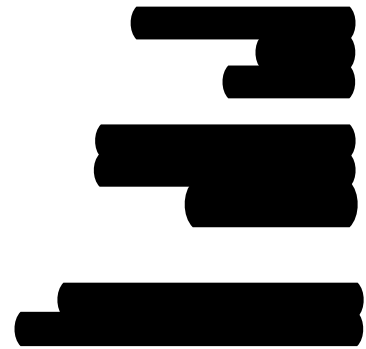




Our Ref:
Your Ref:

30 January 2017

Chris Mansfield
Deputy Director, Planning, Transportation
and Community Projects
Residents Services
London Borough of Hillingdon
Civic Centre
Uxbridge
UB8 1UW



Dear Chris

**Hillingdon Local Plan Part 2 (Revised Proposed Submission Draft Site Allocations and Designations, Development Management Policies, and Policies Map)
Supplementary Representation**

Further to our recent discussions and my letter dated 16th December 2016, I write on behalf of Brunel University London, the Hillingdon Hospitals NHS Foundation Trust (HHNHSFT), and Central and North West London NHS Foundation Trust (CNWLNHSFT) to provide representations to the Proposed Submissions Draft Hillingdon Local Plan Part 2.

The representations comprise a 'cover report' dated January 2017 which is supported by the following appendices:

- **Appendix A** Site plans and proposed Policies Map;
- **Appendix B** Brunel University Development Need Assessment;
- **Appendix C** The Trusts' Development Need Assessment. This comprises
 - (i) a Statement from HHNHSFT; and
 - (ii) a separate statement from CNWLNHSFT.
- **Appendix D** Brunel University Site Capacity Assessment and Concept Masterplan;
- **Appendix E** Brunel University Business Case;
- **Appendix F** Economic Impact Assessment;
- **Appendix G** Green Belt Assessment;
- **Appendix H** Transport Feasibility Report;
- **Appendix I** Brunel University Alternative Site Assessment;
- **Appendix J** Comparables;
- **Appendix K** Historical Land Use Report (Site 4);
- **Appendix L** Ecological Appraisal; and
- **Appendix M** Site 4 Asbestos Survey.

The University and Trusts are keen to meet with you to discuss the representations at your earliest opportunity. In the meantime, should you have any queries, please do not hesitate to contact me.

We look forward to hearing from you soon.

Yours sincerely



Nick Alston
Director
For and on behalf of GVA Grimley Limited





**Representations to the Draft Hillingdon
Local Plan Part 2 (Site Allocations and
Designations, Development Management
Policies and Policies Map)**

Submitted on behalf of Brunel University
London, The Hillingdon Hospitals NHS
Foundation Trust, and Central and North West
London NHS Foundation Trust

January 2017

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Contact:

Nick Alston, Director



1. Introduction

Background

- 1.1 These representations have been prepared by GVA on behalf of Brunel University London (BUL), The Hillingdon Hospitals NHS Foundation Trust (HHNHSFT), and Central and North West London NHS Foundation Trust (CNWLNHSFT)(referred to as the ‘University’ and the ‘NHS Trusts’ from hereon).
- 1.2 BUL operates from a single campus in Uxbridge. The HHNHSFT is the main provider of NHS hospital services in London Borough of Hillingdon (LBH), with the existing Hillingdon Hospital on Field Heath Road being its main facility. The CNWLNHSFT is the main provider of NHS mental health services in LBH and currently operates from a number of separate facilities spread across the borough (including at the Hillingdon Hospital site).
- 1.3 The University submitted representations in December 2015 in response to the formal public consultation on the Revised Proposed Submission Draft Local Plan Part 2. The representations explained that we considered the draft Local Plan to be unsound on the following grounds:
1. It has not been informed by an objective assessment of the development needs of the higher education/research sector (including BUL) and fails to plan positively to meet such needs in full. As a consequence the plan is:
 - Not positively prepared;
 - Not justified; and
 - Not consistent with national policy (including NPPF paragraphs 14, 17, 19 and 20)
 2. It proposes to designate land at BUL (Site 4 of the Uxbridge Campus) as a ‘Nature Conservation Site of Borough Grade 2 or Local Importance’. However we consider there to be insufficient evidence to justify the designation, consequently the Plan is not justified in this regard.
- 1.4 The representations explained that in our view the Plan could be made sound by the following changes:
1. Undertake an objective assessment of the development needs of the higher education/research institution sector, and add policies to the Plan to meet those needs in full (to include allocating specific sites for development). This should include the allocation of BUL’s Uxbridge Campus (Sites 1-5) for higher education/research uses, and to include a Green Belt boundary review that removes the Green Belt designation from Sites 1, 2, 3 and 4; and

2. Delete the proposed designation of Site 4 of the University's Uxbridge campus as a Nature Conservation Site of Borough Grade 2 of Local Importance.

1.5 The representations indicated that Site 4 may have capacity to accommodate further development needs beyond those that had been assessed by the University at that time, potentially including those associated with healthcare.

Current Position

1.6 In the period since the University's representations were submitted, it has been engaged in extensive discussions with London Borough of Hillingdon (LBH) as Local Planning Authority (LPA) and the NHS Trusts.

1.7 The University and the Trusts are seeking to develop an integrated higher education and healthcare campus on Site 4 of BUL's Uxbridge campus, which would include a new hospital, associated healthcare facilities, and a medical school alongside new accommodation for the University elsewhere on Sites 1-7. This provides an opportunity to meet significant education and healthcare needs, and realise unique complementary benefits associated with co-location particularly those associated with the education of healthcare professionals and healthcare related research.

1.8 The ambition of the institutions is significant. The proposed education/healthcare facility is intended to be transformative and of genuine international calibre in terms of its education, research, and healthcare services.

1.9 The new healthcare facilities would replace the existing Hillingdon Hospital on Pield Heath Road. At this point in time it is anticipated that this site will be surplus to the Trusts' needs either in part or full following the completion of new facilities, which will free up the site for redevelopment. It is our view that the site is suitable for residential and/or healthcare development, contributing towards meeting London's pressing housing needs. The Trusts are dependent on securing a substantive receipt from the disposal of this site (or a long term income stream if it is retained) in order to contribute to the funding of the proposed new healthcare facilities.

1.10 In order to mitigate the risk of the University and Trusts' growth plans, it is essential that a policy position is established in the Local Plan that supports the principle of development at the Uxbridge campus and existing hospital site.

1.11 In response to this, the LPA has invited the University and the Trusts to submit updated and combined representations to the emerging Local Plan, as set out in this report and its

appendices. These representations are intended to replace the representations submitted by the University dated December 2015.

The Representation

1.12 The University and Trusts consider the Proposed Submission Draft Local Plan Part 2 to be unsound on the following grounds:

1. It has not been informed by an up to date objective assessment of the development needs of the higher education/research and healthcare sectors (including the specific needs of BUL and the Trusts) and fails to plan positively to meet such needs in full. As a consequence the plan is:
 - Not positively prepared;
 - Not justified; and
 - Not consistent with national policy (including NPPF paragraphs 14, 17, 19 and 20)
2. It proposes to designate land at BUL (Site 4 of the Uxbridge Campus) as a 'Nature Conservation Site of Borough Grade 2 or Local Importance'. However we consider there to be insufficient evidence to justify the designation, consequently the Plan is not justified in this regard.

1.13 It is our view that the Plan can be made sound by the following changes:

1. Undertake an objective assessment of the development needs of the higher education/research institution and healthcare sectors (focussed on the specific needs of BUL and the Trusts), and add policies to the Plan to meet those needs in full (to include allocating specific sites for development). This should include:
 - the allocation of BUL's Uxbridge campus (Sites 1-7) for higher education/research and healthcare uses;
 - a Green Belt boundary review that removes the Green Belt designation from Sites 1, 2, 3 (northern part), 4, 6 and 7 of the University's Uxbridge campus; and
 - the allocation of the existing Hillingdon Hospital site for residential and/or healthcare uses.
2. Delete the proposed designation of Site 4 of the University's Uxbridge campus as a Nature Conservation Site of Borough Grade 2 of Local Importance.

1.14 Refer to proposed Policies Plan at Appendix A.

1.15 This report and its associated appendices provide the evidence to underpin the above representations – focussed on demonstrating that there is an Exceptional Circumstances case to justify a revision of the Green Belt. This case is based upon the following grounds:

1. The delivery of significant public benefits associated with satisfying the following needs:
 - There is a significant economic (education) and social need for the expansion of the University. This is a location specific need that can only be satisfied on the BUL Uxbridge Campus;
 - There is a significant social (healthcare) need for the Trusts to provide new healthcare facilities. This is a location specific need that can only be met in the local area with significant benefits of co-locating with an expanded BUL;
 - There is an environmental need to remediate Site 4 (of the University's Uxbridge Campus);
 - There is a broader strategic need to increase the supply of land for housing; and
2. The above benefits can be realised with limited harm to the Green Belt and there are no other development management policies that suggest that development should be restricted.

Structure and Content of the Representation

- 1.16 This report is intended to provide an overview of the case, structured as follows:
- **Section 2** describes the sites;
 - **Section 3** sets out the planning policy context;
 - **Section 4** sets out the sites' planning history;
 - **Section 5** sets out the need for development;
 - **Section 6** considers how the assessed need can be most appropriately met;
 - **Section 7** considers key planning policy issues (including Green Belt, transport, nature conservation, contamination);
 - **Section 8** considers precedent and comparable developments;
 - **Section 9** sets out our response to the Council's response to the University's previous representations; and
 - **Section 10** concludes the report.
- 1.17 Each of the above sections signposts to the following appendices which provide further details:
- **Appendix A** Site plans, aerial photograph, and proposed Policies Map;
 - **Appendix B** Brunel University London Development Need Assessment;
 - **Appendix C** The Trusts' Development Need Assessment. This comprises
 - (i) a Statement from HHNHSFT; and
 - (ii) a separate statement from CNWLNHSFT.
 - **Appendix D** Brunel University London Site Capacity Assessment and Concept Masterplan;
 - **Appendix E** Brunel University London Business Case;
 - **Appendix F** Economic Impact Assessment;

- **Appendix G** Green Belt Assessment;
- **Appendix H** Transport Feasibility Report;
- **Appendix I** Brunel University London Alternative Site Assessment;
- **Appendix J** Comparables;
- **Appendix K** Historical Land Use Report (Site 4);
- **Appendix L** Ecological Appraisal; and
- **Appendix M** Site 4 Asbestos Survey.

2. The Sites

Brunel University London – Uxbridge Campus

- 2.1 Brunel University London operates from a 78 hectare campus located approximately 1km to the south of Uxbridge town centre, within the administrative area of the London Borough of Hillingdon (LBH). It has no other substantive landholdings in the borough.
- 2.2 It is the only single-campus based university in London. The campus is divided into 7 'sub-sites' (refer to plan at Appendix A):
- **Sites 1 and 2** lie either side of Cleveland Road and accommodate the majority of the University's built accommodation. This comprises an intensely developed mix of academic/teaching space, specialist research facilities and student housing (halls of residences) across a site area of around 40ha. Existing buildings date from the 1960's onwards.
 - **Site 3** lies to the east of Kingston Lane. It accommodates University outdoor sports facilities and is sub-divided into 2 parts by a public footpath. The northern part (approx. 1.8ha) accommodates playing pitches and the southern part (approx. 6.2ha) accommodates a running track, all-weather sports courts and associated indoor sports facilities.
 - **Site 4** extends to approximately 12.4ha and is located immediately to the south of Site 2. Part of the site (approximately 1.6ha) accommodates a series of single storey buildings and associated surface car parking currently used as a garden centre (trading as 'Hillingdon Garden Centre'). The remainder of the site is unused (this land was formerly used as a market garden – there are remains of greenhouses, structures and surface infrastructure associated with this former use/development). The land has been vacant for an extended period of time and is fenced off (there is no public access).
 - **Site 5** lies to the south of Church Lane and extends to approximately 17.3ha (42.8 acres). It accommodates playing fields and grassland (open greenspace).
 - **Site 6** extends to 0.21ha (0.52 acres) and comprises land located to the east of Kingston Lane incorporating the buildings known as Martyn Lodge, Kingston House and The Bourne, as well as the land to the rear of these buildings. It has Hillingdon and Uxbridge Cemetery located to the north, east and south of its boundaries. The historic use of the site appears to have been commercial gardens/nurseries.
 - **Site 7** extends to 0.9ha (2.24 acres) and is located to the west of Kingston Lane. The site accommodates Ewelme House and Ewelme Cottage (both single storey buildings). To the west are allotments and to the south is a Pentecostal Church.

- 2.3 The main vehicle access is via Kingston Lane and the site is served by numerous bus routes which provide connections to the tube network at Uxbridge and national rail at West Drayton. The site has a Public Accessibility Level (PTAL) rating of 2 (poor).
- 2.4 Existing university buildings extend to approximately 233,851sqm (gross internal area) (excluding the garden centre), comprising approximately 125,120sqm of teaching, research and support facilities and 108,731sqm of student housing. This equates to a gross floorspace to plot size ratio (plot ratio) of around 0.58 (based on the gross 40ha area of Sites 1 and 2 only).
- 2.5 The River Pinn passes north to south through the centre of the University Campus (affecting Sites 2, 4 and 5). The Environment Agency Flood Map indicates that parts of Sites 2, 4 and 5 are designated as Flood Zone 2/3, while the remainder of the campus is Zone 1.

Hillingdon Hospital

- 2.6 The Hillingdon Hospital site extends to approximately 9.3ha and is located approximately 200m to the south east of the University's campus (at its closest point). It is bound to the north by Field Heath Road, the east by Colham Green Road and the west by Royal Lane. The main vehicular access point is from Field Heath Road. Uxbridge town centre is approximately 2km to the north west.
- 2.7 The site accommodates Hillingdon Hospital, which is operated by the Hillingdon Hospitals NHS Foundation Trust which provides acute and mental health services. The site is intensely developed, accommodating approximately 52,000sqm of accommodation in buildings of up to 9 storeys. Most of the existing accommodation was built in the period 1963-67 and is dominated by the Tower, Podium and Maternity Blocks.
- 2.8 Refer to the Development Needs Assessment report at Appendix C(i) for further details.
- 2.9 Note that there are a number of CNWLNHSFT facilities in the borough that are intended to be replaced as part of this strategy. However it is not seeking to review these sites as part of this local plan process.

3. Planning Policy Context

- 3.1 The policies set out in the emerging Hillingdon Local Plan (Part 2) must be in general conformity with policies set out in the National Planning Policy Framework (NPPF) and the London Plan, and should be consistent with policies in the adopted Hillingdon Local Plan (Part 1). Accordingly, this existing policy context establishes a ‘framework’ within which the new local plan policies must be prepared.
- 3.2 This section provides an overview of this existing policy framework as is relevant to both sites (BUL’s Uxbridge campus and the existing Hillingdon Hospital site) and the proposed development, which acts as the policy context for the planning case set out in the subsequent sections.

The National Planning Policy Framework

- 3.3 The NPPF sets out the Government’s overarching planning policies for England. It must be taken into account by local planning authorities in the preparation of local plans and is a material consideration in planning decisions.
- 3.4 The key objective of the NPPF is to achieve sustainable development, which is defined by the policies set out in the NPPF. It confirms a general presumption in favour of sustainable development at paragraph 14, which for plan-making means that:
- Local Planning Authorities should positively seek opportunities to meet the development needs of their area; and
 - Local Plans should meet objectively assessed needs with sufficient flexibility to adapt to rapid changes, unless:
 - any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this framework taken as a whole; or
 - Specific policies in the NPPF indicate that development should be restricted (for example, land designated as Green Belt).
- 3.5 The above ‘presumption’ establishes the overarching starting point for determining the acceptability of development at the University and hospital sites. Moving beyond this, the principal NPPF policy issues of relevance relate to economic development (education), social infrastructure provision (healthcare), housing and Green Belt, as discussed below.

- 3.6 We note that the principal land use matters relate to education and healthcare. Housing is relevant as it is considered an appropriate future alternative use for the existing Hillingdon Hospital site.

Economic Development

- 3.7 Universities act as important drivers of local and regional economies. The NPPF establishes very clear in-principle support for economic development, and therefore the growth of Universities.
- 3.8 Proactively driving and supporting sustainable economic development is identified in the NPPF as a core land use planning principle which should underpin both plan-making and decision taking (para. 17). This core principle is bolstered by Paragraph 19 which states that the Government's expectation is that the planning system should do everything it can to support sustainable economic growth. It requires significant weight to be placed on the need to support economic growth through the planning system which is expected to operate to encourage and not act as an impediment to sustainable growth.
- 3.9 When preparing Local Plans, paragraph 21 of the NPPF requires local planning authorities to do the following:
- Set out a clear economic vision and strategy for their area which positively and proactively encourages sustainable economic growth;
 - Identify strategic sites for local and inward investment to match the strategy and meet anticipated needs over the plan period;
 - Support existing business sectors, taking account of whether they are expanding or contracting; and
 - Plan positively for the location, promotion and expansion of clusters or networks of knowledge driven, creative or high-technology industries.

Healthcare

- 3.10 Paragraph 7 states that accessible local services that reflect the community's needs and support its health and well-being is a key part of the social role towards achieving sustainable development. The delivery of sufficient community facilities and services to meet local needs is also a core land use planning principle (Para 17) that should underpin plan-making and decision-taking.
- 3.11 To deliver the needs of the community, planning policies and decisions should ensure an integrated approach to considering the location of housing, economic uses and community facilities and services (para 70). This paragraph also requires local planning authorities to

guard against the unnecessary loss of valued facilities and services, particularly where this would reduce the community's ability to meet its day-to-day needs.

- 3.12 Paragraph 171 states that local planning authorities should work with public health leads and health organisations to understand and take account of the health status and needs of the local population, including expected future changes, and any information about relevant barriers to improving health and well-being.

Housing

- 3.13 A key policy aim of the NPPF is to boost the supply of housing.
- 3.14 As a key dimension of achieving sustainable development, Paragraph 7 identifies the need to provide the supply of housing required to meet the needs of present and future generations. It is also stated as a core land use planning principle (para 17) that every effort should be made to objectively identify and then meet housing needs.
- 3.15 To boost significantly the supply of housing, Paragraph 47 advises that local planning authorities should ensure their Local Plan meets the full, objectively assessed needs for market and affordable housing. Paragraph 49 identifies that housing applications should be considered in the context of the presumption in favour of sustainable development.

Green Belt

- 3.16 The principal policy constraint to development at the BUL Uxbridge campus site is the Green Belt policy designation that covers the entire site (a UDP policy).
- 3.17 The NPPF confirms that the fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open. The essential characteristics of Green Belts being their openness and their permanence (paragraph 79).
- 3.18 Paragraph 80 of the NPPF confirms the five purposes of Green Belt land, as follows:
- to check the unrestricted sprawl of large built-up areas;
 - to prevent neighbouring towns merging into one another;
 - to assist in safeguarding the countryside from encroachment;
 - to preserve the setting and special character of historic towns; and
 - to assist in urban regeneration, by encouraging the recycling of derelict and other urban land.
- 3.19 Paragraph 83 requires Green Belt boundaries to be established in Local Plans. Once established, it states that Green Belt boundaries should only be altered in exceptional

circumstances, through the preparation or review of the Local Plan. At that time, authorities should consider the Green Belt boundaries having regard to their intended permanence in the long term, so that they should be capable of enduring beyond the plan period.

3.20 If Green Belt boundaries are to be reviewed, paragraph 84 of the NPPF requires local planning authorities to take account of the need to promote sustainable patterns of development. It requires local planning authorities to:

- ensure consistency with the Local Plan strategy for meeting identified requirements for sustainable development;
- not include land which it is unnecessary to keep permanently open;
- where necessary, identify in their plans areas of 'safeguarded land' between the urban area and the Green Belt, in order to meet longer-term development needs stretching well beyond the plan period;
- make clear that the safeguarded land is not allocated for development at the present time. Planning permission for the permanent development of safeguarded land should only be granted following a Local Plan review which proposes the development;
- satisfy themselves that Green Belt boundaries will not need to be altered at the end of the development plan period; and
- define boundaries clearly, using physical features that are readily recognisable and likely to be permanent.

3.21 Inappropriate development is, by definition, harmful to the Green Belt and should not be approved except in very special circumstances (NPPF, paragraph 87). The NPPF confirms, at paragraph 89, that the construction of new buildings in the Green Belt should be regarded as inappropriate.

The London Plan

3.22 The London Plan forms part of the development plan affecting the site and, at a local level, London Boroughs must ensure that their Local Plans are in general conformity with it. The current London Plan was adopted in March 2016, though a consultation draft of a new London Plan is expected to be published in autumn 2017. As per the NPPF, the key relevant London Plan policy considerations relate to education/economic development, social infrastructure (healthcare), housing, and Green Belt, as discussed below:

Education/Economic

3.23 The London Plan acknowledges the link between London's status as a pre-eminent global business location and the importance of London's world class higher education and research

institutes. It recognises that higher education is an important economic sector in its own right and establishes clear in-principle policy support for the growth of education/research institutions.

3.24 One of the key objectives of the Plan is to ensure London is ‘an internationally competitive and successful city with a strong and diverse economy and an entrepreneurial spirit that benefits all Londoners and all parts of London; a city which is at the leading edge of innovation and research and which is comfortable with – and makes the most of – its rich heritage and cultural resources.’

3.25 It states at paragraph 3.107:

‘Higher education in London provides an unparalleled choice of undergraduate and postgraduate degrees, continuing professional development, advanced research, and infrastructure to support business growth, e.g., incubation space and business support services. It is also a major employer and attracts major international companies able to benefit from the universities’ research reputation, such as in pharmaceuticals and life sciences. Universities also play a vital part in ensuring Londoners have the higher order skills necessary to succeed in a changing economy, and for the capital to remain globally competitive (Policy 4.12).’

3.26 Policy 3.18 states that the Mayor will “support provision of higher education facilities adequate to meet the demands of a growing and changing population and to enable greater educational choice”, requiring Local Plans to assess the need for higher education development and secure sites for provision.

3.27 Policy 4.10 relates to new and emerging economic sectors and requires Borough and stakeholders to:

‘give strong support for London’s higher and further education institutions and their development, recognising their needs for accommodation and the special status of the parts of London where they are located...’

3.28 Paragraph 4.54 states:

‘The Mayor strongly supports measures to secure and develop London’s leading role as a centre of higher and further education of national and international importance. These are important economic sectors in their own right with a key part to play in developing London’s world city offer, as well as having considerable potential for greater synergies in fostering innovation....’

- 3.29 Table 2.1 identifies outer London business locations with specialist strengths (e.g. higher education, media, strategic office, logistics / other transport related uses) which potentially or already function about the sub-regional level and generate growth significantly above the long term outer London trend. The intention being that these would complement the network of town and other centres. Uxbridge is identified as a potential outer London development centre in relation to higher education.
- 3.30 Policy 2.1 seeks to ensure that London 'retains and extends its global role as a 'sustainable centre for business, innovation, creativity, health, education and research, culture and art and as a place to live, visit and enjoy'.

Healthcare

- 3.31 London Plan Policies 3.2, 3.16 and 3.17 deal with planning for healthcare in London.
- 3.32 Policy 3.2 focuses on improving the health of Londoners and addressing health inequalities. The focus is on the Mayor, Boroughs, the NHS and other service providers working together positively to best address needs.
- 3.33 Policy 3.16 confirms the need for additional and enhanced social infrastructure provision in London to meet identified needs (which includes hospitals), with Local Plans required to provide a framework for collaborative working with social infrastructure providers with the aim of ensuring that needs are met.
- 3.34 Paragraph 3.87A confirms that the loss of social infrastructure in areas of defined need may be acceptable if it can be demonstrated that the disposal of assets is part of an agreed programme of social infrastructure re-provision to ensure continued delivery of social infrastructure and related services.
- 3.35 Policy 3.17 specifically supports the provision of new healthcare development where needed, with Local Plans required to identify and address significant health care issues.

