their local economies, at the same time it has resulted in more risk and uncertainty. The scheme is structured in a way that is consistent with the Government's deficit reduction plans. The total external income to local government is planned to fall by 40 per cent in real terms over the life of this Parliament.

The experience of councils to date has been varied and no two stories have been the same. In particular, there is a huge diversity between the amounts collected by authorities. Emergent issues that are common among local authorities include the level of financial risk that councils face due to appeals and business rate avoidance, with little scope for those risks to be managed under the current arrangements.

There is a significant case nationally for utilising business rate income for infrastructure funding and delivery, particularly where infrastructure can help unlock economic development and commercial property opportunities. However, the ability to use this source will depend on the net growth of business rates over time.

In summary, business rate retention does offer potential for raising funds for infrastructure projects. It is a complex area however and has significant risks. Further changes to the scheme may be announced in coming months responding to some of the issues to date.

14.4.4 Asset disposal receipts

Proceeds from the disposal of surplus Council and other public sector owned assets form a further source of funding that can potentially be used to pay for infrastructure works.

Bradford Council owns a significant amount of land, some of which it is anticipated will be available for release for development over the period of the development plan. However, it should be recognised that the utilisation of capital receipts for infrastructure investment purposes will be subject to internal assessment in the same way as any other investment proposal and that there will need to be strong business case in respect of contributing to the Council's corporate objectives and priorities.

There is also potential for utilisation of other public sector assets such as the Homes and Communities Agency (HCA) and other Government Departments. A full audit of the public sector asset base is required in Bradford to determine the potential availability of property assets that can be used for these purposes.

14.4.5 Increases in council tax

Hypothecation of Council Tax as part of the Integrated Transport Authority (ITA) has been considered and implemented by a number of local authorities based on a limited increase in Council Tax specifically to help fund new infrastructure development.

A council tax supplement is effectively being mooted as part of the West Yorkshire Transport Fund proposals so there is effectively a precedent for such an approach. Effectively, the increase in council tax revenue is ring-fenced specifically for infrastructure in the area – potentially even specifying the infrastructure item for which the council tax supplement is required. This is set as an increase for a defined period, therefore demonstrating a long-term commitment to the delivery of enhanced infrastructure. This income stream can then be used either for direct delivery or to be securitised to borrow prudentially to fund the additional provision.

Whilst increasing council tax represents a potentially politically sensitive option, it offers an effective and direct means of increasing revenue for infrastructure projects.

14.4.6 Prudential borrowing

The Government's CIL guidance documents highlight the availability of prudential borrowing to local authorities to enable forward funding of infrastructure works. The Council can borrow from a number of sources, most commonly from the government.

The cost of prudential borrowing is particularly low, well below typical private sector debt or equity costs. However, whilst PWLB borrowing is cheap the local authority needs revenue headroom to ensure debt repayments through the term of the borrowing – taking into consideration the risks of delivery of CIL revenue.

The use of prudential borrowing is clearly a valuable source of funding to assist with cash flow, but as it is debt it will not plug any funding gaps.

14.4.7 Joint ventures

The use of a partnership approach to develop a pipeline of sites across an area is a popular potential route that is being pursued by a number of local authorities.

Such partnerships can include the public sector vesting land and/or equity alongside an equivalent commitment by a commercial partner to deliver a development or regeneration scheme. The site is developed together through the vehicle by leveraging development capital using the public sector assets - the profits are then shared between the two parties or reinvested in further schemes. Bradford Council is already operating using this model through the URBO joint venture for New Bolton Woods that includes up to 1,200 homes

The development of an infrastructure based JV has potential where the public sector owns development land and is able to use that land to attract private sector investment to deliver infrastructure. In this case, the private sector would put equity into the JV to pay for infrastructure works, then development takes place on the Council's land, the receipts from which are shared between the parties.

The potential for such mechanisms to be applied on an ad hoc or area wide strategic basis should be explored alongside the audit of assets recommended above.

14.5 Conclusions

This section has examined the potential funding mechanisms for financing strategic infrastructure in Bradford. The key conclusions are:

- The funding environment for infrastructure has changed significantly in recent years and will continue to evolve with the central government policy shift toward greater involvement of the private sector and devolution of powers to local government bodies;
- The Leeds City Region LEP has an increasingly important role in planning and funding strategic infrastructure investment. The LEP is charged with the investment of Local Growth Fund and European funds and has powers to raise funds through a number of additional mechanisms;
- Local Growth Fund (LGF) provides an important source of potential funding for projects that can demonstrate support of housing, transport and skills objectives. The recent 'Growth Deal' has confirmed an investment of £572.9 million, of which £62.2 million is confirmed for 2015/16 and £233.3 million for 2016/17 to 2021;
- The West Yorkshire Plus Transport Fund is a potential source of funds for transport projects that can demonstrate benefits in inter-city and intra-city connectivity. The 'Growth Deal' with government will provide £180 million over 6 years (2015-16 to 2020-21); provided as £30 million per annum. A further £420 million will be provided over the period 2021/22 to 2034/35, subject to an independent review. Bradford has been successful at accessing this fund for short term and longer-term schemes, as set out in Section 14. The ability of projects to deliver housing will also be important since the fund aims to deliver 11,350 homes; and
- Other mechanisms for funding infrastructure include project collaboration with the HCA, New Homes Bonus (NHB), business rate retention, asset disposal