Housing

- 3.36 In line with national policy, a core objective of the London Plan is to boost the supply of housing. As a means of increasing housing supply, Policy 3.3 supports additional development capacity to be brought forward in the preparation of local plans, in particular the potential to realise housing on brownfield land through intensification and mixed use redevelopment in locations of good accessibility. Boroughs are expected to seek to achieve and exceed the minimum targets set out in Table 3.1.

- 3.37 Policy 3.8 (Housing Choice) requires boroughs to address strategic and local requirements for student housing meeting a demonstrable need by working closely with higher education stakeholders and without compromising capacity for conventional homes. Paragraph 3.52 identifies there could be a requirement for a further 20-31,000 student bedspaces in the period to 2025.

Green Belt

- 3.38 Policy 7.16 of the London Plan relates to Green Belt land. It states that the Mayor strongly supports the current extent of London's Green Belt and its protection from inappropriate development. It states that the strongest protection should be given to London's Green Belt and that inappropriate development should be refused, except in very special circumstances.

Hillingdon Local Plan (Part 1 – Strategic Policies)

- 3.39 LBH's Local Plan Part 1 (previously known as the Core Strategy) was adopted in November 2012. It establishes an adopted strategic policy basis within which site specific allocations and development management policies should be prepared. As with national/regional policy, the key relevant issues are education/economic development, healthcare (social infrastructure), housing, and green belt.

Education/Economic

- 3.40 The Local Plan confirms that Uxbridge is the main urban centre in Hillingdon and is classified as a Metropolitan Centre. At Table 5.4, it describes Uxbridge as follows:

'Uxbridge has an office stock of around 205,000 sq.m, the fourth largest concentration in outer London, and is a key centre for the office market in West London. A number of operators have their headquarters or European headquarters in Uxbridge which has cluster strengths of pharmaceuticals and IT companies, business support services and food sectors. Businesses are attracted by good road access, the quality of the townscape and service provision, availability of suitable premises, Brunel University and the local skills base.' (our emphasis)

- 3.41 The specific strategic level support for the higher education sector is reflected at paragraph 9.50 of the adopted Hillingdon Local Plan Part 1, which recognises that the borough contains highly respected higher education institutions. It states that 'Policies will be developed in subsequent LDDs to ensure that a high standard of teaching can continue to be provided in these establishments over the period of the Hillingdon Local Plan Part 1. The Council will continue its collaborative working arrangements with these institutions (e.g. Brunel University)

during the preparation of the Hillingdon Local Plan and during subsequent monitoring and reviews’.

- 3.42 The completion of a ‘new masterplan’ for BUL is listed in the Infrastructure Schedule at Appendix 2 of the Local Plan Part 1. The need for such a masterplan is identified ‘to enable the University to deliver international standards of research and teaching facilities, which necessitates continued expansion and improvements to its accommodation’.
- 3.43 The Council’s published Local Development Scheme indicates that the Local Plan will comprise the adopted Part 1 plus the Part 2 documents currently under consultation only. It follows that the ‘subsequent LDDs’ referred to at 9.50 of the Part 1 Local Plan can only comprise the Part 2 documents, and that therefore the scope of the Local Plan Part 2 should cover the higher education/research sector (and the specific needs of BUL) in order to accord with Part 1 (and for the Local Plan as a whole to accord with the NPPF and London Plan). The same principal applies to Hillingdon Hospital and healthcare uses.

Healthcare

- 3.44 The vision for Hillingdon in 2026 includes an aim to close social inequality gaps. To achieve this vision, Strategic Objective SO6 seeks to promote social inclusion through equality of access to health facilities across the borough, particularly for residents living in areas of identified need.
- 3.45 Paragraph 9.43 acknowledges that the quantity, quality and accessibility of social infrastructure such as health facilities make a direct contribution to the quality of life in Hillingdon. Social infrastructure is essential in providing people with better life opportunities and creating a sustainable community and the Council will seek to resist the loss of such facilities (para 9.44).
- 3.46 Improved access to social infrastructure forms a key part of the Borough’s strategy to address deprivation, particularly in and around areas of identified need, and further social infrastructure provision will be required to meet the needs of Hillingdon’s growing population and also to accommodate additional housing growth.
- 3.47 Therefore, it is essential that the capacity of social infrastructure should be increased to reflect the inevitable increase in demand as new people move into the borough. The provision of social infrastructure will need to reflect the changing needs of the population over the period of the Hillingdon Local Plan: Part 1 – Strategic Policies. Policies in subsequent LDDs will need to make provision for the facilities required by an ageing population (para 9.47). It will be important to safeguard sites for future health service needs and also to protect existing sites and premises (para 9.48).

- 3.48 Policy CI1 seeks to help deliver Strategic Objective S06. Policy CI1 states that the Borough will ensure that community and social is provided in Hillingdon to cater for the needs of the existing community and future populations by:
- Resisting of the loss of community facilities, and where the loss of these facilities is justified it will seek to ensure that resulting development compensates these uses to ensure no net loss;
 - Supporting the retention and enhancement of existing community facilities;
 - Locating libraries, health facilities, police facilities, leisure facilities and community centres in town centres or other accessible locations to maximise community access, sustainable transport and build a sense of local community identity.

Housing

- 3.49 Strategic Objectives SO7 and S019 of the Local Plan seek to address housing needs in the Borough and to meet the London Plan housing target. These are considered the two main challenges for housing provision within the plan period.
- 3.50 Paragraph 6.1 acknowledges that ensuring the delivery of a sufficient level of housing is a key challenge for the Borough as a whole. This is reinforced in Policy H1, in which it states that the Borough will meet and exceed its minimum strategic dwelling requirements, where this can be achieved. Sites that will contribute to the achievement of this target will be identified in the Local Plan Part 2.
- 3.51 To implement Policy H1, the Borough will:
- Ensure development makes the most efficient use of brownfield land;
 - Promote high quality mixed use developments;
 - Ensure that sufficient community infrastructure is provided to support new housing development;
 - Consider the potential for additional housing on sites in the Hillingdon Local Plan: Part 2- Site Specific Allocations LDD;
 - The release of sites in non-residential use, subject to other policies of the plan; and
 - Prepare site specific planning briefs for larger sites.

Green Belt

- 3.52 Paragraph 8.20 of the Local Plan acknowledges that the most important attribute of Green Belts is their openness. It goes on to state that the main purpose of Hillingdon's Green Belt is:
- to keep land open and free from development;
 - to maintain the character and identity of individual settlements; and
 - to make a clear distinction between rural and urban environments.

- 3.53 The Local Plan aims to create sustainable communities by concentrating new development in urban areas and local town centres. Paragraph 8.20 states that the Green Belt's role is 'to help reinforce this strategy by strictly controlling development in the open countryside'. In this context, it is important to note that Site 4 is not within the open countryside nor within a rural environment.
- 3.54 Site 4 is however within an area identified by the Local Plan (Map 8.1) as a 'Green Chain'. Paragraph 8.22 defines Green Chains as habitats linked by natural and man-made corridors that enable flora and fauna to migrate into the centre of London. It notes that the green links between sites include public footpaths, bridleways, canals, rivers, streams and tree lined streets and road verges, all of which contribute to the green network within the borough.
- 3.55 Local Policy EM2 relates to Green Belt, Metropolitan Open Land and Green Chains. It states:
- 'The Council will seek to maintain the current extent, hierarchy and strategic functions of the Green Belt, Metropolitan Open Land and Green Chains. Notwithstanding this, Green Chains will be reviewed for designation as Metropolitan Open Land in the Hillingdon Local Plan: Part 2- Site Specific Allocations LDD and in accordance with the London Plan policies. Minor adjustments to Green Belt and Metropolitan Open Land will be undertaken in the Hillingdon Local Plan: Part 2- Site Specific Allocations LDD. Any proposals for development in Green Belt and Metropolitan Open Land will be assessed against national and London Plan policies, including the very special circumstances test. Any proposals for development in Green Chains will be firmly resisted unless they maintain the positive contribution of the Green Chain in providing a visual and physical break in the built-up area; conserve and enhance the visual amenity and nature conservation value of the landscape; encourage appropriate public access and recreational facilities where they are compatible with the conservation value of the area, and retain the openness of the Green Chain.'*

The LBH Unitary Development Plan (1998)

- 3.56 LBH's Unitary Development Plan (UDP) was adopted in 1998 and is now time-expired. The policies contained in the Plan are under review as part of the preparation of the new Hillingdon Local Plan (Part 2) and are expected to be deleted following adoption of the new plan. Notwithstanding this, headline details of key policies are provided below for the purposes of context.
- 3.57 The key 'Saved Policies' are Policy PR22, which relates specifically to BUL, and Policies OL1, OL4 and OL5 which relate to development within the Green Belt.

Brunel University London (Uxbridge Campus) (Site Specific Policy)

3.58 Saved UDP Policy PR22 relates specifically to BUL, and which states:

'Brunel University Campus shall be reserved for development associated with the University's functioning as a centre for academic learning and research. In order to safeguard the function and open nature of the Green Belt across the campus, infill and development will be encouraged on Site 2 providing it does not harm the environment. Development on the predominantly open land on Site 1 will be acceptable where (i) the proportion of developed to undeveloped land is such that the site retains its open character; (ii) the land is able to sustain its ecological and nature conservation interest; and (iii) development does not detract from residential amenity. Development of Site 3 and Site 5 will be restricted to outdoor sport and informal recreational uses which retain the existing open character.'

In considering any proposal at the University, the following objectives will be taken into account:-

- (i) to preserve and enhance the ecological interest of the land including establishing nature conservation and wildlife corridors;*
- (ii) to seek public access to the campus where this does not compromise the University's operational requirements or the safety and security of the students and staff;*
- (iii) to provide both on and off-site road and junction improvements;*
- (iv) to augment existing tree belts along the northern and western boundaries on Site 1 and provide additional planting and landscaping where appropriate elsewhere;*
- (v) to provide adequate on-site car parking;*
- (vi) to enhance the existing footpath network on the campus;*
- (vii) to protect local residential amenity.'*

Green Belt

3.59 LBH's policy on development within the Green Belt is set out in Saved Policy OL1. This states:

'Within the Green Belt, as defined on the Proposals Map, the following predominantly open land uses will be acceptable:

- (i) agriculture, horticulture, forestry and nature conservation;*
- (ii) open air recreational facilities;*
- (iii) cemeteries*

The local planning authority will not grant planning permission for new buildings or for changes of use of existing land and buildings, other than for purposes essential for and associated with the uses specified at (i), (ii) and (iii) above. the number and scale of buildings permitted will be kept to a minimum in order to protect the visual amenity of the Green Belt.

Limited infilling or redevelopment of Major existing developed sites shown in the Proposals Map and set out in Table 3.3 below and in accordance with proposals adopted in this Plan is considered appropriate provided it complies with the criteria detailed in paragraphs C3 to C8 of Annex c to PPG2.'

- 3.60 Since Policy OL1 was adopted in 1998, the national planning context had moved on and PPG2 has since been replaced by the NPPF (2012). However, the planning policy position in relation to Green Belt land has predominately remained the same.
- 3.61 UDP Table 3.3 identifies BUL's Uxbridge campus as a 'Major Developed Site in the Green Belt'.
- 3.62 Saved UDP Policy OL4 relates to intensification or enlargement of existing buildings within or adjacent to the Green Belt. It states that LBH will only permit such development where:
- (i) the development would not result in any disproportionate change in the bulk and character of the original building;*
 - (ii) the development would not significantly increase the built up appearance of the site;*
 - (iii) having regard to the character of the surrounding area the development would not injure the visual amenities of the green belt by reason of siting, materials, design, traffic or activities generated.'*

Hillingdon Hospital (Site Specific Policy)

- 3.63 Saved UDP Policy PR21 relates specifically to Hillingdon Hospital, and which states:
- "At the Hillingdon Hospital site, the Local Planning Authority will encourage redevelopment where appropriate for health purposes associated with Hillingdon Hospital subject to:-*
- (i) Comprehensive proposals showing the Health Authority's intentions for the whole site;*
 - (ii) Appropriate phasing including the provision of associated access, servicing, car parking provision and landscaping in accordance with current policies and standards;*
 - (iii) Land bank provision to allow for possible future changes in the need for health services;*
 - (iv) Where land is surplus to current and future requirements, alternative development will be considered in the light of relevant policies of this Plan;*
 - (v) Safeguarding and improvement of local residential amenity.*
- 3.64 The site is not located within the Green Belt, nor is it subject to any other policy designation.

Summary

- The planning system is pro-growth;

- Local Plans should plan positively to meet objectively assessed development needs unless adverse impacts of doing so would significantly and demonstrably outweigh the benefits when assessed against the policies in the framework as a whole, or if specific NPPF policies indicate that development should be restricted;
- The existing policy framework of the NPPF, London Plan, and Hillingdon Local Plan Part 1 is supportive of the principle of expanding the healthcare and Higher Education sectors to address identified economic and social needs. Furthermore, it firmly supports the reuse of sustainably located redundant brownfield land for housing;
- The erection of new buildings on land designated as Green Belt is regarded as inappropriate, however policy allows for Green Belt boundaries to be revised as part of Local Plan reviews to make way for sustainable development where exceptional circumstances can be demonstrated.

4. Planning History

Brunel University London (Uxbridge Campus)

- 4.1 Development has been brought forward incrementally in a planned manner, in accordance with a series of masterplans dating back to the 1960's the most recent one having been granted outline planning consent in 2004. We understand that the site has been designated as Green Belt throughout its history, confirming that the expansion of the University has been found to satisfy Very Special Circumstance policy tests on multiple occasions.
- 4.2 In 1990, the University prepared a Masterplan for the Uxbridge campus to cover development requirements up to 2000. This was granted outline planning consent in 1992.
- 4.3 The University proceeded to prepare a further masterplan for Sites 1 and 2 in the early 2000's, to guide development over the proceeding 10-15 years. This was granted outline planning consent in 2004 (application ref. 532/APP/2002/2237). The description of development is as follows:
- 'Brunel University master plan proposals comprising erection of 48,064 sq.m of new academic floorspace, 69,840 sq.m of new student residential accommodation, ancillary floorspace and infrastructure, provision of 645 additional parking spaces, improved access from Kingston Lane, new access from Cowley Road, highway improvements to Cleveland Road, improved pedestrian and cycle routes, landscaping and environmental improvements (involving demolition of 18,600 sq.m of existing floorspace) (outline application)'.
- 4.4 The 2004 Masterplan has now been partially implemented. All of the approved student accommodation (69,840sqm) has been implemented, however a balance of 20,546sqm (43%) of the academic floorspace remains to be implemented.
- 4.5 Planning permission was granted in January 2017 (ref. 532/APP/2012/670) to extend the period in which reserved matters applications can be submitted to January 2020.
- 4.6 More recently, planning permission has been granted for the 'BCast' research facility (ref. 532/APP/2014/30) and 'AMCC2' research facility (ref.532/APP/2015/3350) on Site 2, with the LPA and GLA accepting that Very Special Circumstances existed to justify the development.

Hillingdon Hospital

- 4.7 As explained in Section 2, most of the existing buildings at the Hillingdon Hospital site were developed in the 1960's.
- 4.8 In 1987, outline planning permission was granted for part of the site to be redeveloped for housing resulting in six separate applications for approximately 250-300 residential dwellings that were approved by 1991.
- 4.9 More recently, in 2005, outline planning permission was granted for the phased redevelopment of the existing Hospital comprising the erection of three linked blocks and totalling 85,000m² of floorspace, reconfiguration of on-site car parking and access arrangements. An application was subsequently approved to vary the time limit to allow reserved matters to be submitted. This has not been implemented (refer to the Trusts' Need Assessment Report at Appendix C (i) for explanation).
- 4.10 There have also been a number of minor planning permissions granted for extensions to existing buildings and the erection of temporary and permanent buildings to provide additional healthcare, visitor facilities, staff amenity and car parking areas, a crèche, and office and storage space throughout the life of the hospital.

5. Development Need

- 5.1 The NPPF makes it clear at paragraphs 14 and 17 that, in preparing their Local Plans, Local Planning Authorities (LPAs) should make every effort to objectively assess the development needs of their area and plan to meet those needs in full (subject to the tests at paragraph 14). It is on this basis that in our view, in order for the Local Plan to be sound, it should be informed by an assessment of the needs of the Higher Education/Research and healthcare sectors (including those of BUL and the Trusts) and plan positively to meet those needs unless:
- Any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in the NPPF when taken as a whole; or
 - Specific policies in the NPPF indicate that development should be restricted.

Brunel University London

- 5.2 As discussed in the planning policy review section, we consider the Higher Education/Research sector to fall within the definition of ‘Economic Development’ (as per NPPF Annex 2), and therefore the provisions of NPPF paragraphs 18-22 apply. This reinforces paragraph 14’s requirement for ‘positive’ planning, by requiring the planning system to do everything it can to support sustainable economic growth, with planning operating to encourage and not act as an impediment to sustainable growth. This confirms that significant weight should be placed on the need to support economic growth through the planning system, with LPA’s required to plan proactively to meet the development needs of business and support an economy fit for the 21st century. More specifically, national and London Plan policies require LPAs to assess the needs of the higher education sector and plan positively to meet these needs in Local Plans.
- 5.3 In response to this policy context, the University has prepared an evidence base that sets out the need for expansion. This comprises:
- An Economic Impact Assessment (Appendix F);
 - Business Case (Appendix E); and
 - The University’s Assessment of Development Need report (Appendix B). This is an update to the version that was issued to the Council as part of representations to the Proposed Submission Draft Local Plan Part 2 in December 2015.
- 5.4 The above evidence base confirms the following needs case:
- There is a national need for the UK Higher Education sector to expand in order to satisfy Government economic and social policy objectives (needs);
 - Brunel University is a successful higher education institution whose subject focus (STEM) is aligned with Government aims to diversify the UK economy. It follows that Brunel University

(and other similarly successful STEM focussed institutions) should be a focus for expansion in order to satisfy national economic and social needs;

- Brunel University makes a significant contribution to the local/London/national economy with a trend of continual improvement through time. It is logical that policy makers should seek to protect and enhance this contribution going forwards (in the context of an increasingly competitive and internationalised Higher Education sector);
- The University is keen to expand. It has prepared a business case that supports growth to up to 25,000 students by 2026. The University's current commitment is to plan to grow to 21,500 students by 2022/23 (an increase of around 50%);
- There is an estimated need for a net additional 118,500sqm of academic, research, and student residential floorspace in order to support the projected growth in student numbers at Brunel University in the period to 2022/23 (this should be treated as a minimum for planning purposes). This is in addition to a need to replace approximately 98,000sqm of existing qualitatively deficient accommodation; and
- The expansion will deliver substantive economic and social benefits of national, regional and local significance.

Hillingdon Hospital NHSFT

- 5.5 The HHNHSFT has undertaken an assessment of its development needs which is set out in the report at Appendix C (i).
- 5.6 The demand for healthcare services has reached an all-time high. Hillingdon Hospital is facing unprecedented levels of attendances in its Accident and Emergency department and there are significant service reconfiguration plans which will further increase levels of demand on emergency, maternity, and paediatric services in particular in the future. This is in the context of continued Government policy support for the NHS.
- 5.7 The accommodation at the existing Hillingdon Hospital site has reached the end of its economic life and is now sub-optimal having regard to modern healthcare operational requirements. The existing buildings are not considered suitable for refurbishment therefore a new-build solution is needed in order to satisfy existing and future healthcare needs.
- 5.8 In quantitative terms, approximately 80,000sqm of new accommodation is needed.

Central North West London NHSFT

- 5.9 The CNWLNHSFT has undertaken an assessment of its development needs which is set out in the paper at Appendix C (ii).
- 5.10 The Trust currently occupies multiple sites across the borough. Existing facilities are not fully aligned with current space standards and the split site model is inefficient in operational terms. It estimates a quantitative requirement for approximately 5,000sqm of new accommodation (which could be incorporated as part of the HHNHSFT accommodation requirements).

Summary

- There is a need to expand Brunel University, to include the replacement of approximately 98,000sqm of existing accommodation and provision of approximately 118,500sqm of net new accommodation to accommodate student growth projections.
- There is a need to provide around 80,000sqm of new healthcare accommodation to meet the needs of HHNHSFT and CNWLNHSFT.

6. Meeting the Need

Brunel University London

6.1 As set out in the previous section, the University has the following minimum development needs for the period to 2026:

- 1:1 replacement or refurbishment of 98,000sqm of existing floorspace; and
- 118,000sqm of net additional (new) floorspace.

Site Selection Criteria

6.2 The parameters for site selection are as follows:

- The land must be available for development and either owned by the University or capable of being acquired (within reasonable time and cost constraints);
- The site must be suitable for the proposed development (in technical and functional terms); and
- The site(s) must be within or adjacent to the existing campus. This is a location-specific need linked to the University's existing Uxbridge campus where disaggregation is not feasible on operational terms. The rationale for this is explained further below:

6.3 Brunel is a single campus University and wishes to remain as such in order to strengthen its role as a 'campus University in London'. This carries the following competitive advantages:

- The Uxbridge campus represents a cluster of multiple higher education and research activities, all of which benefit from their proximity to one another in terms of operational efficiencies, knowledge sharing/intelligence networks, and added value;
- The growth of the existing research cluster establishes a greater critical mass of facilities and research capability. This is a key consideration in attracting inward investment, research funding bids, and post-graduate students/staff;
- The scale considerations outlined above help to drive teaching quality and education attainment;
- Reduces the need to travel for staff and students (which carries sustainability and transport capacity related benefits); and
- A single campus university is a core part of the University's identity and is a key selling point for prospective students, particularly those from overseas (which drives export income).

Preferred Location

- 6.4 On the basis of the above criteria, it is our view that in operational terms the need can be best met via the intensification of the existing built-up parts of Sites 1 and 2, followed by the expansion of the built-up area into Sites 3, 4, 6 and 7.

Alternative Locations

- 6.5 We consider the University's requirements to be a location specific need. Notwithstanding this, we have investigated whether there are potential alternative sites that could meet part of the identified need in theory. This has focussed on the student housing element of the need. This has concluded that (subject to reasonable criteria) there are no suitable and available sites capable of meeting this need, with the exception of other Green Belt sites. Refer to Appendix I.
- 6.6 Furthermore, we note that even if potentially suitable sites had been identified as part of this exercise, this would have reduced the supply of available land for other uses for which there is a demonstrable need – particularly housing and/or employment – and therefore would not result in any net benefit in sustainable development terms. This is in the context of the finite supply of land available for development in London.

Opportunity Cost

- 6.7 As explained above, the provision of the University's growth on-site will allow it to compete and perform more effectively than would otherwise be the case.
- 6.8 If the University is not allowed to grow/expand, the opportunity cost to the local, regional and national economy could be significantly adverse, recognising that there is a very real risk of decline in an increasingly competitive and internationalised Higher Education sector.

The Trusts

- 6.9 As set out in the previous section, the Trusts have an assessed need to develop a new acute hospital and associated healthcare facilities extending to around 80,000sqm.
- 6.10 There is a location specific need to retain an acute hospital and associated facilities within LBH and the Trust has been unable to identify any suitable sites to accommodate this, except Site 4 at the University's Uxbridge campus.
- 6.11 The provision of new facilities on the existing site is not a preferred proposition in practical terms due to the challenges in maintaining a fully operational hospital on the site during

construction works and the associated disturbance to patients and quality of healthcare provision that would likely incur during the construction stage (which would be substantively longer than a separate site). Furthermore, the Trusts have advised that the costs of this scenario would be unviable.

- 6.12 On the basis of the above, in operational terms the preferred location for the new healthcare development is Site 4 at BUL's Uxbridge campus.

The Benefits of Co-Location

- 6.13 The prospect of the new healthcare facilities co-locating with an expanded BUL in an integrated higher education and healthcare campus offers the opportunity to realise transformational public benefits particularly in respect to quality of healthcare, research, and healthcare professional education.
- 6.14 The correlation of the timing and location of the University and Trust's development needs mean that this could be a once in a generation opportunity.
- 6.15 Additional operational benefits, include:
- Ability to share spaces, services, and estate management (resulting in more efficient operation);
 - Efficient decentralised energy generation potential;
 - Shared services (e.g. catering); and
 - Integrated car parking and public transport solutions.

The Concept Masterplan

- 6.16 The enclosed Site Capacity Assessment and Concept Masterplan (Appendix D) provides an assessment of the potential to intensify the existing built-up parts of Site 1 and 2, as a means of accommodating the University's assessed development needs without encroaching further into the undeveloped part of the Green Belt. This evidence indicates that a proportion of the need can be met via intensification, however a significant amount of the identified need remains outstanding.
- 6.17 It then goes on to present the University and Trusts' joint vision of how their development needs could be met, through the provision of an integrated healthcare and education campus on Site 4 (comprising a new hospital, associated healthcare facilities, and a medical school), alongside new accommodation for the University elsewhere in Sites 1-7. It also indicates how further undefined future development needs/opportunities could be met (beyond those identified to date).

6.18 Sites 1-7 are considered to have sufficient physical capacity to accommodate these needs (on land which is suitable and available), and it is the University and Trusts' preference to accommodate growth here for the reasons explained above.

Re-purposing the Existing Hillingdon Hospital Site

6.19 At this point in time it is anticipated that the existing Hillingdon Hospital site will be surplus to the Trusts' needs either in part or full following the completion of new facilities at Site 4.

6.20 This will free up the existing site for redevelopment. It is our view that the site is suitable for residential development (including dwellings, student housing, co-living or other residential products) on the following grounds:

- It is previously developed;
- It is located in a predominantly residential area, with no conflicting neighbouring uses;
- It is located in a sustainable location, served by public transport and accessible to key services;
- It is located in close proximity to BUL (a major generator of housing demand); and
- There are no known physical or environmental constraints to residential use.

6.21 On the basis of the London Plan Density Matrix (Table 3A2), we estimate that the site has potential to accommodate up to around 880 new homes, making a significant contribution to London's housing needs. This is firmly in line with national and London-wide planning policy to significantly boost housing supply and Government policy to make redundant public sector land available for housing development.

6.22 We note that the University's Development Needs Assessment (see Appendix B) identifies a need to provide an additional 1,500 student bedspaces to maintain its current ratio of providing a place in halls for 70% of first-year students (plus an allowance of an additional 100 bedspaces for overseas post-graduate students). This leaves a significant balance of new students requiring housing in the local area. Bringing the former Hillingdon Hospital site forward for residential development will help mitigate the impact on the existing housing stock.

Deliverability

6.23 The University has prepared a Business Case (enclosed at Appendix E) which confirms that its expansion plans are deliverable. Note that the Business Case was prepared prior to the University and Trusts deciding to progress a joint education/healthcare development strategy and therefore considers a scenario involving the growth of the University only. Notwithstanding this, its content remains applicable.

6.24 The Trusts have set out how the new healthcare facilities will be deliverable in the Need Assessment reports at Appendix C. We note that the Trusts are part dependent on securing a substantive receipt from the disposal of the existing Hillingdon Hospital site (or a long term income stream if it is retained) in order to contribute to the funding of the proposed new healthcare facilities.

Summary

- The University's development needs are location specific – they can only be met at the existing campus. There is insufficient capacity within the existing built-up part of the campus to accommodate the University's needs in full, therefore there is a need to expand the built-up area.
- The Trusts' development needs are location specific – they can only be provided for in the local area. Providing for the need via the redevelopment of the existing Hillingdon Hospital site is not a practical proposition and the Trusts have been unable to identify any suitable available sites except Site 4 at the University.
- Co-locating the new healthcare facilities with the (expanded) University will realise significant unique benefits.
- The provision of new healthcare facilities will likely release the existing Hillingdon Hospital site for redevelopment which would add to the supply of residential development land (helping to meet the housing needs generated by the expansion of the University); and
- The University and Trusts have confirmed that the proposal is deliverable.

7. Key Planning Policy Issues

Green Belt

- 7.1 The key policy issue associated with the proposed development is that the University's Uxbridge Campus site is currently designated as Green Belt, which means that NPPF paragraphs 79-92 apply when applying the presumption in favour of sustainable development.
- 7.2 The NPPF allows for LPA's to revise Green Belt boundaries as part of Local Plan reviews, where exceptional circumstances apply. It is our view that exceptional circumstances apply on the following grounds:
- There is a significant economic (education) need for the expansion of the University. Already a significant economic asset to Hillingdon and London that should be protected, expansion will significantly boost its direct and indirect economic contribution;
 - There is a significant social need for the expansion of the University (improved access to education being a key means of driving social mobility and wellbeing) and social (healthcare) need to for a new hospital, therefore realising significant social benefits;
 - The education/healthcare need is location specific – in practical terms the need can only be met via the provision of new development at the Uxbridge campus. This also drives unique co-location benefits; and
 - Development will enable the remediation of Site 4 and a reduction in flood risk through the River Pinn corridor, delivering significant environmental benefits.
- 7.3 It is accepted that the loss of Green Belt land is by definition harmful (when Green Belt policies are considered in isolation), however it is important that the scale/significance of this harm is properly assessed in order to reached a balanced judgement on the acceptability of the proposed policy position in the context of the exceptional circumstances set out above.
- 7.4 A Green Belt Assessment Update was undertaken by the council and published in September 2013 to inform the preparation of the Local Plan Part 2 however, this did not consider land in/around the University. Our previous representations (dated 3rd November 2014) to the previous version of the Proposed Submission Draft document requested that this be updated to include the University, however this has not been undertaken.
- 7.5 Therefore, the University has commissioned Gillespies LLP to undertake a Green Belt Study of the Uxbridge Campus (sites 1-7). This study is provided at Appendix G. The study assessed the

campus against the five purposes of Green Belts, as set out in the National Planning Policy Framework (NPPF). The appraisal concludes:

- None of the sites are contiguous with the countryside and can play no role in checking the spread of large built up areas into the countryside;
- None of the sites can prevent neighbouring towns merging with one another;
- None of the sites fully assist in safeguarding the countryside from encroachment;
- None of the sites make a significant contribution to Green Belt objectives associated with historic towns;
- Sites 1 and 4 have some limited inter-visibility with local Conservation Areas and therefore arguably make a limited contribution to Green Belt objectives associated with historic towns, however the remainder of the sites make no contribution to this purpose; and
- All of the sites make a contribution to assisting in urban regeneration by incentivising development on previously developed land.

7.6 In summary, the assessment concludes that the sites do not make a significant contribution to the purposes of including land within the Green Belt (as defined by the NPPF). Furthermore, the removal of Sites 1, 2, 3 (northern part), 4, 6 and 7 from the Green Belt would not be likely to have an adverse impact on the functionality of the remainder of the Green Belt as a whole.

7.7 As noted above, it is accepted that the loss of Green Belt land is by definition harmful (when Green Belt policies are considered in isolation), however the conclusions of the assessment confirm that the scale/magnitude of this harm will be limited in this instance. When balanced against the significant social, economic, and environmental benefits that the proposed development would likely realise it is our view that the Exceptional Circumstances necessary to warrant a revision to the Green Belt clearly apply in this instance.

Transport/Accessibility

7.8 The University and Trusts have commissioned WSP and Arup to prepare a 'Transport Feasibility Report' ('TFR'), which is enclosed at Appendix H. This report appraises the ability of the transport network to support the quantum and form of proposed development at the sites. This report also appraises the ability for satisfactory access arrangements to be achieved.

7.9 In summary, the assessment concludes that satisfactory access can be provided to the proposed development, which could be implemented without generating any additional vehicular trips (and therefore highways impact) above the existing position as a consequence of car parking restraint, rigorous travel planning, and enhancements to public transport, cycling and pedestrian infrastructure.

7.10 Consequently, there are no transport (highways) or accessibility related barriers to development.

Ground Conditions/Contamination (Previously Developed Land)

7.11 The southern part of Site 4 is previously developed, accommodating the buildings and hardstanding associated with the Hillingdon Garden Centre.

7.12 A report is provided at Appendix K which provides details of Site 4's former use as a market garden. This included an extensive network of buildings and fixed structures, the remains of which are still evident on the site.

7.13 By virtue of the historic use (effectively agriculture) of the land/buildings and the state of the remains, the majority of Site 4 does not meet the NPPF definition of previously developed land. However, the fact remains that this land has been previously developed and its characteristics are certainly not akin to 'Greenfield' land.

7.14 Furthermore, this historic development has left a legacy of contaminated land (refer to details at Appendix M). As a consequence the site is fenced off with no public access (on public safety grounds).

7.15 The redevelopment of the site will offer the opportunity to remediate this and enable improved public access to the Pinn Corridor, which would otherwise be unlikely to be achieved – a significant planning benefit.

Nature Conservation

7.16 The Site Allocations and Designations document proposes an extension to an existing 'Nature Conservation Site of Borough Grade 2 or local importance' to include 'Site 4'. It is our view that the proposed designation appears to be unjustified (and is therefore unsound).

7.17 We acknowledge that a 'Review of Proposed New and Existing SINCS' has been published as part of the evidence base for this revision of the Local Plan. In this document, Site 4 (Council Ref: SINC 18) continues to be identified as a Nature Conservation Site of Borough Grade 2 or Local Importance.

7.18 The University has commissioned WSP to prepare an 'Ecological Appraisal' (March 2015) of Site 4 to determine the ecological/nature conservation value of the site (refer to Appendix L). This appraisal concludes that the justification for the inclusion of Site 4 within the SINC designation is unclear and flawed, especially because the citation for this site describes the site as supporting habitats which in part are no longer present (replaced by the Bicentennial

Gardens). The proposed site's allocation plan notes that the proposed extension was informed by 'field work and updated citations on the flora and fauna supported at sites' however, the results of field work are not held by either the London Borough of Hillingdon or Greenspace Information for Greater London (GiGL).

- 7.19 In addition, the 'Historical Land Use Report' specific to Site 4 (see Appendix K) notes that asbestos was found and removed from several locations on Site 4 in 2012 (refer to Appendix M). This exercise was hampered by dense undergrowth but every effort was made to identify and remove asbestos containing materials lying on the surface. Asbestos is present below the surface, which significantly diminishes the site's conservation value and dictates that there can be no public access until remediated.

Flood Risk

- 7.20 Development offers the opportunity to improve the flood risk profile of the River Pinn corridor by removing existing Buildings within the flood plain on Site 2 (increasing flood plain capacity and removing human/property risk).

Summary

- The principal policy planning policy issue relates to the site's Green Belt designation, however it is our view that there is a sound Exceptional Circumstances case to remove Sites 1, 2, 3 (northern part), 4, 6 and 7 from the Green Belt;
- Development will enable significant environmental benefits to be realised including those associated with ground contamination and flood risk (and public access to the Pinn corridor); and
- There are no transport/access policy issues.

8. Precedent and Comparables

Precedent

- 8.1 As explained in the Planning History section above, BUL's Uxbridge Campus has been developed on an incremental basis since the 1960's. We understand that the site has been designated as Green Belt throughout this period, confirming that there is a precedent of Very Special Circumstances being accepted for higher education development on this site.

Comparables

- 8.2 There are a number of comparable schemes whereby the release of Green Belt land has been allowed through the Local Plan process in order to make way for university development. Further details of these schemes are enclosed at Appendix J.

University of Cambridge

- 8.3 A notable example is the North West Cambridge Area Action Plan DPD, which was adopted in 2009 and enabled the release of a significant amount of Green Belt land for the University of Cambridge to accommodate their development needs. By evidencing its economic importance on a regional and national scale, and their land availability and requirements, the Inspector concluded that the University of Cambridge had demonstrated a clear need to retain and, if possible, increase the educational, intellectual and economic roles of the University. The needs shown by the evidence submitted to the examination were considered of greater weight than the Green Belt functions of the land.
- 8.4 In particular, a significant shortage of staff/key worker housing was demonstrated, along with a need for 2,000 units of student accommodation and the provision of market housing to make the development viable. The failure to provide such housing was considered to potentially render the University less attractive to the best students, thereby harming the University's international position, economic importance and ability to contribute to research.

Edge Hill University

- 8.5 The West Lancashire Local Plan was adopted in October 2013. Approximately 10 hectares of Green Belt land was released through this process to enable the expansion of the existing campus at Edge Hill University. The Inspector concluded that exceptional circumstances had been justified for this release, in view of the University's economic importance to the borough, the lack of other land onto which to extend the campus, the adverse effects of the

proliferation of student Houses in Multiple Occupation (HMOs), and the significant traffic and parking impacts associated with the previous access arrangements.

Summary

- There are numerous comparable cases where Exceptional/Very Special Circumstances have been confirmed in similar circumstances.
- There is a precedent of multiple planning applications being approved for development at the University's Uxbridge campus throughout its lifetime (dating back to the 1960's) despite its Green Belt designation.

9. Response to The Council's Response to Previous Representations

9.1 We respond to the responses provided by Council (in italics) in relation to our representations to the previous version of the Proposed Submission Draft as follows:

1. *The Local Plan Part 1 was informed by the Strategic Infrastructure Plan, which set out infrastructure required to support key areas of growth over the plan period. The University was consulted during the production of this key document and did not highlight any strategic areas of growth. Had they done so, these would have been included.*

9.2 Consultation with BUL (as a 'Strategic Infrastructure Provider') is referred to in Table E of the Strategic Infrastructure Plan (SIP). It is recorded at that time that the University's development masterplan covered the period up to 2014 and that the University will bring forward a new masterplan covering the period up to 2021.

9.3 Furthermore, it is reiterated in paragraph 6.4.2 of the SIP that the University indicated they are "committed to the production of a new masterplan covering the period from 2014 – 2021 and consider this masterplan to be essential to its continuing success". As referred to above, a Concept Masterplan document is enclosed as part of this representation and illustrates how the University's development needs can be met.

9.4 Paragraph 6.4.3 of the SIP notes that "the 2014-21 masterplan will set out its plans to expand and/or improve the University's research programme, teaching, science park and residential facilities to continue to build on its growing national and international reputation".

9.5 Given the above, it is clear that the Council has been aware of the University's growth needs for some time and therefore the response is unwarranted.

2. *The Local Plan Part 2: Site Allocations implements the policies and targets contained in the Part 1 document. It is not the appropriate mechanism for making strategic changes, such as the significant releases of Green Belt to meet housing or education needs. Such a proposal would be contrary to the Part 1 policy and would need to be addressed through a review of the Part 1 document.*

9.6 This is contrary to paragraph 54 of the Inspector's Report on the examination into Part 1 of the Local Plan, which states that the Council "...will also consider the expansion needs of educational bodies such as BUL in relation to the Green Belt boundary at the more detailed

next stage of the Local Plan. I consider this approach is sufficiently justified, and accordingly no main modifications are needed to this part of the Local Plan.”

9.7 It is clear that the Inspector considered the preparation of Local Plan Part 2 to be an appropriate mechanism for planning positively for the University's expansion needs (including Green Belt boundary review).

3. *The key issue relating to these proposals is the release of land from the Green Belt to meet development needs. Policy EM2 in the Local Plan Part 1 states that any proposals in the Green Belt will be assessed against national policy, including the very special circumstances test. The representor has put forward the following very special circumstances to justify development in the Green Belt:*

- *There is a need for education development in the borough. In itself, it is not considered that need constitutes very special circumstances.*
- *There is a location specific need. The analysis provided indicates preference for new facilities to meet growth targets to be co-located on the site. There is no analysis to demonstrate that other sites are not available, or that sites in other locations would not meet the University's needs.*

9.8 It is our opinion that the additional information enclosed with these representations satisfies the above concerns.

4. *The loss of sites 1, 2, 3 and 4 would not have a significantly adverse effect on the objectives of the Green Belt. Officers are of the view that in the vicinity of Brunel, the Green Belt meets two of the five purposes of Green Belt contained in the NPPF:*

- *To check the unrestricted sprawl of large built up areas and*
- *To assist in safeguarding the countryside from encroachment.*

9.9 The Council's opinion is not underpinned by an evidence base (noting that the site was not considered in the Council's Green Belt Appraisal that forms part of the Local Plan evidence base).

9.10 The Green Belt Appraisal provided at Appendix G does, however, provide an appropriate evidence base against which this concern can be considered. This indicates that the sites are not capable of contributing to the Green Belt purposes referred to by the Council on the basis that they are contained and surrounded by existing urban development, they do not meet the characteristics of 'countryside' themselves, nor are they contiguous with nor connected to the countryside.

Summary

- It is our view that the further details set out in this representation satisfy the concerns previously raised by the Local Planning Authority.

10. Summary and Conclusions

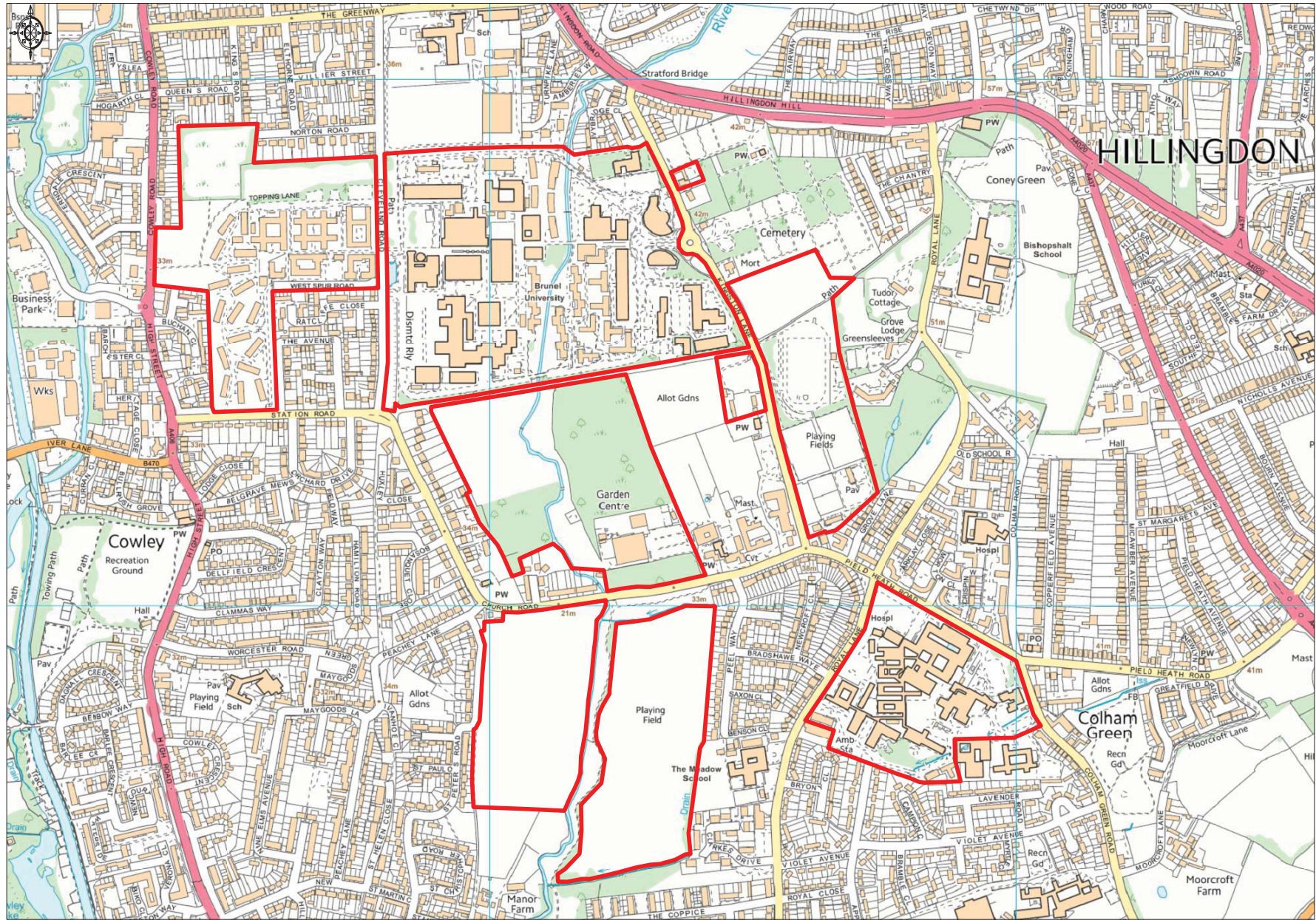
- 10.1 BUL and the Trusts are seeking to develop an integrated higher education and healthcare campus on Site 4 of BUL's Uxbridge campus, which would include a new hospital, associated healthcare facilities, and a medical school alongside new accommodation for the University elsewhere on Sites 1-7. In order to mitigate the risk of the University and Trusts' growth plans, it is essential that a policy position is established in the Local Plan that supports the principle of development at the Uxbridge campus and existing hospital site.
- 10.2 As currently drafted, we consider the draft Local Plan Part 2 to be unsound on the following grounds.
1. It has not been informed by an up to date objective assessment of the development needs of the higher education/research and healthcare sectors (including the specific needs of BUL and the Trusts) and fails to plan positively to meet such needs in full. As a consequence the plan is:
 - Not positively prepared;
 - Not justified; and
 - Not consistent with national policy (including NPPF paragraphs 14, 17, 19 and 20)
 2. It proposes to designate land at BUL (Site 4 of the Uxbridge Campus) as a 'Nature Conservation Site of Borough Grade 2 or Local Importance'. However we consider there to be insufficient evidence to justify the designation, consequently the Plan is not justified in this regard.
- 10.3 It is our view that the Plan can be made sound by the following changes:
1. Undertake an objective assessment of the development needs of the higher education/research institution and healthcare sectors (focussed on the specific needs of BUL and the Trusts), and add policies to the Plan to meet those needs in full (to include allocating specific sites for development). This should include:
 - the allocation of BUL's Uxbridge campus (Sites 1-7) for higher education/research and healthcare uses
 - a Green Belt boundary review that removes the Green Belt designation from Sites 1, 2, 3 (northern part), 4, 6 and 7 of the University's Uxbridge campus; and
 - the allocation of the existing Hillingdon Hospital site for residential and/or healthcare uses.
 2. Delete the proposed designation of Site 4 of the University's Uxbridge campus as a Nature Conservation Site of Borough Grade 2 of Local Importance.

- 10.4 The evidence set out in this paper and its appendices provides the justification for the above policy position. Principally, that the necessary exceptional circumstances exist to justify the revision to the Green Belt, on the following grounds:
1. The delivery of significant public benefits associated with satisfying the following needs:
 - There is a significant economic (education) and social need for the expansion of the University. This is a location specific need that can only be satisfied on the BUL Uxbridge Campus;
 - There is a significant social (healthcare) need for the Trusts to provide new healthcare facilities. This is a location specific need that can only be met in the local area with significant benefits of co-locating with an expanded BUL;
 - There is an environmental need to remediate Site 4 (of the University's Uxbridge Campus)
 - There is a broader strategic need to increase the supply of land for housing.
 2. The above benefits can be realised with limited harm to the Green Belt and there are no other development management policies that suggest that development should be restricted.
- 10.5 Refer to proposed Policies Plan at Appendix A.
- 10.6 We note that the above grounds have been confirmed to satisfy exceptional/very special circumstances Green Belt policy tests in numerous comparable cases, and follow the precedent of multiple planning applications being approved for development at the University's Uxbridge campus throughout its lifetime (dating back to the 1960's) despite its Green Belt designation.
- 10.7 The Local Plan process allows Local Planning Authorities to make amendments to the proposed submission version of the plan in advance of submission to the Secretary of State for examination. As a significant modification to the draft plan, we anticipate that it will be subject to sustainability appraisal and public consultation, which could either be undertaken prior to submission or part-way through the examination process. Therefore, we consider that there remains ample opportunity to action the recommended amendments outlined above.
- 10.8 As key stakeholders, landowners and public service providers within the LB Hillingdon, the University and Trusts are keen to work closely with the LPA to bring forward a sound Local Plan that plans positively to meet the borough's needs and enables the delivery of substantive economic, social and environmental public benefits.