receipts, council tax, prudential borrowing and joint ventures. These all require careful consideration with reference to the characteristics of the specific infrastructure project; and

- There could be further refinements to some of these mechanisms (such as New Homes Bonus and business rates retention) that will provide further clarity on aspects including risk.

On a broad level, many infrastructure projects will need to be funded by drawing on a range of sources including some form of private sector contribution. It is important that Bradford Council and the Leeds City Region LEP adopt a coherent view on how different types of infrastructure are funded and how new approaches can provide the right environment to encourage investment. Continued working with other strategic partners such as the HCA will also be valuable.

15 Conclusion and Recommendations

15.1 Overall Conclusion

The conclusion from this study is that there is broadly sufficient infrastructure, either current or planned, to support the housing and economic growth aspirations for the Shipley Canal Road Corridor. As such, the current evidence shows that the strategy set out in the emerging Area Action Plan is broadly deliverable.

However, there are uncertainties associated with the planning and delivery of some infrastructure. There are also some gaps in the ability for committed or allocated funding to deliver the necessary level of infrastructure.

Specific risks include:

- The requirement for electricity upgrades to the development proposed in the Canal Corridor and City Centre.
- The provision of adequate access to green space through new open space in developments or improved pedestrian and cycle corridor (Greenway and Dales Way) to allow access to existing parks.
- Close working with West Yorkshire Combined Authority to deliver committed transport improvements to allow the development potential of the corridor to be realised (e.g. Bradford Shipley Corridor Improvements).

Across this areas of risk decisions will need to be made on priorities for infrastructure delivery. These decisions must factor in the timing and phasing of housing and economic development and also infrastructure investment cycles.

15.2 Infrastructure-Specific Conclusions

The following section details the specific conclusions in relation to each infrastructure type:

Transport: CMBDC are working closely with national and sub-regional agencies to deliver necessary transport improvements in the Shipley Canal Road Corridor. CMBDC have committed funding for the Bradford Shipley Corridor Improvements. The New Bolton Woods includes a range of highway mitigations, which will aim to alleviate any highway impacts of this proposed scheme. CBDMC are working hard to secure funding for uncommitted schemes referenced in section 14 and 15 and link Shipley and the City Centre via a completed Greenway.

Utility Networks: This study has highlighted that there is a potential capacity issue in relation to electricity provision. The combination of the Shipley and Canal Street demands and the City Centre demands will mean that these combined demands exceed Bradford GSP's capacity. This results in an infrastructure gap of £2 million for Shipley and Canal Road.

Northern Powergrid have stated that the costs to upgrade the network will need to be paid by the developer of the site that causes electricity capacity issues. A detailed understanding of the likely trajectory of development is required to understand how the electricity capacity can be most efficiently provided. The ability for Northern Powergrid to contribute towards this costs will be dependent

on the build out rates proposed development and how quickly Northern Powergrid can 'claw back' the costs of the upgrades through network charges. This will need to be discussed further with Northern Powergrid when there is further detail on the trajectory and build out rates of the development sites.

Telecommunications: The Canal Road Corridor is well served by broadband and mobile internet.

Flood Risk and Drainage: CBMDC have a detailed model showing the flood risk posed by the Bradford Beck. There are no major flood risk issues in the corridor. There are localised risk of flooding around the Bradford Beck, but this can be avoided by development layout and design. The corridor is at risk of surface water flooding. CBMDC are progressing a Strategic Flood Risk Assessment (part 2), which will consider the flood risk measures required in the corridor and identify local SUDs standards.

Green Infrastructure, Open Space and Public Space: The corridor has an abundance of informal open space; however there is no formal green space / parks in the corridor, as demonstrated through the City Centre Infrastructure Study. The Canal Road Corridor does offer public transport access to in close proximity. There is no committed funding to increase open space in the corridor, however new open space is proposed through the New Bolton Wood development. CBMDC are planning on producing an Open Space Strategy for the whole District to confirm exact future requirements. CBMDC will access a range of funding sources including external funding available on a bid by bid basis, developer contributions and CBMDC capital funding. There is therefore a gap in essential open space funding, however the exact gap in funding will be confirmed by the future Open Space Strategy.