Appendix A

Site plans and proposed policies map

Site Location Plan





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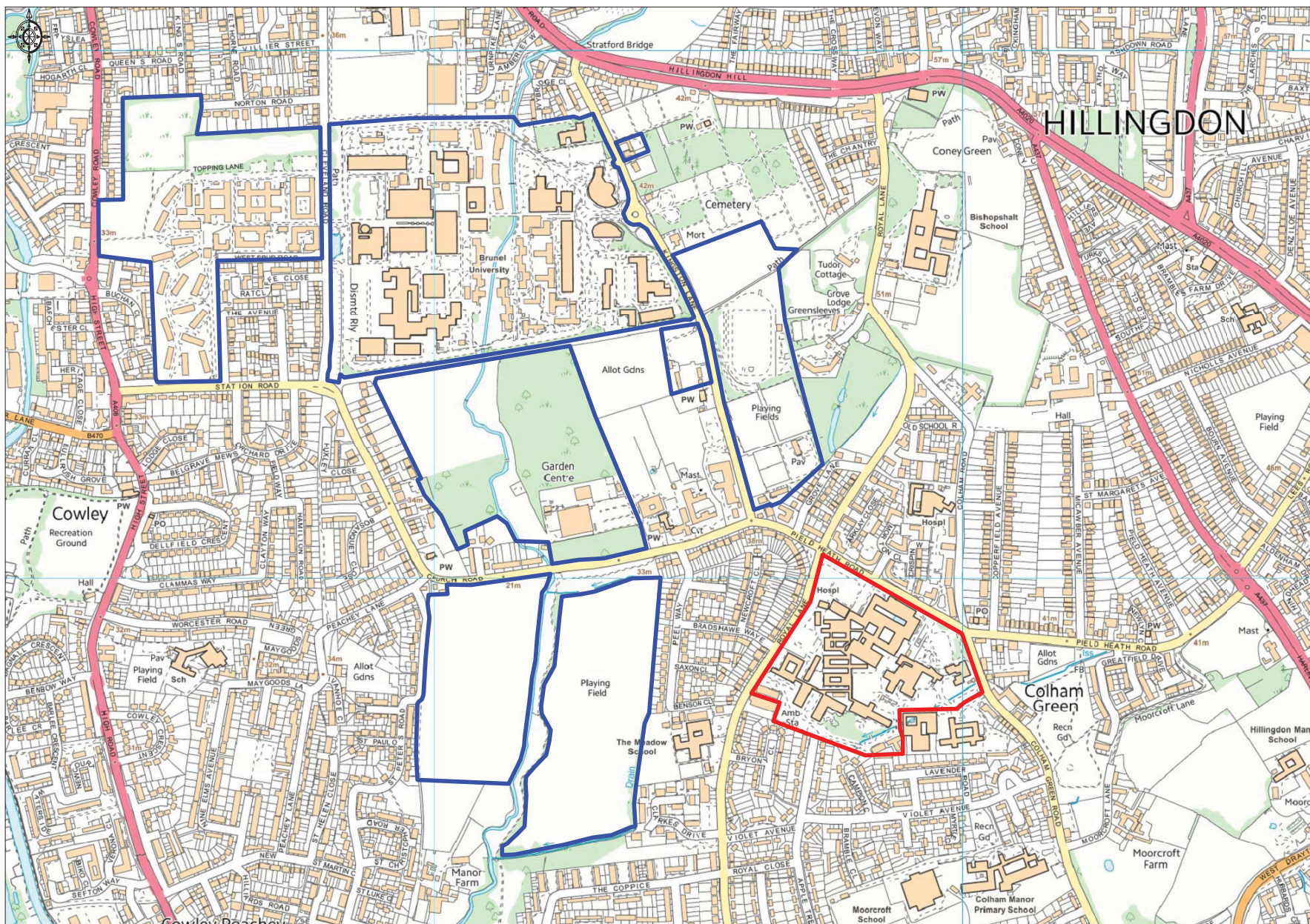
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Current Location of Hillingdon Hospital

North



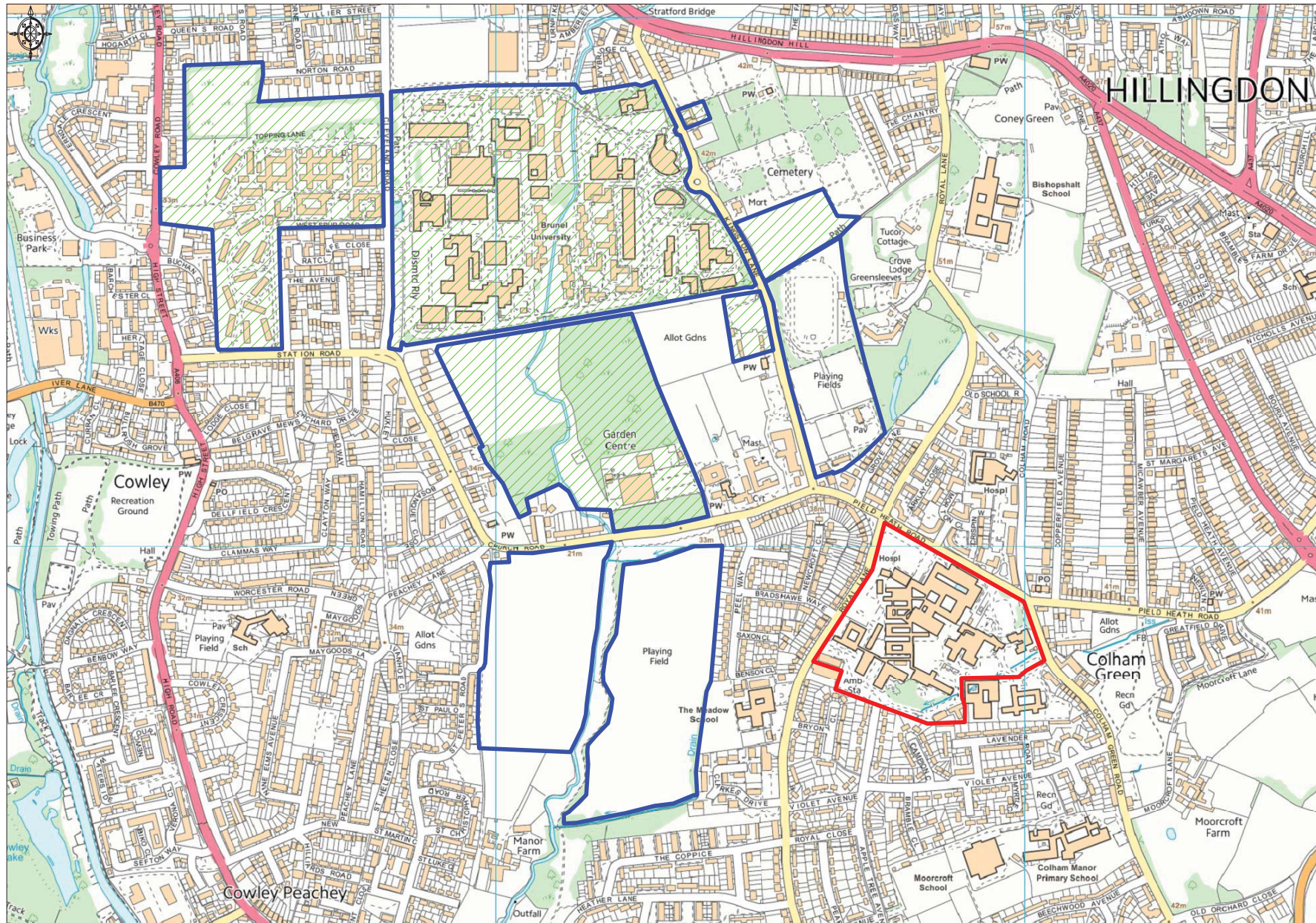
Map 1: Proposed Site Allocations



Blue Line = Proposed Brunel University Site Allocation

Red Line = Proposed Hillingdon Hospital Site Allocation

Map 2: Land proposed to be de-designated from the Green Belt



Appendix B

Brunel University London Development Need Assessment

Appendix B

Brunel University London Development Need Assessment



GVA



Brunel University London

Assessment of Development Need

January 2017 Update

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- 8. Summary and Conclusions 28

Appendices

- Appendix A 2004 Outline Consent Reconciliation Table and Plan
- Appendix B Student Number Projections

Contact:

Nick Alston, Director

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1. Introduction

- 1.1 GVA has been instructed by Brunel University London (BUL) to undertake an objective assessment of its development needs for the next 10-15 years. Its purpose is to underpin representations to the emerging Hillingdon Local Plan which seek the removal of part of the University's Uxbridge campus from the Green Belt, alongside a site specific policy that allocates the whole campus (Sites 1-7) for academic and healthcare development.
- 1.2 This paper sets out the outcomes of the need assessment. It is an updated version of the paper dated October 2014 which was submitted in support of earlier representations to the emerging Hillingdon Local Plan. The updates account for changes to strategic policy and the further evidence that has been prepared by the University in the period since October 2014 (in particular the Concept Masterplan prepared by BDP). It does not alter the quantitative assessment of need, however accounts for errata and clarifications discussed with Local Planning Authority Officers over the course of 2015/2016.
- 1.3 It should be read in conjunction with the main representation report, dated January 2017, alongside the Business Case Report (prepared by Cushman and Wakefield), dated March 2016, and the Economic Impact Report (prepared by Biggar Economics), dated September 2015.
- 1.4 This paper is structured as follows:
- **Section 2** sets out the strategic economic and social policy context which establishes the in-principle need for the expansion of the UK Higher Education sector;
 - **Section 3** sets out the existing contribution that the University makes to the economy and its suitability to increase this contribution in the future, confirming the need to protect and enhance the asset;
 - **Section 4** considers the planning policy context, which is clearly supportive of the growth of the Higher Education sector including BUL in principle;
 - **Section 5** provides details of the University's future student number projections;
 - **Section 6** sets out an objective assessment of the development (floorspace) needs required to support the projected growth in students;
 - **Section 7** sets out the likely benefits of development; and
 - **Section 8** summarises the need case and sets out our conclusions.

2. Strategic Context

The UK Higher Education Sector and its Role in UK Economic Success

The Economic Benefits of Higher Education

- 2.1 The contribution of higher education to the UK's economic success has become the focus of greater attention over recent years, providing a skilled workforce, stimulating innovation and supporting start-up businesses.
- 2.2 Higher education forms a core part of the UK's economic infrastructure, contributing to GDP by generating employment and output, and attracting export earnings. Through direct and indirect effects, it is reported that UK universities generated £73.11 billion of output and provided over 757,268 jobs (equivalent to 2.7% of all full time employment) in 2011 (source: Universities UK).
- 2.3 As well as providing a skilled workforce, universities and colleges act as anchor organisations in their local economies. Highly unlikely to relocate, they play a distinct role in creating the long-term conditions needed for economic growth. Often as the largest employers in their area, universities boost consumer spending through student numbers, supporting local business, housing and tourism.
- 2.4 Universities contributed over £36.4 billion to UK GDP in 2011/12, with the off-campus expenditure of their international students and visitors making a further £3.5 billion contribution to GDP. Taken together, this contribution came to over £39.9 billion – equivalent to 2.8 % of UK GDP in 2011 (Kelly et al April 2014 and Universities UK).
- 2.5 Higher education also has an important role in attracting inward investment. The OECD has argued that for securing foreign direct investment, the world class research infrastructure and skilled labour provided by universities is arguably more important than financial incentives.

The Role of Higher Education in Meeting Economic Growth Objectives

- 2.6 The role of higher education institutions in supporting economic growth and development has recently taken centre stage as governments around the world push for private-sector led, innovation driven economic recoveries from the economic downturn.

- 2.7 In May 2010 David Cameron stated the Coalition government's commitment to moving away from 'a narrow foundation for growth' of 'just a few industries', to supporting growing industries such as aerospace, pharmaceuticals, high-value manufacturing, hi-tech engineering and low carbon technology. Central to the growth strategy is a drive to rebalance the economy and place it on a more sustainable footing by moving away from a reliance on government and consumer spending towards net trade and investment (HM Treasury 2011). It aims to move the UK away from relying on the financial and banking sectors and towards growth in other economic sectors, particularly the manufacturing sector. It is said that the country will need to 'reindustrialise' in this way for the government to achieve the growth plans set out in the budget (HM Treasury 2012).
- 2.8 For this rebalancing to succeed however growth sectors require a number of external factors, including the conditions for innovation and skilled workers. Higher education is central to these, creating the conditions for innovation by attracting inward investment, developing research infrastructure and supporting the commercialisation of research, and providing the skilled workforce necessary to stimulate the private-sector growth.

HM Treasury: Plan for Growth (March 2011)

- 2.9 In the Government's Plan for Growth, education is described as 'the foundation of economic success'. The Government further stated that "*our economy needs to become much more dynamic ... and retooled for a high-tech future, if we are going to create the jobs and prosperity we need for the next generation*". This aspiration to use science to underpin economic growth has been met with a growing focus on the importance of universities in research and innovation, nurturing entrepreneurship through spin-off firms, and supporting the development of a knowledge base in Science, Technology, Engineering and Mathematics (STEM) subjects.

Department for Business Innovation & Skills Higher Education White Paper (June 2011)

- 2.10 In the UK Government's Higher Education White Paper 'Students at the Heart of the System' (June 2011), it is recognised that universities have 'a much wider role' in developing 'a research infrastructure, and a culture of excellence, that has made the UK a place where many of the most talented researchers in the world want to work'. Universities such as BUL now provide functions beyond education, expanding into research and development, which is of critical importance to innovation.
- 2.11 Universities are also commonly playing an important role in bridging the gap between higher education and enterprise, with the commercialisation of research through spin-off businesses and licensing, and by establishing and supporting the development of

incubator businesses. The Government recognised the importance of this function for regional economic development where universities have the potential to anchor regional industrial clusters by attracting and retaining academic, graduate and business talent, developing networks and nurturing entrepreneurship through spin-off firms.

- 2.12 Universities also have a vital role in developing STEM capabilities that are essential to the UK economic growth strategy. A report to the Select Committee on Science and Technology (2012/2013) highlighted that 'the workforce of the future will increasingly require higher-level skills as structural adjustments in the economy force businesses to move up the value chain. These jobs of the future will increasingly require people with the capabilities that a STEM qualification provides'.
- 2.13 However it is reported that there is currently a deficit in the number of STEM graduates and postgraduate required to fulfil this increasing demand and realise the Government's economic ambitions. The Confederation of British Industry (CBI) reported that 'STEM skills shortages are widespread' with over 40% of employers currently experiencing difficulty recruiting staff with STEM qualifications. Supporting universities to fill the vacancies with high quality STEM graduates and postgraduates will be critical to economic growth.

The Witty Report (October 2013)

- 2.14 The Witty Report (Encouraging a British Invention Revolution: Sir Andrew Witty's Review of Universities and Growth) stressed that UK universities have an 'enhanced 3rd mission' of promoting regional economic growth. Noting that universities already contribute an estimated £69 billion to the UK economy through employment, provision of skills, creation and transfer of knowledge, inward investment and by working with private sector companies, the report charged them with facilitating economic growth as a core strategic goal by acting as local anchor institutions.

The City Growth Commission (October 2014)

- 2.15 The RSA City Growth Commission is a 12 month inquiry into how best to enable the UK's major cities to drive growth and respond to the fiscal and economic changes. The Final Recommendations 'Unleashing Metro Growth' Report of October 2014 identifies the importance of universities, specifically with a focus on science and innovation. The report identifies university education and research is amongst the UK's largest and fastest growing export industries, and world-class universities are well distributed among the largest metropolitan areas, across the country. Universities have played a key role in transitioning the UK to a knowledge economy through training graduates in advanced skills, and through research that leads to industrial innovation. In leading the UK economy

- to succeed in global competition for knowledge intensive industries, universities are a vital competitive advantage for metropolitan economies.
- 2.16 The RSA 'UniverCities' Report of October 2014 outlines policy recommendations for universities to enhance their economic impact on the UK's metropolitan areas. It identifies that Universities are key economic assets in every major UK city. University education is a substantial economic activity and employs 320,000 staff directly, nationwide. University education and research have been among the UK's largest and fastest growing industries in recent decades. The higher education sector generated an estimated £10.7bn of export earnings for the UK in 2011-12 and attracts 100,000 new overseas students annually to study in the UK.
- 2.17 Graduates are a foundation of the UK's economic competitiveness with at least a third of the increase in UK labour productivity between 1994 and 2005 attributed to the rising number of people with a university degree. Jobs in higher level occupations, in which graduates skills are most in demand, account for 43% of the current workforce nationally, but higher occupations are forecast to represent 54% of recruitment in the next decade.
- 2.18 Universities also spur stronger economic growth through fostering innovation in several ways, including research partnerships with businesses, technology transfer, spin-off companies, and the entrepreneurial pursuits of students, graduates and faculty. Importantly, universities often have deep historic links with the places in which they are located, whereas other resources for economic growth – such as residents, workers, firms and investors – are more mobile; no UK University has ever relocated out of a metropolitan area. Because of this rootedness, the scale of their operations, and related impacts on local economies, universities are often termed 'anchor institutions'. Metropolitan areas can be confident of the long-term commitment of universities, and the mutual benefits of success. In attracting people, businesses and investment, these areas will benefit from strong universities and universities benefit when their economy prospers and offers an attractive quality of life.
- 2.19 However, despite the world-class performance of UK universities, the report identifies barriers to their continued contribution to UK businesses, including: low levels of investment in research and development (R&D) across much of the UK economy; poor access to (long-term) finance; and below-average management skills in UK businesses. While globally competitive, the UK university system has unique characteristics, which mean that universities need to be understood as institutions with unique attributes.
-

Fixing the Foundations, Creating a More Prosperous Nation (July 2015)

- 2.20 Fixing the Foundations, Creating a More Prosperous Nation (July 2015) sets out the Government's strategy for fixing the UK's 'productivity problem'. A key plank of this strategy is to expand the higher education sector, via the removal of the cap on student numbers. The intention is that expanding participation in higher education will translate to a more highly skilled population which will give the UK competitive economic advantage.

2016 White Paper

- 2.21 The 2016 Government White Paper (Higher Education: Success as a Knowledge Economy) explains that the UK's universities rank among the country's most valuable economic assets, underpinning both a strong economy and a flourishing society. It makes clear the Universities have a fundamental role in ensuring that the UK is successful as a knowledge economy. This builds upon numerous Ministerial Statements from the Minister of State for Universities and Science that stress the importance of universities to the UK economy, including the stated aim (2015) of boosting higher education exports to £30 billion per annum by 2030 (up from £18 billion in 2012).

Investment Potential

- 2.22 In light of the importance attached to higher education, the UK Government is wholly supportive of the sector and has accordingly made substantial amounts of funding available for institutes, especially those with a strong R&D function.
- 2.23 The Higher Education Funding Council for England (HEFCE) is responsible for the distribution of funding to universities and Colleges of Higher and Further Education in England. In March 2016, the Government issued its latest Grants Letter to the HEFCE, which sets out government funding and priorities for HEFCE. It confirmed funding of £3.712 billion to the HEFCE, including capital funding of £478 million.
- 2.24 In terms of research, the letter emphasises the importance of quality-related research funding in supporting sustainable economic growth, and reaffirms the Government's commitment to the dual support system.
- 2.25 A further £400 million is to be allocated via the UK Research Partnership Investment Fund (UKRPIF) through to 2021, leveraging at least £800 million in private investment in the university research base.

- 2.26 The Government recognises the important role that Higher Education Innovation Funding (HEIF) plays in supporting university-business engagement and requests the HEFCE to maintain HEIF allocations at current levels.
- 2.27 As a successful and growing university in outer London there is a clear opportunity for BUL to tap into this significant funding pot, with a substantial degree of future investment potential in Hillingdon.

Social Considerations

- 2.28 This section has purposely focussed on the economic role of the HE sector and BUL University. However, it is important to recognise that the HE sector has a key role to play in social mobility, with growth increasing the opportunities for more people (including those from disadvantaged backgrounds) to access higher education.
- 2.29 Further to this, there will be increasing pressure on student numbers over the next two decades due to a demographic increase in the number of 18-20 year olds, changes on demographics, and increased demand from potential students from disadvantaged backgrounds. The increase in undergraduate student numbers between 2011 and 2035 has been estimated to be between 26% (using current unmet demand) and 68% (assuming all social groups have the same entry rate). In the short term the Government has removed the cap on undergraduate student numbers which has 'unlocked' an estimated extra 60,000 student places a year.

Summary

- Higher education forms a core part of the UK's economic infrastructure generating £73.11 billion of output and provided over 750,000 jobs.
- The sector contributes to the economy by up-skilling the UK workforce, driving innovation through research, and via direct exports (overseas students).
- There is a need for the Higher Education sector to expand in order to achieve Government economic and social policy objectives.
- The UK Government considers the UK higher education to be the foundation for future economic success, and central to a rebalancing of the economy from reliance on the financial and banking sectors towards growth in other economic sectors. Accordingly, expanding the higher education sector is a key plank of UK economic policy.
- Higher Education also plays a key role in social policy, as widening and increasing access to education is a key enabler of social mobility.

3. Brunel University London – Existing Position

3.1 This section should be read alongside the Economic impact Report prepared by Biggar Economics.

A Successful Education/Economic Asset

3.2 BUL was established in 1966. It has been subject to continuous growth over this period and now has 13,400 students.

3.3 Over the past 50 years the University has established itself as a leading provider of quality higher education allied to industry with a strong culture of research. It is subject to the following rankings:

- Ranked 301st-350th of universities globally in the 2016/17 Times Higher Education Survey (THES) World University Rankings and joint 38th amongst UK institutions;
- Ranked 35th of universities globally in the 2016/17 Times Higher Education Survey (THES) World University Rankings with respect to International Outlook;
- 8th of UK Institutions in the Times Higher Top 100 ranking of higher education institutions that are less than 50 years old (80th in the world); and
- No. 1 in the UK in Engineering and Technology for citations from research articles (THES World Ranking 2014/15) – a more recent rating is unavailable.

3.4 Over recent years BU has sought to align its education and research capabilities more closely with the requirements of the market and the UK's economic growth strategy, which involves it becoming a more research intensive university and placing greater focus on its core subject areas (typically STEM subjects: Science, Technology, Engineering and Mathematics). This approach of building on its existing strengths has ensured that BU has been well placed to take-up nationally significant research opportunities (and access the significant amount of funding available for such work).

3.5 Some examples of BU recent success include the following:

Supporting the Food Sector to Reduce Energy Usage

3.6 The new RCUK Centre for Sustainable Energy Use in Food Chains will establish a cross-disciplinary hub of engineers, scientists and industry experts to develop energy-efficient food manufacturing, distribution and retail systems to support the UK Government's target of 80% CO₂ emissions reduction by 2050. The food supply chain alone is responsible for 22% of the UK's greenhouse gas emissions creating 19 million tonnes of

CO₂ every year. As the UK's largest manufacturing sector, it employs over 3.5 million people across 196,000 enterprises. In collaboration with Manchester and Birmingham Universities, BUL is developing innovative approaches, processes and technologies to tackle the imperative to reduce energy demand at all stages of the food chain – from gate to plate. With EPSRC funding of £6 million and a further £6 million from food companies and partner organisations, the Centre will be supported by 33 partners, which include seven major food manufacturers such as Kraft, Heineken and Heinz; four retail partners, including Tesco, Waitrose and M&S; seven equipment manufacturers and suppliers and a number of professional institutions and trade associations.