Sports, Leisure and Recreation: The CBMDC Playing Pitch Strategy has identified a deficit in playing pitches in the Canal Road Corridor and the wider District. CBMDC are progressing a Sports Facilities Strategy, which will confirm future requirements and a strategy to deliver sports provision including sports hall, swimming pools and sports pitches.

There is therefore a gap in sports, leisure and recreation funding, however the exact gap in funding will be confirmed by the Sports Facilities Strategy as this will confirm the future plans for sports provision.

Community and Cultural: Whilst there are limited services in the Canal Road Corridor, there is excellent access to services in Bradford City Centre and Shipley. The New Bolton Wood scheme includes a mix of services and a new Local Service Centre. This will provide some services in the corridor.

There is therefore not technically a gap in funding provision for community and cultural facilities.

Education: The delivery of new residential units in the Canal Corridor will create a need for new primary and secondary school places. There are existing primary schools in the corridor and secondary schools in close proximity. However there is limited capacity within the existing provision. As a significant development in the corridor, the New Bolton Woods site will be expected to make contributions through Section 106 towards education provision. A new secondary school called DixonsMcMillan Academy has recently opened in September 2014. However this

will largely cater for existing demand and not future demand, and as such a district wide deficit remains.

Health: The Shipley Canal Road Corridor is covered by the The Bradford City and Bradford District Clinical Commissioning Group (CCG). The CCG and NHS West Yorkshire Local Area Team will provide any necessary additional GP provision in the Canal Road Corridor. Therefore any future gap in provision will be delivered through NHS funding and there is gap in the funding of health infrastructure. A unit for a new health centre is proposed as part of the New Bolton Wood scheme.

15.3 Recommendations

The findings of this study have raised a number of issues to consider as CBMDC progresses in the short, medium and long term. Based upon knowledge gathered, it is recommended that CBMDC proceeds with the following next steps:

- Ensure that existing allocations are converted into funding commitments. CBMDC needs to take all necessary steps to ensure that existing allocations become committed funding. This will involve continuous dialogue with local and city-region partners to maintain Bradford's position as a vital component of the future of the West Yorkshire and Leeds City Region.
- CBMDC to engage with Northern Powergrid and known affected developers to understand options for securing electricity upgrades in the most efficient manner.
- To work closely with Metro and the other local authorities within the Leeds City Region Local Enterprise Partnership to develop the priorities for the West Yorkshire Plus Transport Fund and link up transport requirements with CIL development.
- To work closely with Government to make a case for increased Basic Needs Allocation, to tackle existing infrastructure issues in frontline services such as Education.
- To produce an Open Space Strategy to fully understand the options for improving provision to and access to open space, building on the recommendations of the Green Infrastructure Study.
- To develop a Sports Facilities Strategy to create a deliverable plan for tackling deficits in sports facilities and pitches.

Appendix A

List of Infrastructure Stakeholders

A1 List of Infrastructure Stakeholders

Stakeholder		Date of Meeting
Transport		
	Joe Grint, Principal Engineer	June 2014 July 2014
	Richard Gelder Transportation Development Manager	June 2014
	Michelle Greenwood	July 2014
	Toni Rios Network Planning Manager, Highways Agency	Consulted on draft IDP
Utilities		
Electricity	Michael Walbank, System Planning Manager, Castleford	July 2014
Water Supply and Treatment	Stephanie Walden, Yorkshire Water	July 2014
Education		
	Nina Mewse Principal Research & School Planning	July 2014 and comments on draft IDP September 2015.
	Steven Jenks Provision and Capital Lead Officer	July 2014
Health		
	Anita Parkin, Public Health, CBMDC.	July 2014
Flood Risk and Drainage		
CBMBC Drainage Team	Tony Poole Principal Drainage Engineer	June 2014
CBMBC Drainage Team	Mohammad Amjid, Flood Risk Team, CBMDC	June 2014
Environment Agency	Rachel Jones Planning Liaison Technical Specialist	Phone call to confirm that EA have no schemes in this area in July 2014
Green Infrastructure, Open Space and Public Space		
	Danny Smith, Special Projects Officer- Parks	July 2014
	Mick Priestley, CBMDC	July 2014

	Michelle Catlow, CBMDC	July 2014
Sport, Leisure and Recreation		
	Mick Priestly Technical Manager-Environment and Sport	July 2014
Community and Cultural		
Museums and Galleries	Tony Stevens, CBMDC	July 2014
Emergency Services		
Fire Service	Jim Butler, Bradford District Commander	July 2014
Ambulance Service	Jonathan Isles, Dacre, Son and Hartley.	July 2014
Police Service	Vince Firth West Yorkshire Police	July 2014
Community Groups		
Dave West	Little Germany Action Ltd	July 2014
Goitside Partnership	Jonathan Wright	July 2014