Advance Metallic Materials for the Automotive Industry

- 3.7 The Brunel Centre for Advanced Solidification Technology (BCAST), at BUL, is focused on developing new techniques that will revolutionise sustainability in the production of metal components. Its researchers work on highly advanced casting processes to produce metal products that require very little subsequent machining, radically reducing the amount of energy and materials needed to manufacture high quality parts.
- 3.8 BCAST is also creating new methods for making high quality castings from recycled metals. The aim, on a global level, is to minimize the need for newly-mined materials to support manufacturing. If reliable methods can be found to reuse and 'up-cycle' the billions of tonnes of metal that have already been mined, then the enormous amounts of energy and resources currently spent on disposing of used metal and extracting fresh supplies from the ground can be cut dramatically. For example, in the UK alone we landfill 0.31m tonnes of aluminium per year, representing £775m of direct economic loss and an energy loss equivalent to 11m barrels of oil.
- 3.9 BCAST leads the £9 million EPSRC Centre for Innovative Manufacturing in Liquid Metal Engineering (LiME) (2010-2015) which is conducting fundamental research to understand and control the solidification of liquid metal to enable the development of new advanced materials and highly efficient manufacturing technologies. It also leads the £4.2 million EPSRC funded "Towards Affordable, Closed-Loop Recyclable Future Low Carbon Vehicle Structures" (TARF-LCV) project (2011-2015) contributing to the UK government's strategic Integrated Delivery Programme for the development of low carbon vehicle
- 3.10 JLR are a lead industrial partner in LiME and are developing a strategic partnership to establish a scale up facility for resource efficient technologies for high performance alloys. This will help bridge the gap between lab-proven technology and industrial

application to accelerate the industrial take-up of fundamental research undertaken at BUL.

Engineering a Resilient Energy and Transport Infrastructure

- 3.11 NSIRC is the world's first educational establishment offering industry-driven research and postgraduate degree programmes in structural integrity. Set up to address the shortage of structural integrity engineers worldwide, the centre is a unique collaboration between TWI, lead academic partner BUL, together with Manchester University, Cambridge University and industry partners.
- 3.12 With support from the UK Department of Business, Innovation and Skills, TWI are constructing a multi-million pound postgraduate engineering facility integrated within the expanded TWI headquarters, at Granta Park, Cambridge as part of this £150m initiative to establish a Structural Integrity Research Foundation (SIRF). In addition, BUL has secured funding from the HEFCE to procure specialist research equipment to be housed in the facility and used by NSIRC to carry out fundamental research and programmes of postgraduate training at Masters and doctoral level. The key outputs arising will be industry-ready engineers and scientists in structural integrity disciplines such as fail-safe design, flaw evaluation, corrosion prevention and structural health monitoring, and new techniques and technologies to address the long term structural integrity challenges facing the engineering, energy, transport and aerospace sectors.
- 3.13 NSIRC combines industrially driven academic excellence to address the need for innovation, while delivering a supply of appropriately qualified staff to work across the supply chain and generate very significant economic benefits, both to industry and the UK as a whole.
- 3.14 BUL's latest collaboration with TWI marks a truly pioneering approach to securing global economic resilience. In November 2012, the HEFCE announced funding of £15 million to BUL in support of plans to form a National Structural Integrity Research Centre (NSIRC). NSIRC will be based at TWI's headquarters outside Cambridge in a new building to be constructed with support from the Department of Business, Innovation and Skills Regional Growth Funding. Lead partners, TWI and BUL, along with a consortium of leading academic and industrial partners will carry out research programmes, train postdoctoral students and conduct contract R&D specifically in the field of structural integrity.
- 3.15 The facility will provide UK industry with world-class engineers who can lead the development of new, safe, world-leading products in diverse industries, including oil and gas, energy generation, renewables and transport. We estimate that in addition to the

environmental and social benefits resulting from the avoidance of engineering failures, the direct economic benefit brought by those graduating from the NSIRC after the first ten years of its operation will be in excess of £350m. This can be multiplied to more than £3.5bn when considering the benefits of the work the qualified engineers will undertake for industry.

Economic Contribution

3.16 The University plays a significant role in the local economy:

- The University is a key local economic asset for Hillingdon, playing a key role in the borough's 'knowledge economy' base.
- The economic performance of Hillingdon is driven by its strong knowledge economy base attributed to the biotech cluster. Much of Hillingdon's successful economy is based on knowledge industries, which make up 41.5% of the total. Hillingdon's knowledge economy is the 6th largest in England;
- For the 2014/15 year, the University has 13,400 students (73% are undergraduates and 27% post-graduates). 21% of students are from outside of the UK/EU and approximately 7% are from LBH;
- It employs approximately 2,500 full/part-time staff, of which 36% live in LBH;
- It attracts around 26,500 visitors per annum (2013), in conjunction with academic related conferences, hospitality events and summer schools;
- It has an annual turnover of £170m (2011-12), £175m (2012/13) and £179m (2013-14) (forecast). Universities UK estimate that for every £1 of university turnover a further £1.38 is generated in the other sectors of the economy. Using this formula, the University's overall impact on the economy from 2011-2012 to 2013/2014 was estimated to be £1.247 billion (£415 million per annum);
- In 2009/10, the University was part of a £4.6m supply chain with Hillingdon businesses, providing services to the value of £1.4m and purchasing £3.2m of products and services from Hillingdon companies and agencies;
- Investing in excess of £330m in new buildings and equipment;
- It has an active collaboration programme with local further education colleges and secondary/primary schools.

Summary

- BUL makes a significant contribution to the local/London/national economy with a trend of continual improvement. It is logical that policy makers should seek to protect and enhance this contribution going forwards (in the context of an increasingly competitive and internationalised Higher Education sector).

- BUL is a successful higher education institution whose subject focus (STEM) is aligned with Government aims to diversify the UK economy. It follows that BUL (and other similarly successful STEM focussed institutions) should be a focus for expansion.

4. Planning Policy Context

- 4.1 As is clear from the above background information, the Higher Education sector is an extremely important part of the UK economy and there is a need for it to grow in order support the growth in our economy and deliver social policy objectives. Furthermore, that BUL is an existing successful higher education/economic asset that is particularly well aligned with national economic policy (in terms of its STEM subject and research focus) and therefore well placed to deliver the growth necessary to satisfy our economic (and social) needs.
- 4.2 The purpose of the planning system is to achieve sustainable development – responding to needs by helping to deliver positive growth having regard to economic, social and environmental considerations. It follows that planning policies at all levels support the principle of the growth of the HE sector, as considered below:

National

- 4.3 The National Planning Policy Framework (NPPF) confirms a general presumption in favour of sustainable development at paragraph 14, which for plan-making means that:
- Local Planning Authorities should positively seek opportunities to meet the development needs of their area; and
 - Local Plans should meet objectively assessed needs with sufficient flexibility to adapt to rapid changes, unless:
 - any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this framework taken as a whole; or
 - Specific policies in the NPPF indicate that development should be restricted (for example, land designated as Green Belt).
- 4.4 The NPPF establishes very clear in-principle support for economic development, and therefore the principle of the growth of the Higher Education sector. Proactively driving and supporting sustainable economic development is identified in the NPPF as a core land use planning principle which should underpin both plan-making and decision taking (para. 17). This core principle is bolstered by Paragraph 19 which states that the Government's expectation is that the planning system should do everything it can to support sustainable economic growth. It requires significant weight to be placed on the need to support economic growth through the planning system which is expected to operate to encourage and not act as an impediment to sustainable growth.

- 4.5 When preparing Local Plans, paragraph 21 of the NPPF requires local planning authorities to do the following:
- Set out a clear economic vision and strategy for their area which positively and proactively encourages sustainable economic growth;
 - Identify strategic sites for local and inward investment to match the strategy and meet anticipated needs over the plan period;
 - Support existing business sectors, taking account of whether they are expanding or contracting; and
 - Plan positively for the location, promotion and expansion of clusters or networks of knowledge driven, creative or high-technology industries.

London

- 4.6 The pro-growth national policy position is carried forward into the London Plan, which acknowledges the link between London's status as a pre-eminent global business location and the importance of London's world class higher education and research institutes. It recognises that higher education is an important economic sector in its own right and establishes clear in-principle policy support for the growth of education/research institutions.
- 4.7 One of the key objectives of the Plan is to ensure London is 'an internationally competitive and successful city with a strong and diverse economy and an entrepreneurial spirit that benefit all Londoners and all parts of London; a city which is at the leading edge of innovation and research and which is comfortable with – and makes the most of – its rich heritage and cultural resources.'
- 4.8 It states at paragraph 3.107:
- 'Higher education in London provides an unparalleled choice of undergraduate and postgraduate degrees, continuing professional development, advanced research, and infrastructure to support business growth, e.g., incubation space and business support services. It is also a major employer and attracts major international companies able to benefit from the universities' research reputation, such as in pharmaceuticals and life sciences. Universities also play a vital part in ensuring Londoners have the higher order skills necessary to succeed in a changing economy, and for the capital to remain globally competitive (Policy 4.12).'*
- 4.9 Policy 3.18 states that the Mayor will "support provision of higher education facilities adequate to meet the demands of a growing and changing population and to enable
-

greater educational choice", requiring Local Plans to assess the need for higher education development and secure sites for provision.

- 4.10 Policy 4.10 relates to new and emerging economic sectors and requires Borough and stakeholders to:

'give strong support for London's higher and further education institutions and their development, recognising their needs for accommodation and the special status of the parts of London where they are located...'

- 4.11 Paragraph 4.54 states:

'The Mayor strongly supports measures to secure and develop London's leading role as a centre of higher and further education of national and international importance. These are important economic sectors in their own right with a key part to play in developing London's world city offer, as well as having considerable potential for greater synergies in fostering innovation....'

- 4.12 Table 2.1 identifies outer London business locations with specialist strengths (e.g. higher education, media, strategic office, logistics / other transport related uses) which potentially or already function about the sub-regional level and generate growth significantly above the long term outer London trend. The intention being that these would complement the network of town and other centres. Uxbridge is identified as a potential outer London development centre in relation to higher education.

- 4.13 Policy 2.1 seeks to ensure that London 'retains and extends its global role as a 'sustainable centre for business, innovation, creativity, health, education and research, culture and art and as a place to live, visit and enjoy'.

Local

- 4.14 The specific strategic level support for the Higher Education sector is reflected at paragraph 9.50 of the adopted Hillingdon Local Plan Part 1, which recognises that the borough contains highly respected higher education institutions. It states that 'Policies will be developed in subsequent LDDs to ensure that a high standard of teaching can continue to be provided in these establishments over the period of the Hillingdon Local Plan Part 1. The Council will continue its collaborative working arrangements with these institutions (e.g. BUL) during the preparation of the Hillingdon Local Plan and during subsequent monitoring and reviews'.

- 4.15 The completion of a 'new masterplan' for BUL is listed in the Infrastructure Schedule at Appendix 2 of the Local Plan Part 1. The need for such a masterplan is identified 'to enable the University to deliver international standards of research and teaching facilities, which necessitates continued expansion and improvements to its accommodation'.
- 4.16 The Council's published Local Development Scheme indicates that the Local Plan will comprise the adopted Part 1 plus the Part 2 documents currently under consultation only. It follows that the 'subsequent LDDs' referred to at 9.50 of the Part 1 Local Plan can only comprise the Part 2 documents, and that therefore the scope of the Local Plan Part 2 should cover the higher education/research sector (and the specific needs of BUL) in order to accord with Part 1 (and for the Local Plan as a whole to accord with the NPPF and London Plan).

Summary

- The planning system is pro-growth.
- National and London-wide policy responds positively to the need to expand and diversify the UK economy by establishing firm policy support for the growth of the Higher Education sector.
- Local Plans should plan positively to meet objectively assessed development needs unless adverse impacts of doing so would significantly and demonstrably outweigh the benefits when assessed against the policies in the framework as a whole, or if specific NPPF policies indicate that development should be restricted.
- Broad policies are set out in the adopted Hillingdon Local Plan Part 1 which are supportive of the HE sector in the borough, and which recognise the need for the expansion of BUL. However, it defers to 'subsequent DPDs' (i.e. Local Plan Part 2) for the preparation of more detailed policies.

5. Student Number Projections

- 5.1 BUL is clearly a success in terms of an education/research institution and as a local economic driver. The University wishes to capitalise on this success and is preparing for a further period of growth, which is firmly in line with Government objectives to expand the HE sector.
- 5.2 The aim is to cement the University's position in the top 3rd of UK higher education institutions. It has prepared a strategic plan for the next 5 years which focuses on the significant growth of its research capability (which includes post-graduate study), alongside modest growth of undergraduate education. It has furthermore worked up headline details for longer term growth (next 10-15 years) for estates/planning purposes which continues this expansion trend.
- 5.3 In terms of student numbers, it plans to increase these to around 21,500 by 2022/23 and potentially to 25,000 by 2026 (up from around 13,400 in 2014/15). Refer to the 'Business Case for Expansion' paper dated March 2016 which sets out the rationale behind this scale of growth.
- 5.4 Ensuring that the University has suitable accommodation to meet its operational growth requirements is essential. This will require a significant development programme comprising the refurbishment of existing buildings together with new development and public realm upgrades to the Uxbridge campus.
- 5.5 The University aims to increase the proportion of students housed on-campus (in order to reduce impacts on the local community and housing market). At present all first year and masters students are offered a place on campus, however the aim is to extend this to third year and a proportion of research students. This strengthens the University's educational offering, as a greater proportion of students will be on campus, and is attractive to prospective students (especially from overseas) as it emphasises the University's advantage as a 'campus university in London'.

Summary

- The University is keen to expand. It has prepared a business case that supports growth to up to 25,000 students by 2026. The University's current commitment is to plan to grow to 21,500 students by 2022/23 (an increase of around 50%).

6. Development Need

- 6.1 This section carries forward the student growth projections set out in the previous section and quantifies the amount of additional development (floorspace) that will be needed to accommodate this growth. It also considers existing needs associated with qualitative deficiencies of the existing accommodation.

Existing Needs

Quantitative

- 6.2 Table 6.1 below, provides details of the extent of existing academic accommodation at the University:

Table 6.1 Existing Accommodation

Type of Floorspace	Total Floorspace (GIA)
Academic (Teaching, Research, Support)	125,120sqm
Existing No. of Students(2013)	13,860 FTE
Academic Floorspace Ratio	9.02sqm/student

[Source: BUL Estates Strategy 2012:2017]

- 6.3 The University's Estates Strategy 2012-17 confirms that the University's existing academic accommodation extends to approximately 125,120sqm (GIA) which equates to a ratio of around 9.02sqm/student (GIA) (a net ratio of around 7.2 on the basis of an assumed typical gross to net ratio of 1:0.8). This compares to typical higher education institutional net-ratio benchmarks of between 6.48 and 7.78sqm/student (NIA) (Estate Management Statistics prepared by the Higher Education Statistics Agency (2010/11)).
- 6.4 This confirms that in terms of quantum, the existing amount of floorspace appears to be reasonably well aligned with comparable Universities (which indicates that there is not a quantitative need for additional floorspace at this point in time).

Qualitative

- 6.5 The above quantitative assessment masks existing qualitative deficiencies, including:
- Building stock condition – many of the existing buildings are reaching the end of their economic life and require refurbishment/replacement.
 - Flood Risk – many of the existing buildings are now located in Flood Zone 3 due to climate change.

- Functionality – Much of the existing accommodation is no longer fit-for-purpose due to changes in teaching methods, technology and an increasing requirement for specialist research facilities. This sits alongside an increasingly demanding student market, where quality of accommodation is increasingly important.

6.6 We expand on these existing qualitative needs below:

Existing Building Stock Condition

6.7 The core of the University’s campus was constructed in the 1960s/70s. This includes the following buildings:

Antonin Artuad (1967) (2,849sqm)	Joseph Lowe (1968) (991sqm)
Bannerman Centre (1973) (12,040sqm)	Lecture Theatre (9,007sqm)
Biology Annex (1971) (484sqm)	Medical Centre (1967) (365sqm)
Bragg Building (1979) (1,270sqm)	Sewage Pumping Station (1972) (31sqm)
Engineering Stores (1967) (37sqm)	Sports Centre (1972) (5,569sqm)
Flammable Liquids Store (1971) (146sqm)	Engineering Complex (Towers A-D) (1967) (14,580sqm)
Halsbury Building and Plant Room (1971) (8,081sqm)	Wilfred Browne Building (1967) (4,044sqm)
Hamilton Centre (1967) (7,345sqm)	20 Cleveland Road (residential) (1968) (85sqm)
Heinz Wolff (1971) (8,724sqm)	Chepstow Hall (residential) (1969) (4,718sqm)
Howell Building (1968) (4,791sqm)	Clifton Hall (residential) (1969/71) (4,707sqm)
John Crank (1968) (3,822sqm)	Saltash Hall (1966) (4,526sqm)
<u>Total Floorspace: 98,212sqm (GIA)</u>	

6.8 While some piecemeal upgrades have been carried out, most of these buildings are now reaching the end of their life cycle and are in need of major refurbishment works or replacement. This includes the majority of the services infrastructure (pipework, drainage, ventilation, electrical distribution) as well as parts of the building fabric. The majority of these buildings also contain asbestos. The University has identified 16 of the 20 older buildings as “Category C”, meaning these are operational but major repair or replacement works are required in the short to medium term. The age and condition of the core 1960s/70s buildings is a constraint on the quality of environment that the University is able to provide, in terms of comfort, service reliability, health and safety, and energy/carbon emissions.

6.9 Due to the design and construction of these buildings, it would not be economically viable to refurbish and adapt these to meet modern needs. The most cost effective approach in many cases will be to demolish and rebuild to provide fit-for-purpose high quality accommodation.

6.10 For the purposes of this assessment, it is assumed that these buildings will need to be refurbished or replaced on a like-for-like basis as part of a rolling estate renewal

programme. Consequently, there is a **need for 98,212sqm of replacement floorspace** (14,036sqm residential and 84,176sqm academic/support floorspace).

Flood Risk

- 6.11 There are a number of existing buildings within the site that now lie within the floodplain of the River Pinn (Flood Zone 3), as a consequence of climate change. This has resulted in events of flooding during times of heavy rainfall.
- 6.12 In many instances the uses of these buildings are not suitable for location in the functional flood plain (having regard to the NPPF Technical Guidance), and this furthermore poses a significant operational risk to the University.
- 6.13 Affected buildings comprise the following:
- Saltash Halls of Residence (4,526sqm GIA);
 - Chepstow Halls of Residence (4,718sqm GIA);
 - Engineering Tower C and D (5,497sqm GIA);
 - Medical Centre (365sqm GIA); and
 - Sports Centre (5,570sqm GIA).
- 6.14 All of the above buildings are identified as requiring replacement/refurbishment on stock condition grounds (see above sub-section).
- 6.15 The above buildings extend to approximately 20,676sqm (GIA) (comprising 9,244sqm of student residential accommodation and 11,432sqm of academic and support floorspace).
- 6.16 Assuming like-for-like replacement (bearing in mind that this would be in line with standard benchmarks) this equates to a 'gross' **need for 20,676sqm of replacement floorspace** (on an alternative plot in order to avoid flood risk issues). This need is already accounted for under the stock condition need, therefore for the purposes of this assessment is netted down to zero to avoid 'double-counting'.

Summary – Existing Needs

- 6.17 In total, in order to meet existing needs, we consider there to be a requirement for approximately **98,212sqm of replacement floorspace (14,036sqm residential and 84,176sqm academic/support floorspace)**.

Future Needs

- 6.18 The University's growth plans (in terms of student numbers) for the 10 year period 2013-23 are set out in the University's Long Term Strategic Plan, as summarised in Table 6.2 below:

Table 6.2 Student Population Projections

Level	Student Population (FTE)	
	2013/14	2022/23
Undergraduate Students	10,124	15,705 (+55%)
Post-graduate Students	2,717	4,215 (+55%)
Post-graduate Research	1,019	1,571 (+54%)
Total	13,860	21,501 (+55%)

Source: BUL Long Term Strategic Plan.

- 6.19 These forecasts are as of October 2014 (which comprises the 'base date' of this assessment), and represent the current 'planned' for growth. More recent projections (as reported in the Business Case, dated March 2016) indicate a potential increase to 22,500 by 2022/23 and 25,000 by 2026. This assessment considers the 21,500 figure which we recommend should therefore be treated as a minimum for planning purposes.
- 6.20 The projected headcount increases set out in Table 6.2 generate a need for additional teaching (academic), research, and residential accommodation. We set out detail of the assessed needs of each below:

Academic

- 6.21 In order to quantify the amount of additional academic floorspace likely to be required by the above growth projections, we have applied the University's existing per student floorspace ratios in Table 6.3 below (noting that these are consistent with typical higher education institutional benchmarks used for space planning):

Table 6.3 Long Term Academic Accommodation Needs

Increase in Undergraduate and Post-graduate Student Numbers	+7,079
Gross Floorspace Ratio (sqm/student)	9.02 (sqm)
Assessed Need	63,852sqm (GIA)

Research

- 6.22 The accommodation requirements associated with the growth in the University's research activities are difficult to quantify as each research function tends to require bespoke facilities.
- 6.23 Over the past 3 years, the growth of the University's research functions has required new accommodation extending to 3,550sqm. For the purposes of projecting long term development need, we have assumed that this trend will continue (equating to **a floorspace need of 14,200sqm** in the period 2014-2026). Bearing in mind the University's aim of accelerating the growth of its research function, this should be treated as a conservative estimate of need.

Residential (Student Housing)

- 6.24 The University's long term aim is offer sufficient student accommodation in order that the majority of 1st year students (70%) plus a proportion of overseas and postgraduate students are able to take up a place in halls. The number of 1st year students is projected to increase by around 2,000 students (i.e. around one-third of the growth in undergraduate numbers) in the period to 2023. This equates to a need for around 1,400 additional bedspaces. In addition, the University estimates a minimum need for an additional 100 bedspaces to meet the needs of postgraduate/international students. This equates to a total need for around 1,500 bedspaces.
- 6.25 Recent student housing development at the University (Isambard Phase IV) has equated to a floorspace provision of 27sqm per bedspace. Taking this as a benchmark, the requirement for 1,500 additional bedspaces would equate to a **need for around 40,500sqm**.

Summary – Future Needs

- 6.26 On the basis of the above calculations, it is our view that there is a need for an **additional 118,552sqm of floorspace** to meet future needs arising over the next 10 years.

Total Needs

- 6.27 Table 6.4 below, sets out the combined total of existing identified needs and projected future needs over the plan period (to 2026):

Table 6.4 Total Assessed Floorspace Needs to 2026

Type of Floorspace	Existing Need (GIA) [i.e. replacement or refurbishment of existing floorspace]	Future Need (GIA) [i.e. net additional accommodation necessary to meet future growth]	Total Assessed Need (GIA)
Academic	84,176sqm	63,852sqm	148,028sqm
Research	-	14,200sqm	14,200sqm
Student Residential	14,036sqm	40,500sqm	54,536sqm
Total	98,212sqm	118,552sqm	216,764sqm

6.28 As explained earlier, the above estimate of floorspace need is based on existing 'planned' for growth in student numbers to 2022/23. This should be treated as a base position and the minimum needed for the purposes of future planning. We note that the Business Case (enclosed as part of the package of representations) identified potential for more ambitious growth to 25,000 students by 2026, which would translate into a floorspace need over and above that estimated above.

Summary

- There is an estimated need for a net additional 118,500sqm of academic, research, and student residential floorspace in order to support the projected growth in student numbers at BUL in the period to 2022/23 (this should be treated as a minimum for planning purposes).

7. Benefits of Expansion

7.1 The growth of the University as a higher education provider and research institution will realise significant economic and social benefits which we consider to be of national significance, including:

- Generation of an estimated 2,120 additional local jobs and an additional 15,880 jobs across the rest of the UK from the expansion of the Campus by 2024/25 (refer to Business Case);
- Increasing higher education student places of around 11,000 to 2026, which would extend education opportunities at a local/regional/national level and directly contribute to improved UK and local economic performance via a more highly and appropriately skilled population. The planned greater focus and growth of STEM subject teaching and research will add further value (in terms of its alignment with UK economic strategy);
- Increasing the number of overseas students will increase the value of UK service exports;
- Delivery of significant social benefits associated with improved education – social mobility and a flourishing society.
- Increasing the provision of student accommodation on-campus by approximately 1,500 bedspaces securing a range of benefits, including an improvement to the University's competitiveness as well as directly helping to address local housing needs. It would also help to reduce travel and traffic impacts;
- The University will be better able to compete for significant Government funding to support research, which would draw significant investment into Hillingdon that would otherwise go elsewhere. This research work would create significant spin-off opportunities, directly contributing to longer term local/regional/national economic success;
- Increase the annual turnover of the University from £192 million to £350 million over the next 10-15 years, which would generate additional turnover in the wider economy as a consequence of multiplier effects (refer to Business Case);
- Enabling potential collaboration between the University and Hillingdon Hospitals NHS Foundation Trust, the Central and North West London NHS Foundation Trust to provide improved health and social care services and facilities;
- Improved profile for London Borough of Hillingdon, London and the UK in terms of its education services and key economic assets;
- Indirect benefits to the local community in terms of outreach programmes and potential for use of facilities;

- Releasing other land on Sites 1-4 for development will potentially increase the amount of undeveloped (open) land on Site 2 (a 'swap' position) which will increase its 'openness'. This relates to land that is in the flood plain which currently accommodates buildings and which will not be re-built on; and
- Broader environmental benefits, including the amenity of the River Pinn which would be greatly improved by the demolition of buildings on Site 2 and via the restoration of the river on Site 4 (the approach would be to naturalise the channel of the river and increase flood storage opportunities), alongside the decontamination of Site 4.

8. Summary and Conclusions

- There is a national need for the UK Higher Education sector to expand in order to satisfy Government economic and social policy objectives (needs).
- BUL is a successful higher education institution whose subject focus (STEM) is aligned with Government aims to diversify the UK economy. It follows that BUL (and other similarly successful STEM focussed institutions) should be a focus for expansion in order to satisfy national economic and social needs.
- BUL makes a significant contribution to the local/London/national economy with a trend of continual improvement through time. It is logical that policy makers should seek to protect and enhance this contribution going forwards (in the context of an increasingly competitive and internationalised Higher Education sector).
- The University is keen to expand. It has prepared a business case that supports growth to up to 25,000 students by 2026. The University's current commitment is to plan to grow to 21,500 students by 2022/23 (an increase of around 50%).
- There is an estimated need for a net additional 118,500sqm of academic, research, and student residential floorspace in order to support the projected growth in student numbers at BUL in the period to 2022/23 (this should be treated as a minimum for planning purposes). This is in addition to a need to replace approximately 98,000sqm of existing qualitatively deficient accommodation; and
- The expansion will deliver substantive economic and social benefits of national, regional and local significance.

Appendix A

2004 Outline Consent Reconciliation Table and Plan



Brunel University Masterplan (Outline Planning Permission ref. 532/APP/2002/2237)

Reconciliation Table

Student Accommodation

Zone	Use	Approved Under Outline Consent	Reserved Matters Approved	Ref	Implemented
R1	Student residential accommodation	20,700	✓	532/APP/2006/2339	✓
R2	Student residential accommodation	12,500			
R4	Student residential accommodation	17,500	✓	532/APP/2005/308	✓
R5	Student residential accommodation	19,140	✓	532/APP/2004/2258	✓
Sub-total (Student residential accommodation)		69,840	69,840	-	69,840

Academic Floorspace

Zone	Use	Approved Under Outline Consent	Reserved Matters Approved	Ref	Implemented	Remaining Balance (Future Reserved Matters Applications)
A2	Academic floorspace	4,300	-	-	-	4,300
A4	Academic floorspace	5,000	✓	532/APP/2005/3534	✓	-
A5 + A5a	Academic floorspace	6,950	✓	532/APP/2004/1054	1,600	5,350
A6	Academic floorspace	200	-	-	-	200
A7	Academic floorspace	5,000	✓	532/APP/2002/2236	✓	-
A8	Academic floorspace	250	✓	532/APP/2006/251	50	200
A9	Academic floorspace	3,000	✓	532/APP/2003/1890	1,000	2,000*
A10	Academic floorspace	12,100	✓	532/APP/2009/566	7,165	4,935
A11	Academic floorspace	5,264	✓	532/APP/2003/1890	3,203	2,061*
A12	Academic floorspace	4,500	✓	532/APP/2004/2092	✓	-
A13	Academic floorspace	1,500	-	-	-	1,500
Sub-total (academic floorspace)		48,064	42,064	-	27,518	20,546

* Condition 20 attached to permission ref: 532/APP/2002/2237 states that the combined floorspace of buildings A9 and A11, approved under permission ref: 532/APP/2003/1890 must not exceed 11,162m², including floorspace that already existed prior to the 2003 permission. To date, approximately 8,000m² has been constructed and 3,162m² of the consented 4,061m² is still to be developed.

GVA

16th March 2012

Appendix B

Student Number Projections

Student number Projections

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Level 1 (including foundation and LIBT)	3,621	3,802	3,992	4,192	4,401	4,621	4,852	5,095	5,350	5,617
Level 2	3,394	3,564	3,742	3,929	4,125	4,332	4,548	4,776	5,014	5,265
Level 3 (including MEng)	3,109	3,264	3,428	3,599	3,779	3,779	4,166	4,375	4,593	4,823
Level 5 – PGT (including PG-CERT)	2,717	2,853	2,995	3,145	3,303	3,303	3,641	3,823	4,014	4,215
Level 6 – PGR)	1,019	1,070	1,123	1,180	1,239	1,239	1,366	1,434	1,506	1,581
Total	13,860	14,553	15,281	16,045	16,847	16,847	18,574	19,502	20,478	21,501

Appendix C

The Trusts Development Need Assessment

- (i) A Statement from HHNHSFT
- (ii) A separate statement from CNWLNHSFT

**DEVELOPMENT NEEDS
ASSESSMENT
FOR THE
REDEVELOPMENT OF
HILLINGDON HOSPITAL**

VERSION CONTROL

Version	Date	Amendment description	Author
Draft1	16 th Jan 2017	Initial draft	T. Downard
Draft 2	19 th Jan 2017	Incorporating comments from Robert Steele and Nick Alston	T. Downard
Draft 3	24 th Jan 2017	Incorporating comments from Toni McConville and consistency with the document 'shared ambition for the concept of a University health campus' – our vision for the NHS 2030 – creating the future (25 Jan 2017)	T. Downard
Final	26 th Jan 2017	Incorporating comments from David Searle	T. Downard

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1.0 Introduction

Health care service demand has reached an all-time high and if our delivery model remains unchanged, demand for our services is set to continue to rise. We are currently facing unprecedented levels of attendances in our Accident & Emergency department at Hillingdon Hospital and there are significant service reconfiguration plans which will further increase levels of demand for our emergency, maternity and paediatric services over the coming years and further on into the future.

We have undertaken piecemeal capital developments to increase capacity in recent years but fundamentally, our estate requires significant investment to ensure that the right facilities are in place that meet the requirements demanded by modern clinical service delivery and to provide a high quality environment for patients.

The Trust has embarked on an ambitious strategic alliance driving forward radical initiatives to integrate our higher education, science and healthcare systems to make Hillingdon a world leader, attracting talent, improving patient care and outcomes and significantly developing the local economy. Developing an Academic Health Campus is critical to delivering our shared vision which will in turn improve the health and social care service offering to the residents of Hillingdon, integrate front line healthcare delivery with education and research and act as a catalyst for economic growth for the Borough.

This document provides an overview of the local healthcare landscape, the extensive case for investment in the healthcare infrastructure, commentary on the journey so far and why development on the site of Brunel University is needed.

2.0 Strategic Context

This section provides an overview of the local health economy, the challenges we are facing and our vision to enter into a strategic alliance to develop an academic health campus with Brunel University (Brunel) and Central and North West London NHS Foundation Trust (CNWL).

The Hillingdon Hospitals NHS Foundation (THHT) Trust is the main provider of local hospital services to the Hillingdon population. The London Borough of Hillingdon has a resident population of approximately 300,000. It is a typical outer London Borough with varied socio-economic indicators. All unscheduled emergency services are provided on the Hillingdon site, with low-risk elective surgery, diagnostics, long-term rehabilitation and continuing care provided by the Trust at Mount Vernon Hospital in Northwood.

Hillingdon is the second largest geographical area of London's 32 boroughs. By 2021, the overall population in Hillingdon is expected to grow by 8.6% to 320,000. Rates of diabetes, hospital admissions for alcohol-related harm and tuberculosis are all higher than the England average. There is an expected rise in the over 75-year-old population over the next 10 years and it is anticipated that there will be an increase in rates of conditions such as dementia.

In addition to the organic population growth expected, around 9,000 new residential dwellings are currently planned and employment levels are projected to increase by 14,000 between 2016 and 2026.

2.1 NHS 2030 : Creating the future in Hillingdon

Three local organisations – Brunel, THHT and the CNWL – have come together to transform health and social care for the next generation of patients and to improve the health and wellbeing of the local community in the London Borough of Hillingdon. We will work with the Commissioners, the Local Authority and the Accountable Care partnership (ACP) and engage with GPs and other community-based health and social care practitioners to develop and deliver our vision for a fully integrated care system, the first of its kind in the UK.

By 2030, our goal is to:

- **Radically change NHS and social care provision in the Borough** to address the inadequacies of our hospital and community-based health and social care provision and to meet the complex care needs of our growing population;
- **Create a unique system of integrated health and social care** in the London Borough of Hillingdon, **building on best international practice** and working with and through local partners to **deliver a healthier Hillingdon** – a community where avoidable disease is prevented and high quality patient care is provided through a seamless system of prevention, diagnosis, treatment and short and long term care;
- **Develop an Academic Health Campus** with a next generation acute medical centre replacing the current hospital, and an integrated academic centre which will work in partnership with GPs and other community-based health and social care professionals to drive and deliver improvement in population health and patient care through education, research and innovation;

The new acute medical centre will replace the existing Hillingdon Hospital and the adjoining mental health centre, providing fit-for-purpose accommodation to deliver services which are integrated across existing care boundaries and be co-terminus with a world class university. Co-located with the acute medical centre will be an Academic Centre for Health Sciences which will educate a future workforce, underpinned by science and research.

The alignment of healthcare delivery and academic expertise on Brunel's single campus is critical to enable improvements in the quality of patient care and also to bring broader social and economic benefits by;

- (a) the delivery of high quality integrated education for healthcare professionals and other NHS staff,
- (b) supporting a growing portfolio of research and enabling translation of that research into practice,
- (c) fostering an effective interface between hospital- and community-based healthcare,

- (d) attracting high quality staff to the NHS and the University and
- (e) creating wealth and employment through innovation and entrepreneurship.

The centre will be unique in Northwest London and will complement the expertise at Imperial College London in medical education and research, strengthen the education portfolio offered by the Health Sciences Academy (a partnership between Brunel University London, Bucks New University and Imperial College London) and foster the collaborative aims of Imperial College Health Partners.

There is the opportunity to be bold in our strategic thinking to optimise benefits of collaboration. The ambition for education can be summarised as:

- This collaboration could form a unique **Academic Centre for Health Sciences (ACHS)**
- An ambitious co-located portfolio of **education, training, research** and opportunities for health related employment
- A **tailored approach to the future of the health related services** and workforce as envisaged in the Five Year Forward View (5YFV)

Education

The ACHS will provide the accommodation to offer the following immediate deliverables:

- High quality undergraduate and postgraduate education/training and CPD in the following areas:
 - i. Physician Associate
 - ii. Physiotherapy
 - iii. Occupational Therapy
 - iv. Community Nursing
 - v. Biomedical and Health Sciences, including Exercise Physiology and Biostatistics
 - vi. Health Economics
 - vii. Ethics
 - viii. Bespoke programmes for health care professionals, managers and other NHS staff Business/Management; Information Systems and Computer Science; Law

Co-location and integration of healthcare and educational accommodation will provide a hybrid environment that will be beneficial for patients, students, staff and the wider community. Underpinning principles will include:

- Application of research and other technology (basic and applied science, solving technical and clinical problems, for example through simulation)
- Promotion of an end to end single site pathway from further education to employment matching the changing health needs of the population, as detailed in

recent publications such as the NHS England Five Year Forward View.

- Breaking down traditional nursing and medical workforce training and clinical roles, for example by training of Physician Associates, and sub-specialisation of those with Health and Life Science Degrees

Research and Translation

The ACHS will build upon the research strengths of Brunel which, in addition to the areas listed above, include: Bioengineering/Medical Devices; Nanotechnology; Systems and Synthetic Biology; Simulation and Modelling of Healthcare Delivery Systems (Cumberland Initiative); Toxicology; Healthy Ageing; Rehabilitation. The co-location of academic and NHS staff on a single campus would bring significant advantages including:

- More opportunities for NHS staff in the hospital and health care professionals in the community (e.g. GPs, community nurses, social workers) to engage in CPD and research and to drive innovation in practice;
- Research tailored to meet the specific needs of the NHS;
- Facilitation of the translation of research into practice through appropriately controlled trials and rigorous evidence-based analysis of the benefits;
- Generation and commercialisation of intellectual property.

An Academic Focus for Allied Health Professionals

The creation of a Postgraduate Unit for Allied Health Professionals within the ACHS will provide a focus for professional development and research in the allied health disciplines. The Unit will provide an unmet national need to strengthen the academic base and build research capacity within these disciplines. Importantly, it will provide the critical mass and clinical interface required for high quality doctoral training, something which is currently offered by only a small number of institutions in the UK. The Unit will thus have a key role in delivering a pipeline of highly skilled individuals with the knowledge, skills and attitudes needed to advance their subject and implement new developments in clinical practice. The establishment of such a Unit would be timely given the growing emphasis on care in the community and the role of allied healthcare professionals in the delivery of this service.

We expect the Centre to attract high quality staff and, within a 5 year window, to be established as a 'Centre of Excellence'. To facilitate this we will follow the model customary in medical and dental schools of joint and honorary appointments between the NHS Trust(s) and the University to enable collaborative working.

Our project is ambitious but we are confident that we have the drive and talent to succeed. The creation of a new campus will take several years, but we cannot wait until then to start. We therefore plan to take a phased approach, starting in phase 1 by:

- a) setting up the ACHS to get the important work of training the workforce and

- developing our research agenda underway and
- b) developing and starting to implement clear plans for the delivery of integrated services across the Borough

Phase 2 will focus on the creation of an Academic Health Campus on undeveloped land within the campus of Brunel. This new development will enable co-location of the appropriate activities currently provided by THHT and CNWL together on one site in a next generation acute medical centre alongside the ACHS thus enabling academics and health and social care professionals to work alongside each other to drive the development and high quality care. This new integrated Academic Health Campus will be designed to support health and social care in the 21st century, bringing together physical and mental health care for the first time in the Borough and supporting rehabilitation and transition for our patients into community based care.

2.2 Shaping a Healthier Future

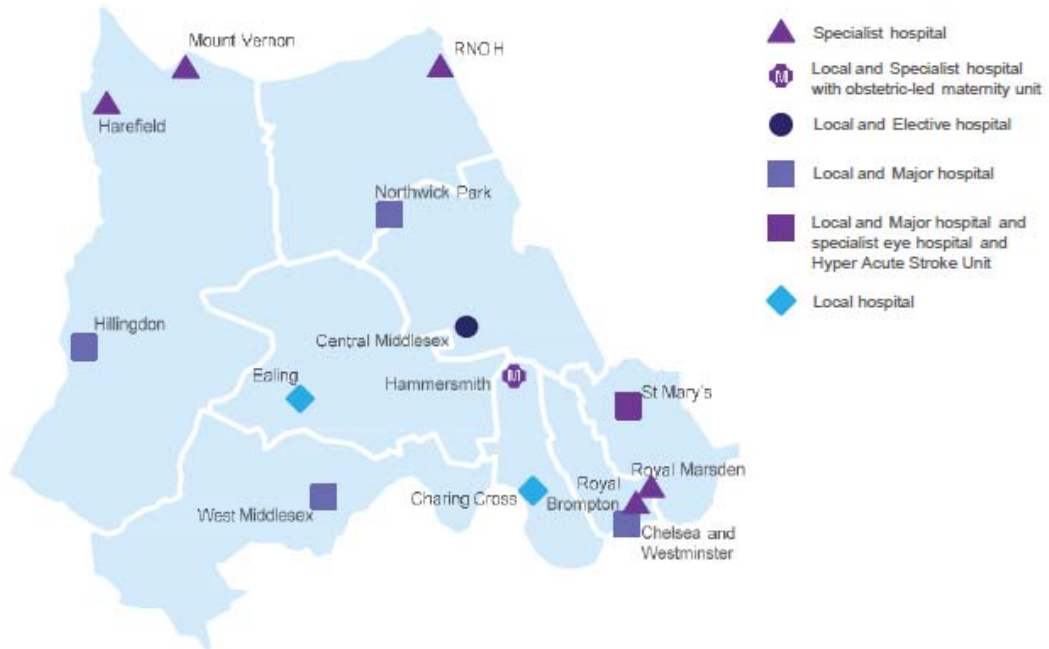
Shaping a Healthier Future (SaHF) is a clinically-led health reconfiguration programme led by the eight Clinical Commissioning Groups (CCGs) in Northwest (NW) London. It covers a population of 2 million and brings about changes to the settings of care within the NHS leading to significant improvements in clinical outcomes. SaHF aims to create a future healthcare system in NW London which will address the changing demands of the population, meet clinical standards, and provide a sustainable financial future.

The SaHF proposals underwent full public consultation in 2012 and the preferred option was published in a Decision Making Business Case (DMBC). The preferred way forward was approved by the Secretary of State for Health in October 2013. The preferred way forward for the region includes:

- 19 out-of-hospital 'hubs' (in total there are expected to be 27 hubs, four are already in place and four are in hospital OBCs)
- Two 'Local' Hospitals (Ealing and Charing Cross Hospitals)
- One 'Elective' Hospital (Central Middlesex Hospital)
- Five 'Major Hospitals' (St Mary's, Northwick Park, West Middlesex, Hillingdon and Chelsea and Westminster)
- One 'Specialist' Hospital (Hammersmith Hospital)
- A range of primary care estate schemes.

The future planned configuration of hospital services in Northwest London is shown on the map below. The implications of this proposal for each hospital vary in scale and therefore the capital investment required. Ealing and Charing Cross Hospitals will see a reduction in high

acuity services whilst all of the other will maintain or increase the breadth of services being offered.



The Hillingdon Hospital has been classified as a 'Major' hospital which means that existing services will remain and investments will be made to increase our service offering, particularly in regard to increasing senior medical staff cover and to increase physical capacity for a number of services. The graphic overleaf defines the components of each health setting as included within SaHF.

Home	GP practice	Care network	Health centre	Local hospital	Major hospital	Elective hospital	Specialist hospital
Existing services on all sites: Health information and signposting Community pharmacies Care with the: • Home • GP • Comm nursing • Comm therapy • Social care Proposed New services Health information & care navigation incl. maximising use of 111 and Dir. Of Services Enhanced care in the home with triage & response within 4 hours Short term intensive support, Integrated health & social care teams Enhanced self management including assistive technology, telephone coaching	Existing services on all sites: GP consultations Health promotion Preventative services • Immunisations • Screening Existing services on some sites: GP consultations (extended access) Simple diagnostics (e.g. blood tests) Simple treatments (e.g. blood tests) Therapy services Specialist GP services Children's health services Enhancements on some sites: Enhanced LTC mgt, Care coordination, Care planning, Regular Reviews GP consultations – triage & response within 4 hours	New services on all sites: GP consultations – triage & response within 4 hours Enhanced LTC mgt, Care coordination, Care planning, Regular Reviews Multi-disciplinary group case conferences involving all providers Improved access to diagnostics (e.g. ECG) Improved access to treatments (e.g. wound clinics) Therapy services (e.g. physio-therapy) Specialist GP services Children's health services (may be co-located with Children's Centres) Enhancements on some sites: Health and social care coordination	Existing services on all sites: General Practice GP consultations (extended access) Specialist GP services Therapy / rehabilitation services Diagnostic services Enhancements on all sites: Enhanced therapy / rehabilitation services Specialist GP / MDT services Enhanced access diagnostics Enhancements on some sites: GP consultations – triage & response within 4 hours Specialist clinics Complex diagnostics (e.g. imaging pathology)	Existing services on all sites: Urgent Care Centre Outpatients & Diagnostics Enhancements on all sites: UCC (24/7 with extended range – 60-80%) Specialist clinics involving acute and primary care clinicians Diagnostics e.g. imaging, path with enhanced access Outpatient rehab. services Enhancements on some sites: Out of hours service Primary Care Centre (GP consultations) Step-up / step / down community & rehab. beds Minor procedures Enhanced medical day care e.g. dialysis chemotherapy	Existing services on all sites: A&E 24x7 Urgent Care Centre Outpatients & diagnostics Emergency surgery Urgent / complex medicine Enhancements on all sites: Increased consultant cover on site: • A&E • Surgery • Obstetrics and Gynaecology • Paediatrics UCC (24/7 with extended range – 60-80%) Increased support: • Midwives • Paediatric trained nurses Interventional radiology 24/7 Existing services on some sites: Acute Cardiac Services Major Trauma Centre	Existing services on all sites: Elective surgery (including day case) Elective medicine Outpatients & diagnostics HDU	Examples: Cardiothoracic Cancer Spinal surgery * Could include heart attack unit

The reconfiguration plan impacts on the size and breadth of services provided on each hospital site and each hospital Trust has planned the changes required to enable the reconfiguration to take place.

In the context of the SaHF programme, Hillingdon Hospital is a 'fixed point' major acute hospital with 24/7 Accident & Emergency capability, delivering emergency and elective services over a progressively broader catchment area, as the changes in the Northwest London sector take effect. Hillingdon will broaden its catchment to cover some activity previously managed at Ealing Hospital including:

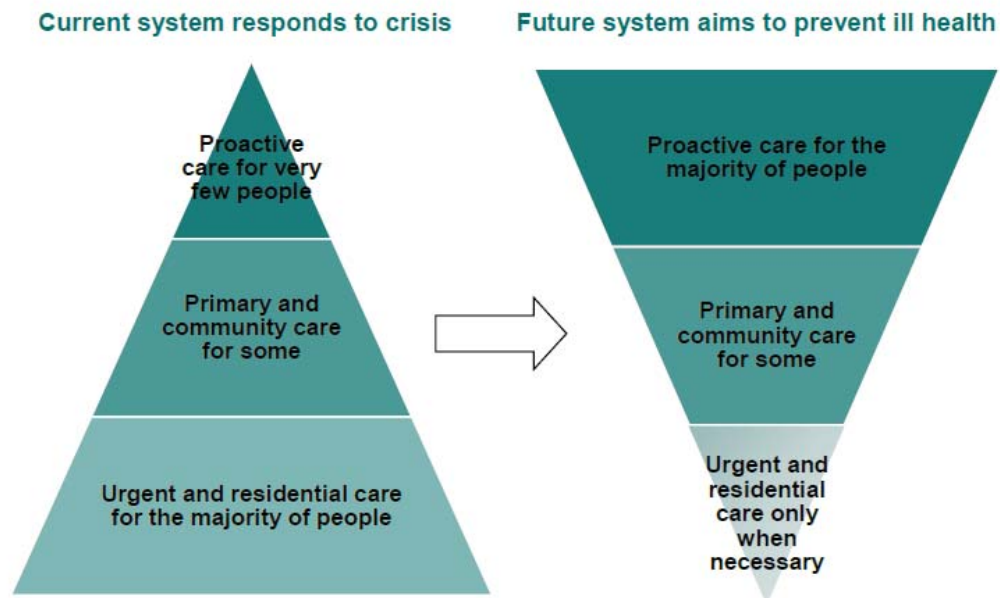
- Accident and emergency
- Maternity and
- Paediatrics.

There is a need to invest in our estate to provide the required capacity to accommodate the additional demand expected as part of the reconfiguration. The reconfiguration can only be fully implemented once the investment has taken place.

2.3 Sustainability and Transformation Plan (STP): Being well, living well: a sustainability and transformation plan for Northwest London

A STP was produced in 2016 for the Northwest London region. This document takes forward the ambitions set out in NHS England's national strategy – the Five Year Forward View. The

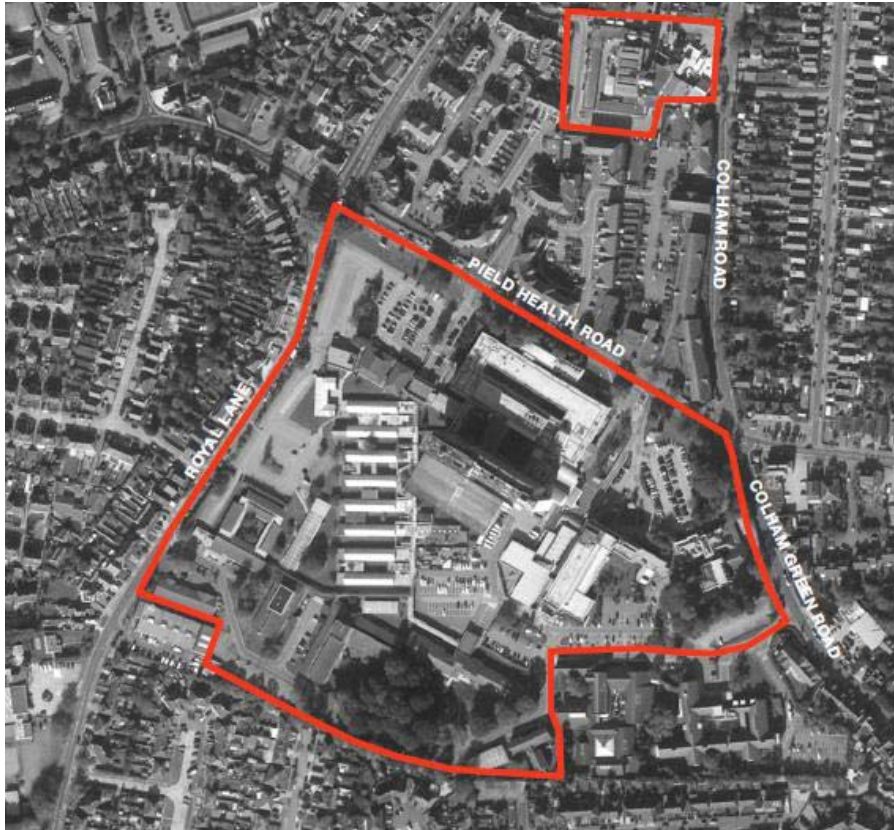
STP describes the plans in the context of our local health economy to shift service models from being reactive and treating people when they become ill to being proactive by promoting health and wellbeing and delivering healthcare services closer to user’s homes. The diagram overleaf offers a comparison between the current and proposed health system configuration.



The Trust was one of the 30 health and social care organisations that participated in the planning and development of the STP. The STP reaffirms that Hillingdon Hospital will become a ‘major’ hospital in Northwest London through the SaHF service reconfiguration and explicitly makes reference to the fact that investment is required to improve the region’s hospital estate to reduce the £625m cost pressure which is required to maintain the region’s hospital estate in its current form. Our vision, NHS 2030 – Creating the future, is fully aligned with the need to radically change the way health and social care services are provided in the London Borough of Hillingdon by developing fully integrated care pathways the focus on seamless multi provider care and patient centred proactive and preventative care models.

3.0 Existing Site

Hillingdon Hospital is situated to the Southwest centre of the Borough within a residential area. The site is bounded to the north by Pield Heath Road, the east by Colham Green road and the west by Royal Lane. Some non-clinical Trust accommodation is located to the north of Pield Heath road.

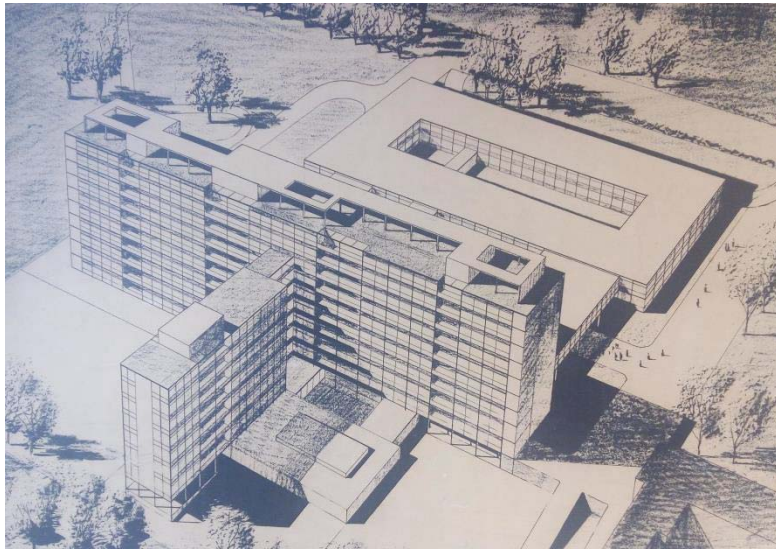


Although there is access to the site from all three bounding roads, the main public vehicular drop off, public emergency drop off, car park access and emergency ambulance access are all from Field Heath Road, which often experiences congestion with traffic at busy times.

The hospital site is dominated by the Tower and Podium elements completed in 1967. Whilst these buildings retain some of the cohesion behind their original design intent, the site as a whole tells the story of the partial implementation of a replacement programme that was never concluded, with the most obvious evidence being the continued use of the temporary ward accommodation built during the Second World War.

3.1 History

A 250 year history can be traced showing the important role that Hillingdon Hospital has played in the provision of health services to the population of the Borough of Hillingdon.



The outbreak of the Second World War brought a stop to plans to build a permanent replacement for Hillingdon Hospital. However, the onset of the war brought a rapid extension of the existing facilities with the erection of temporary hutted annex wards by the Emergency Medical Service as part of the

government's plan to provide 300 extra beds for wartime casualties.

After the end of the Second World War, the Northwest Regional Health Board developed a three phase plan which would see the redevelopment of Hillingdon Hospital. The plan was to create a modern district general hospital with 834 beds.

The hospital site as we see it today is delivers the first phase of the plan - the tower and podium built in 1967 and the maternity hospital in 1969. The second phase of the three phases which would have seen the replacement of the temporary ward accommodation hastily constructed during the Second World War was planned for 1970 but was never delivered.

Proposals were developed to a detailed level in the 2000s to redevelop the hospital in a single phase new build through a private finance initiative (PFI). This proposal was stopped on the grounds that the unitary charge which would be payable by the Trust could not be sustained by the Trust's turnover.

During the years when the PFI scheme was being developed there was a serious underinvestment in the current estates infrastructure. This has now resulted in the need to invest significantly to update building services plant and fabric. The cost to address the backlog maintenance liability is estimated to be in the region of £100m.



3.2 Estate Quality, Condition and Backlog Maintenance

The Tower and Podium that dominates the Hillingdon site were built between 1963 and 1967. In September 2014 the Care Quality Commission undertook an inspection of the hospital and their report noted serious shortcomings in the suitability of key parts of the premises for modern healthcare services. Earlier, in 2007 the results of a condition survey concluded that whilst it was feasible to maintain the Tower and Podium “... the building is currently unable to deliver a code compliant standard of healthcare without planned and essential refurbishment works taking place.” Although some work has been undertaken, the full range of work required has not taken place to address the chronic condition of the estate.

Although subsequent years of capital works undertaken through the Trust’s capital programme has been able to mitigate some of the impact of the deteriorating estate, the Trust is becoming increasingly concerned at its continuing ability to manage the extensive risks that estate poses on a “sticking plaster” approach. This approach is simply not sustainable in the long term and the estate needs to be replaced as it is far beyond being fit for purpose.

Patient facilities fall well below what should reasonably be expected by the residents of Hillingdon and its environs. The heating, electrical and ventilation systems are mostly well beyond their economic life and prone to patient-affecting failures; backlog maintenance is estimated at £100m – one of the highest in the country for our size, reflecting the very poor condition of the estate. At a minimum, significant investment is needed to modernise just the main Tower and Podium buildings on the Hillingdon Hospital site.

There is now a critical need to address the estate maintenance and condition issues. Significant investment is required and investing on the current site would not deliver value for money, as it would only address engineering infrastructure issues and is unlikely to improve visible building quality or the environment for service users.

3.3 Functional suitability

The current estate does not provide accommodation that meets the needs of modern service delivery. Departments have had to expand over the years to cope with changes in demand. Space is already a significant constraint and as demand continues to rise, the flexibility and ability to extend existing departments will simply not exist.

Services are not located in optimum locations to allow for efficient transfer of patients and staff. An example of this is that the hospital’s Acute Medical Unit is not located adjacent to the Accident & Emergency department. This leads to increased portering costs and delays in patients vacating the Accident & Emergency department.

There is insufficient car parking on the current site and this has led to congestion of the local road network.

The current estate configuration limits the extent to which we can deliver care that protects patients' privacy and dignity. Best practice dictates that dressed and patients in gowns should not mix when traveling around the hospital. In addition, waste, catering and deliveries should not mix with patients or the public. The current limitations of our estate mean that it is impossible to achieve this separation. Only a new build solution will enable us to ensure the privacy and dignity requirements are embedded within the design.

Our ward accommodation built during the Second World War is the most severe example of where we are still delivering clinical services in unsuitable and extremely poor condition buildings which do not meet the latest standards, are inefficient to operate and do not provide an environment that offers adequate privacy and dignity to our patients.

Latest space planning guidance from the Department of Health recommends that accommodation used for direct clinical care should be larger in size than the majority of our clinical accommodation. This is to ensure that sufficient space is allowed for in clinical area for the increasing amounts of clinical equipment being used with the hospital and to ensure that the risk of cross infection is minimised. In the UK, the people are becoming larger in size and we do not have any specific accommodation suitable for bariatric patients (patients with a body mass index of over 30). Only investment in a new build hospital would ensure that accommodation is designed to meet modern standards.

3.4 Capacity

The current hospital does not provide sufficient capacity to meet current levels of demand or the growth in demand expected in the future caused by population growth and an ageing local population.

Capital funding is being sought through the SaHF reconfiguration business case to undertake expansion works in the short to medium term for the Accident & Emergency department, maternity and paediatric inpatients.

The SaHF reconfiguration and in particular the transfer of some services from Ealing Hospital is dependent on these capital works taking place.

In addition to the increased demand expected due to the service reconfiguration, demand from within the Borough has reached unprecedented levels and is only set to increase. It is likely that additional capacity requirements needed to meet projected demand can be mitigated in part by improving productivity. However there will still be a requirement to increase inpatient, diagnostic and emergency service capacity above and beyond the requirements stated through the SaHF modelling.

During development of the Strategic Outline Case, the Trust will be undertaking a full demand modelling exercise which will in turn estimate long term future capacity requirement for a major hospital in Hillingdon.

The current configuration of the hospital makes it difficult to plan expansion projects. Departments which will inevitably require additional capacity in the future are 'landlocked' and constraints are in place in regard to the current building structures and configuration.

3.5 Clinical Adjacencies

The locations for clinical and clinical support departments are currently sub-optimal. Incremental and ad hoc developments have taken place on the site over many years to adapt to service changes and rises in activity. As a result some clinical services are fragmented and split over multiple buildings creating inefficiencies in room utilisation, patient pathways and workforce resources. The opportunity to increase productivity is limited by current departmental locations and in some cases significant time is wasted in transporting patients from one end of the hospital to the other to access diagnostic tests and treatment.

In a modern hospital, the Trust would specify the critical, desirable and non-critical departmental adjacencies to ensure that a design is developed in a way which enables services to be accessed quickly and efficiently.

4.0 Future Needs

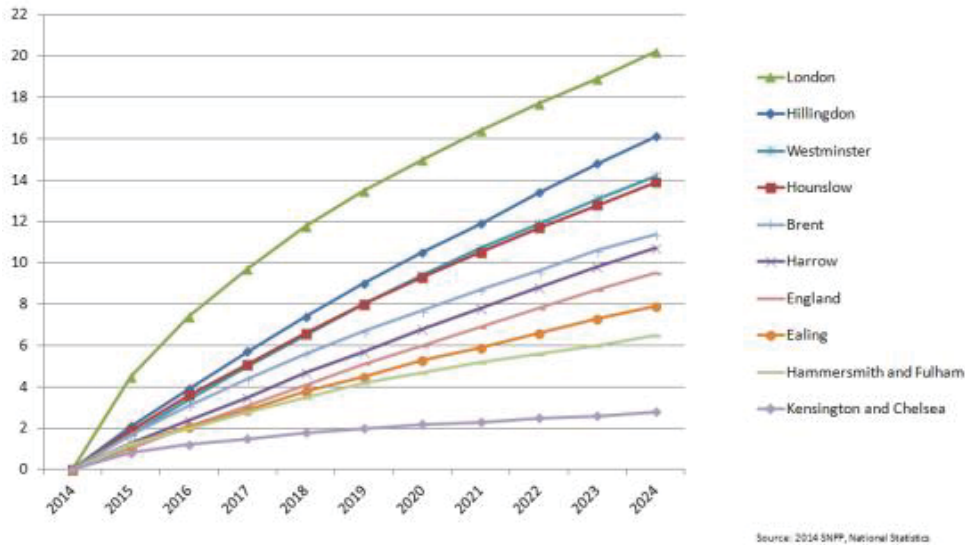
Nationally, the NHS is struggling to cope with increased demand for its services. The population is growing, people are living longer and more and more of our population have long term conditions. In addition, social care budgets have been cut which is leading to patients being in hospital longer than they need to be. In Hillingdon, these problems are all too obvious. Demand for hospital based services is growing as increasing numbers of patients are being unnecessarily managed in hospital which is why we have set our ambition, "NHS 2030 – creating the future", for a University health campus.

4.1 Population and Demand

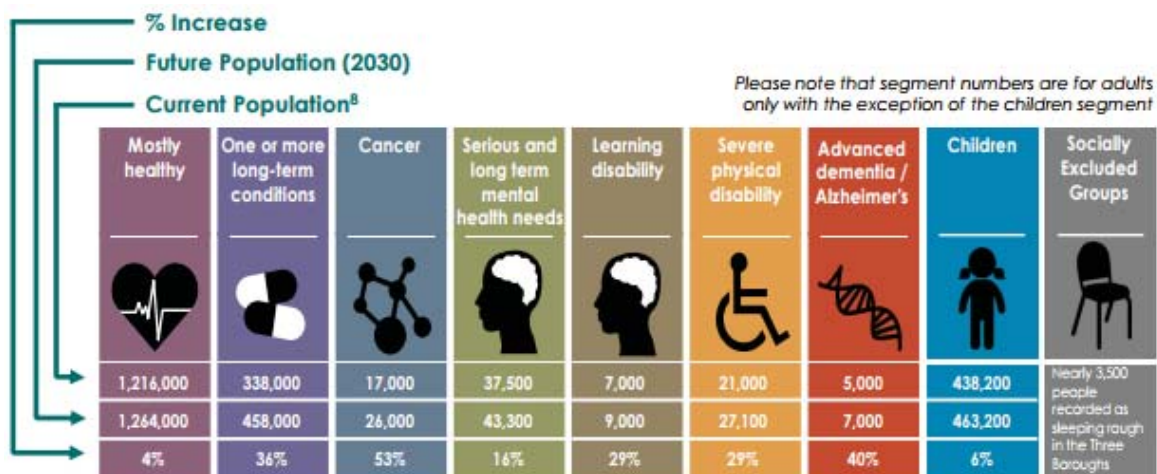
Hillingdon's population has been gradually increasing for over ten years. The Office for National Statistics has produced sub-national population projections which estimate population levels to 2039.

Population growth is projected across Northwest London and it is expected that Hillingdon will experience a proportionally larger population increase than any other London Borough in the northwest region.

Population change from a 2014 baseline



In addition to the number of people living in the Borough increasing, our older population is living longer. This leads to an increase in demand for healthcare services particularly in relation to management of long term conditions such as diabetes and chronic obstructive pulmonary disease (COPD). The graphic below summarises Northwest London population change by population segment.



The Borough also faces a number of major challenges to public health – Crossrail is already bringing new businesses, more residents and commuters and environmental issues. HS2 will bring disruption in the north of the Borough and the planned 3rd runway at Heathrow will doubtless cause major disruption, stress on the local population and further significant population growth – in essence more planes, alongside the increasing borough population will mean many more people with healthcare problems that need to be managed in a system that is not fit for current levels of demand let alone further pressure.

In Hillingdon, we have a higher percentage of physically inactive adults compared with the rest of England, higher rates of sexually transmitted infections, tuberculosis and diabetes. Historically, there is also a higher than average level of violent crime.

The local challenges with our population, the local infrastructure projects, the fact the our population is set to rise more than any other London Borough in west London and the fact that our population is living longer will lead to a significant increase in demand for health and social care services. We need to act now to develop an acute medical centre, that provides the capacity we need to ensure that we can continue to provide health and social care service the residents of Hillingdon need.

4.2 Location

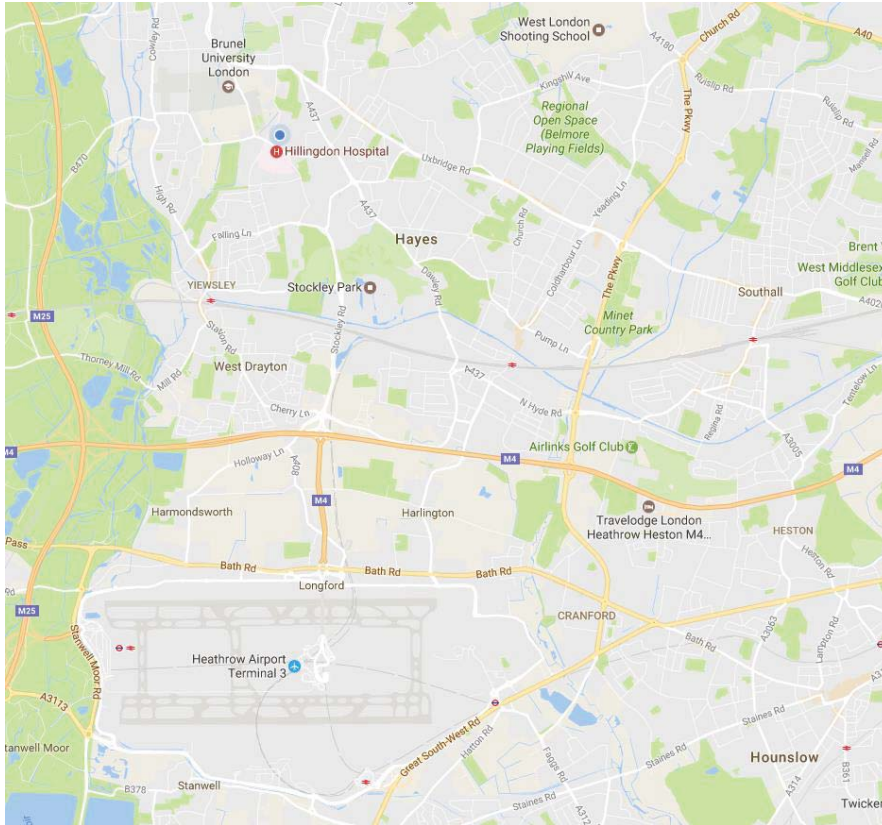
By using land on the Brunel site not currently earmarked for development, we could design and build a new hospital on Brunel land and provide a world class health and academic campus. This offers the potential that the existing hospital site may be surplus to the Trust's requirements and available for disposal and subsequent alternative use such as residential or mixed use developments.

A modern, fit for purpose, 21st century hospital for Hillingdon and beyond, will offer acute services and those further envisaged under SaHF, configured to be able to adapt to changing models of healthcare and its delivery, building on what is outlined in NHS England's 5 Year Forward View; integrating the delivery of primary care including community care, secondary care and social care; guided by National Initiatives such as the Prime Minister's 2020 Dementia Challenge.

The integration of health and social care on a site within the University campus will also enable the provision of new infrastructure capable of delivering health care services in a manner designed to meet the existing and forecast demands for healthcare and also provide integrated teaching facilities to increase the levels of education and training from within a live hospital environment. It will also bring together physical and mental health care for the first time in the Borough.

SaHF has confirmed that there is a long term need for a major acute hospital within the Borough of Hillingdon.

Hillingdon Hospital is also the major receiving hospital for patients arriving in the United Kingdom at the world's third busiest airport, London Heathrow. 1% of our A&E attendances were from patients being conveyed from the airport. The hospital also plays a major role in the airport's emergency preparedness plan which emphasises the need to provide a hospital which is easily accessible from the airport.



During development of the previous redevelopment proposals in the 2000's numerous land searches were undertaken to ascertain whether a new hospital could be located elsewhere within the Borough. These included the old RAF Uxbridge site now being developed into residential dwellings.

There are six fundamental reasons as to why the Trust seeks to develop its new hospital on the

land known as site 4 on the Brunel University Campus:

- 1) To **enable the delivery a fully integrated campus** where healthcare delivery is integrated with front line education and clinical research.
- 2) To develop a **modern and exciting Academic Health Campus** offering a unique experience which will attract students and improve workforce retention through providing a high quality working environment.
- 3) To maintain **good proximity to the Heathrow airport**
- 4) To **minimise disruption during construction** to the health service delivery
- 5) To enable the **sharing between organisations of support services** and facilities management
- 6) To **minimise the impact on relocation of the hospital** to the local population

4.3 Size

The current space requirement estimate for a new build hospital is in the region of 80,000m², compared to a current floor area of 52,000m². The 80,000m² will provide accommodation for the following services:

- Emergency including Accident & Emergency, Urgent Care, Acute Medical Unit, Surgical Assessment and short stay beds
- Surgery (emergency and some elective)
- Outpatients
- Diagnostics

- Paediatrics
- Specialty adult inpatient beds
- Maternity and
- Clinical and non – clinical support services including a simulation facility for training

4.4 Redevelopment Options and Appraisal

We commissioned specialist master planning advice to develop a series of strategic options that provide solutions designed to meet a series of project criteria. An options appraisal was undertaken at a high level to allow a broad comparative analysis between options against established scoring criteria.

We scored each option against the following set of non-financial criteria:

- Improvement in the quality of the operational estate over time;
- Improvement in compliance with design standards;
- Improvement in functional suitability;
- Improvement in the quality of the environment for patients;
- Alignment of Estate with operational / functional adjacencies;
- Deliverability / Disruption of implementation;
- Alignment of the estate with the Trust’s clinical vision and values and;
- Provides flexibility and a logical path for future healthcare delivery

The scoring team included representation from a wide range of clinical, non-clinical, allied health and estates teams.

4.4.1 Long list of Redevelopment Options

Extensive stakeholder engagement, initially with senior management and the hospital’s divisional directors and then with a wider group of clinical and non-clinical staff was undertaken at the beginning of our master planning programme. We held a series of strategic workshops and divisional meetings to understand the current challenges to the delivery of efficient and high quality care due to the current estate and also to understand planned service developments.

The following redevelopment options have been scoped and considered to date:

Option	Description
1	New build on land owned by Brunel University London
2	Phased replacement of building stock on the existing hospital site
3a	Partial New Build Tower extended as in-patient beds (disregarded)
3b	Partial New Build all in-patient beds in new build. Tower re-tasked to other use and alternative plan for SaHF (disregarded)







3c	Partial replacement of building stock and partial refurbishment by retaining the tower block for outpatient/ambulatory/non clinical accommodation
4	Do minimum – alternative to SaHF and addressing backlog maintenance (disregarded)
5	Delivery of the proposed solution to accommodate activity increased being realised from the SaHF service reconfiguration and addressing backlog maintenance
6	An option that relocates the energy centre onto the main hospital site, brings the condition of the building stock up to 'condition B' ¹ through addressing backlog maintenance and the recladding of the tower block.
7	Bring the condition of current building stock up to condition B only (backlog maintenance)

In all of the options, the opportunity for disposal / land release was considered. This is consistent with Department of Health policy which sets the direction that NHS Trusts dispose of land surplus to health care requirements so that it can be developed for housing. The amount of land deemed surplus to requirement varies between each of the options. Land valuations have been obtained so that the capital receipts can be factored in to the amount of capital funding required.

In the iterative development of the options, 3a, 3b and 4 were discounted and not appraised any further. Option 3a was discounted because the size and structure of the tower block prevents the ability for inpatient accommodation to be provided that meets the space standards and for the optimal ward size to be delivered.

Option 3b and option 4 were discounted because the plans to provide additional maternity, Accident & Emergency and paediatric capacity in the short term to allow for the SaHF service reconfiguration to take place did not align with the plans already being developed by the Trust.

A summary of the options is shown in the table overleaf:

Option 1	Option 2	Option 3c	Option 5	Option 6	Option 7
Single Phase new build replacement hospital and the Brunel site	Phased replacement hospital on the HH site	Partial New Build All IP beds in new build. Tower re-tasked to other use	SaHf only	Energy Centre, Reclad and Backlog	Do Nothing
					
Delivery Period* 5 Years	Delivery Period* 12 Years	Delivery Period* 15 Years	Delivery Period* 3 Year	Delivery Period* 12 Years	Delivery Period* 0 Years

¹ Condition B is the standard NHS Estate code definition for buildings that are sound, operationally safe and exhibits only minor deteriorations

4.4.2 Options Appraisal

The new build solution (option 1) scored highest in the non-financial options appraisal as the option brings accommodation up to modern standards in the quickest time frame, with minimal constraints and with minimal disruption to current service delivery. Financially, it costs less than any of the other site options but requires the whole investment amount at one point in time. Option 1 is also the only way to provide a fully integrated academic health campus.

The incremental replacement option (option 2) scored second in the non-financial appraisal. This option costs more mainly due to the longer duration (c12 years).

There is evidence within the NHS that multiple phase redevelopment projects do not always get completed due to funding constraints and changing government priorities. The Trust was victim to this in the 1970's where only the first phase of a two phase development was completed. There is a significant risk with this option that not all of the phases would be delivered due to a high probability of reduced funding and changes in policy over the 12 year period.

Whilst this option would eventually replace all of the accommodation that is not fit for purpose, there would be significant disruption to service delivery during implementation as all current services would need to remain fully operational during the works. Constructing new facilities of this scale on a live and operational hospital site causes significant disruption and inconvenience to patients and for services remaining operational. In addition to disruption from noise, vibration and dust, for our immuno-suppressed patients there are increased risks of deterioration and mortality.

Options 3b, 4 and 5 scored third, fourth and fifth respectively. Whilst option 3 would significantly improve the quality of the estate, the extent to which the quality could be improved is limited due to the fact the tower block structure would remain. Option 5 only dealt with urgent investment to make the current estate compliant though addressing backlog maintenance. These options do not address issues associated with clinical adjacencies nor would they include any measures to significantly benefit patients. Option 4 included addressing the backlog maintenance and delivering the required capacity to enable delivery of SaHF only.

4.4.3 Preferred Option

In summary, the option to construct a new build healthcare facility on site 4 at Brunel University was agreed by our Trust Board as being the preferred way forward because it will:

- enable the embedding of education, training and research within the health service delivery environment
- provide modern, fit for purpose accommodation meeting all current healthcare standards

- enable services to move to modern and fit for purpose accommodation in the quickest timeframes
- facilitate the release of the existing hospital site which could be developed for residential or mixed used accommodation
- significantly mitigate any operational disruption during implementation as the current hospital can function as it does now right up until the new hospital is completed
- ensure that all departments within the hospital are located in the right place to reduce inefficiencies in processes and service delivery
- establish an estate that offers long term sustainability
- maximise efficiency through shared support functions between the Trust and Brunel University

5.0 Deliverability

5.1 Business Case and Approvals Process

In accordance with Government requirements for the investment of public funds, the Trust will be following the business case process set out in Green Book, produced by Her Majesty's Treasury. The Green Book is a guidance document which sets out the process that public sector organisations need to follow to ensure that public funds are spent on projects that provide the greatest benefits to society and that they are spent in the most efficient way.

The Trust will be following the processes set out in the Green Book and its supplements which require the production of a series of business cases - a strategic outline case, an outline business case and then a full business case.

The size of the project and its cost dictates that the Trust will need to gain approvals from a number of public sector stakeholders before each business case is submitted to the Secretary of State for final approval. These include obtaining approval from our regulators, NHS Improvement and the Department of Health.

We plan to prepare the Strategic Outline Case for the redevelopment of the Hillingdon Hospital during 2017, and follow the process through with subsequent Outline and Full Business Cases. In parallel to this formal approval process, the Trust has commenced engagement and briefings with the Department of Health, NHS Improvement and local political stakeholders – all of which recognise the pressing need to invest in improving the quality of healthcare accommodation.

5.2 Capital Funding

The Trust has estimated the total cost of building and equipping a new hospital and is therefore aware of the scale of capital funding required.

During the course of 2017 and in preparation for production for the Strategic Outline Case, a funding strategy will be developed setting out the potential funding options and we intend to commission advisors to scope out potential funding models.

6.0 Conclusion

It is clear that due to the quality of the current Hillingdon Hospital and the fact that demand for our services will continue to grow, there is a pressing need to invest in a new hospital estate to ensure that sustainable services can continue to be delivered in the Borough of Hillingdon, for the residents of Hillingdon.

We need to develop our new hospital on the Brunel University site in order for us to deliver the shared goal of providing a first class Academic Health Campus within the Borough. Locating the acute medical centre on University campus will enable us to:

- Fully **integrate** physical and mental health service provision with training, education and research;
- Create a **unique environment** which will attract high quality staff from the local community and more broadly from the rest of the UK and beyond;
- Completely **remove inconvenience and disruption** and to our patients who are the most sick in the Borough during construction;
- Facilitate **local economic growth**, drawing in investment to a world leading innovator in integrated care;
- Design and construct accommodation from scratch which is in line with national and international best practice to **significantly improve patient, service user and staff experience**;
- Build an acute medical centre that has had **flexibility embedded within its design** to enable us to drive and respond to changes in demand and advancements in care quickly;

It is our belief that no other hospital redevelopment option considered to date will allow us to deliver our shared vision as well as providing an acute medical centre on the Brunel site. In order for us to fully integrate front line health service delivery with education and research, we need to be located together as one consolidated Academic Health Campus. The interdependencies between the Academic Health Campus and other departments within the University secures the decision that development on the current campus on the plot of land known as site 4 is the only feasible development option.

Brunel Development Requirements

Draft

RESPONSIBLE DIRECTOR
Gill Stafford, Director of Estates and Facilities
Version 3.0
January 2016

1.0 BACKGROUND

Central and North West London Foundation Trust currently occupies space within three freehold buildings within the Hillingdon Hospital campus. CNWL has a long history of delivering services from these locations. The Riverside Centre, in *Hillingdon*, has two adult inpatient wards, Frays Ward and Crane Ward that provide a safe and therapeutic environment for people with acute mental health problems. Riverside Centre also houses the Psychiatric Intensive Care Units (PICU) providing mental health care and treatment for people whose acute distress, absconding risk and suicidal or challenging behaviour needs a secure environment beyond that which can normally be provided on an open psychiatric ward. 2 Colham Green Road is a 15-bed inpatient unit providing a specialist rehabilitation service to people with enduring mental health problems aged between 18 and 65 and living in Hillingdon. It is a purpose-built unit comprising 10 single en-suite rooms and five self-contained studio flats. Oak Tree ward is based at the woodlands Centre in Hillingdon. The ward is staffed by a multidisciplinary team to provide assessment and treatment packages that involve service users, relatives and carers from admission to discharge.

The close location to Hillingdon Hospital has been beneficial to CNWL being able to deliver services, the teams being located across multiple sites is not ideal. These sites albeit in a reasonable condition are not fully aligned to the current space standards.

CNWL have been keen for some time to consolidate from multiple locations strengthening the services delivered to include Palliative Care, Rapid Response, Home Treatment along with some IAPT services to create a centre of excellence. It is clear that the current space occupied by CNWL is not efficient in planning terms and the creation of a new purpose built space would allow for increased efficiency and, therefore, although we would look to combine services from elsewhere the actual space required would not increase at the same level.

There is already an in-progress Strategy for CNWL Hillingdon Community and CAMHS services which are currently delivered across 15 main sites. This strategy has been developed with Hillingdon CCG in line with their Out of Hospital strategy. The collaborative approach and engagement with Hillingdon CCG has opened up possibilities of sharing accommodation with Third Parties in accordance with the Government's 'One Public Estate' strategy. The work that has taken place for Community and CAMHS services has not included the spaces within Hillingdon Hospital, due to the anticipated development of Brunel.

CNWL and The Hillingdon Hospitals NHS Foundation Trust (THH) have been in initial dialogue around any potential development and our interest in being included. With the close proximity of the Brunel Site, any purpose-built site would support the consolidation of services and work in parallel with our community Strategy.

2.0 CLINICAL DRIVERS

Commissioners have opened dialogue in relation to Increasing the provision of step up and step down services, however, remodelling of future commissioning intentions has not been included in our below requirements. Confirmation by the CCG around the growth of services would need to be understood before final space requirements can be determined.

Consideration should also be given to CAMHS Tier 4, pilots have been funded by NHS England with CNWL and WLMHT working in partnership. This looks at new ways of managing the pathway to Tier

4 inpatient admissions. Should this be successful then the inclusion of space for delivering this service should also be included.

Our sexual health services include STI testing and treatment, contraception, HIV and viral hepatitis testing, treatment and care. Although there has been a reduction in this service over the past year, there is currently a surge in this service. There is the possibility of large growth of the service, requiring additional accommodation; this will need to be looked at as the bids mature.

3.0 DRAFT REQUIREMENTS

Below CNWL has identified the services to be considered within any potential development. Although a space demand has been suggested this would be dependent on the configuration of any space, therefore the requirements within the space have also been shown.

When considering any future requirements, it is assumed that Palliative Care and Speech Therapy have relocated to alternative locations across the CNWL Estate.

Team	Requirement	Estimated space demand
Inpatient and rehabilitation wards	17 beds Therapy Kitchen Gym	4,994 m2
Acute wards	1 x 23 bed ward 1 x 18 bed ward 1 x 10 bed ward	
Other healthcare teams: <ul style="list-style-type: none"> • Rapid Access services (admissions avoidance and early discharge) • Place of Safety services • CAMHS Teams • Community Rehab Team • Child Development Centre relocating the Community Children’s Hospital • Oak Tree Ward • Older Adult • CMHT • Memory Service • IAPT Services (satellite space) • Home Treatment Team • Transit Lounge • Occupational Therapy 	Family Room Therapy Space	
Management/Administrative teams: <ul style="list-style-type: none"> • Service -wide management • Business & Transformation team • Information • Central Access Team • PAs and administrative support to management 	43 desk spaces	
Support space:		

Reception & waiting space IT Server Room Meeting spaces 1 clean utility 1 dirty utility 1 domestic store External space required (Garden) Car Parking Ambulance access	1 room 4 dedicated rooms 1 room 1 room 1 room (the ability to share additional spaces such as meeting rooms would be preferable)	
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Appendix D

Brunel University London Site Capacity Assessment and Concept Masterplan



Brunel University

Site Capacity and Concept Masterplan

January 2017 Rev A2

BDP.



Brunel
University
London





Contents

Revision A1 (Draft Issue):

Page 17 - minor amendment to plot C1
 Page 27 - amendment to height map
 Page 36 - Section 4.3 added

Revision A2:

Page 4 - reference to Assessment of Development Need updated
 Pages 5; 13; 15 - Site 7 added
 Page 6 - text amendments to improve clarity
 Page 8 - text amendments to improve clarity
 Page 9; 17 - Plot A3 location amended
 Page 10 - updated to reflect Academic Health Campus need
 Page 21 - colouring and key amended
 Page 29 - Introductory text added
 Pages 34 & 35 - Future expansion diagram added
 Page 36 - Academic Health Campus added in place of previous section 4.2

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1.0 Introduction

1.1 Purpose and Brief

- 1.1.1 This Concept Masterplan Report has been prepared by BDP for Brunel University to examine how their development needs could be accommodated on the land within their ownership. The extent of development need is identified in the January 2017 Assessment of Development Need Report prepared by GVA for the University.
- 1.1.2 This Concept Masterplan Report has been informed by and should be read in conjunction with the Assessment of Development Need report, Ecological and Transport Appraisals undertaken by WSP and the Green Belt Appraisal prepared by Gillespies.
- 1.1.3 The subsequent sections of this report are arranged in three parts:
- Section 2** investigates development opportunities across the existing built-up parts of sites 1 and 2 (see plan on adjacent page). This identifies the capacity to intensify the previously developed land within Brunel University ownership.
- Section 3** identifies opportunities and principles for developing beyond the existing developed land to accommodate Brunel University's assessed space needs up to 2026.
- Section 4** illustrates the proposed concept masterplan to reflect Brunel University's assessed space needs to 2026 and the development of an Academic Health Campus in collaboration with Hillingdon Hospitals NHS Trust



Schedule of Site Areas

- Site 1
34.03 acres
13.78 hectares
- Site 2
66.17 acres
26.78 hectares
- Site 3
19.82 acres
8.02 hectares
- Site 4
30.64 acres
12.40 hectares
- Site 5
42.82 acres
17.33 hectares
- Site 6
0.52 acres
0.21 hectares
- Site 7
2.24 acres
0.906 hectares



North



2.0 Site 1 & 2 Capacity Assessment

2.1 Building Condition Appraisal (Sites 1 & 2)

2

- 2.1.1 In order to determine the potential capacity of the existing developed areas at the Brunel University Campus it is necessary to identify where additional development could be located and where intensification of existing development could occur. At the same time, sites which are not available for development and existing development which should not be considered for intensification must be addressed.
- 2.1.2 The diagram on the adjacent page illustrates the extent of the greater than 1 in 100 year annual probability of river flooding across the land in the ownership of Brunel University. This represents the latest information provided by the Environment Agency. Several buildings are currently located within the extent of this flood plain. These buildings will need to be demolished and replaced elsewhere as part of any development intensification on the existing developed areas at Brunel University. Land within this flood risk zone have been considered unsuitable for potential development.
- 2.1.3 Two building complexes on campus are listed. The Lecture Theatre Block (Grade II) by John Heywood is statutorily listed and is therefore not considered appropriate for demolition and intensification. The Engineering Complex Towers A-D by Richard Sheppard are locally listed. However, two of the Towers (C&D) lie in the Flood Risk Zone and so for the purposes of this report are presumed to have been removed.
- 2.1.4 Condition assessment ratings for the existing buildings are also shown on the diagram on the adjacent page. These are drawn from the Capital and Stock Condition assessment contained within the Brunel University Estates Strategy 2012-2017 (version 4 April 2013).
- 2.1.5 It is not considered viable to replace buildings in Category A condition unless significant intensification can be achieved. Following an assessment of each building there are no Category A condition buildings which would provide the opportunity for such significant intensification.
- 2.1.6 Category B condition buildings have been reviewed individually based on density, use, and site location. Where significant intensification (at least double the existing density) can be achieved we consider it viable to identify the site for replacement at an increased density of use. Where such intensification is not possible the site has been considered as unavailable for redevelopment. Sports facilities in general are in high demand on campus. The Indoor Athletics Centre and Netball Courts are unique facilities and thus have not been considered available for redevelopment.
- 2.1.7 Category C condition buildings have generally been considered viable for redevelopment. We have made exceptions to this approach where:
- buildings are listed
 - buildings adjoin more recent development of better condition category
 - increase in density unlikely and thus does not add to site capacity.
- 2.1.8 Surface car-parking areas are generally considered available for development subject to multi-level car-parking being provided to replace lost spaces on a 1 to 1 basis.



Key

Existing Buildings



Category A



Category B

(Sound, Operationally Safe and exhibiting only minor deterioration)



Category C

(Operational but major repair or replacement needed in the short to medium term)



Listed Buildings: Statutory -

= Lecture Theatre Block



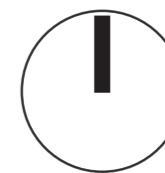
Locally Listed -

= Tower A, B, C, D



Flood Risk zone from River Pinn

North

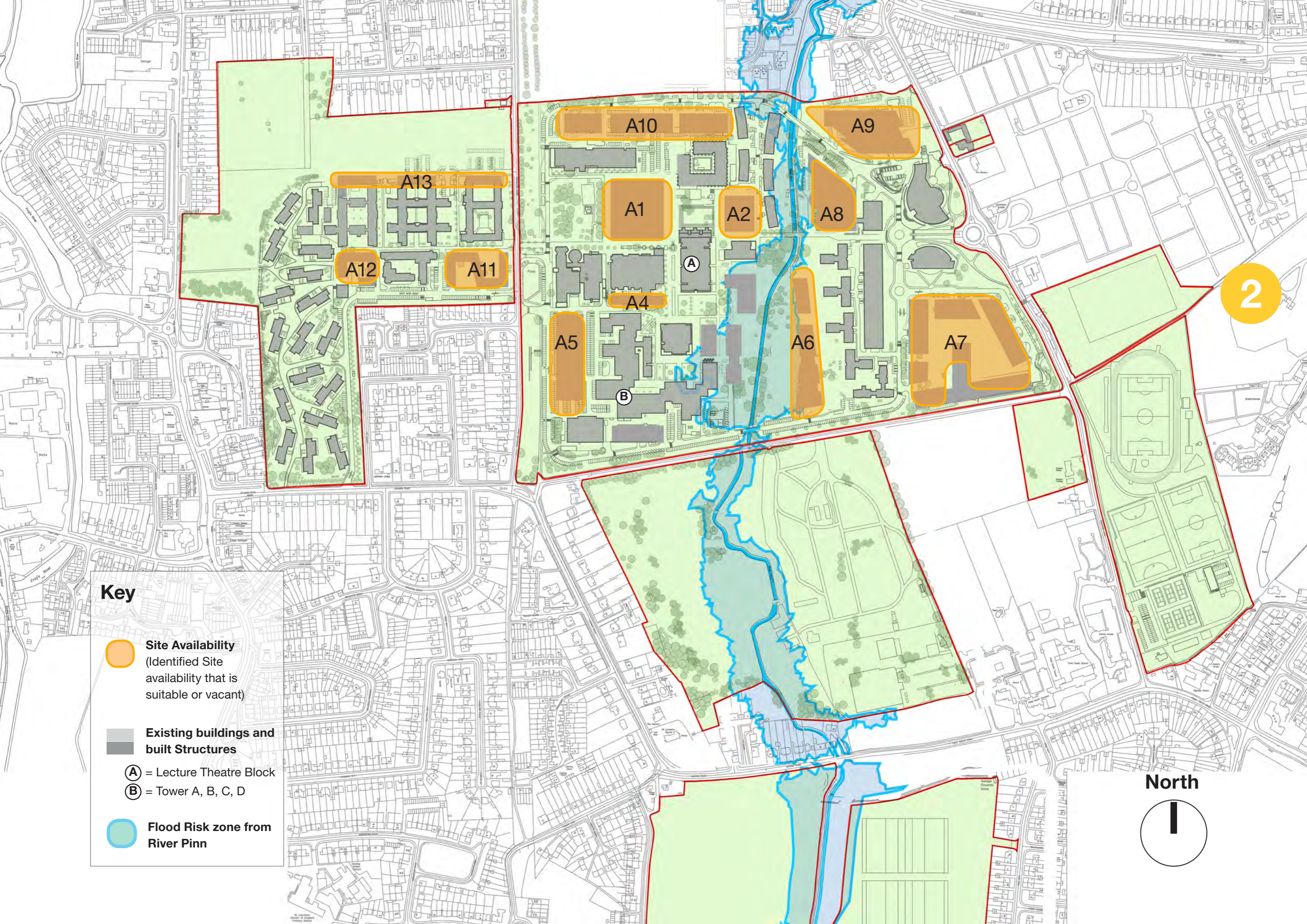


2

2.2 Suitable, Available and Viable Sites for Development (Sites 1 & 2)






2

- 2.2.1 The diagram on the adjacent page shows the sites within the existing developed areas of Sites 1 & 2 which are considered to be available for development and intensification.
- 2.2.2 Site 1 is already fairly densely occupied with buildings, however opportunities for increasing development on this site have been identified (plots A11-13). The open space to the North and West of the existing buildings on Site 1 has been retained as an open space and car parking as existing with no encroachment by potential development.
- 2.2.3 The majority of the opportunity for development and intensification is indicated on Site 2. The mature green spaces along the River Pinn have been protected from potential development as has the green space with its associated mature trees adjacent to Cleveland Road.
- 2.2.4 On Site 2 the areas of greatest opportunity are on the surface level car parks at the outer edges of Site 2 (plots A5 & A10) which also coincide with developments of relatively low density. The lost car parking spaces would need to be replaced within multi-level car parks on campus.
- 2.2.5 Some buildings around the Grade II listed Lecture Theatre Block (Plots A1, 2 & 4) provide an opportunity for intensification. These buildings are of relatively low density and are in condition Category C.
- 2.2.6 An opportunity exists to increase the density on the East side of the River Pinn on Site 2 through replacement of existing buildings some of which are in condition Category C (Plots A7-9). Plot A7 has been presumed to house further engineering research, which generally requires facilities for heavy machinery which need to be housed at ground level and therefore results in buildings of one or two storeys, and thus does not provide significant opportunity for intensification. It could, however, provide opportunity to co-locate facilities.
- 2.2.7 It should be noted that the diagram identifies potential sites for development / intensification. The diagram does not incorporate phasing strategies or investigate constraints in relation to building use which may preclude potential development.
- 2.2.8 Brunel University, as with all campus universities, need to be able to create new permanent development to replace existing facilities before they are able to remove existing campus buildings. New buildings should be located appropriately to ensure effective and efficient working and campus organisation. The existing campus may preclude delivery of the full capacity potential of Site 2 requiring development outside of the existing developed areas to facilitate full development within Site 2.



2

Key

-  **Site Availability**
(Identified Site availability that is suitable or vacant)
-  **Existing buildings and built Structures**
-  = Lecture Theatre Block
-  = Tower A, B, C, D
-  **Flood Risk zone from River Pinn**

North



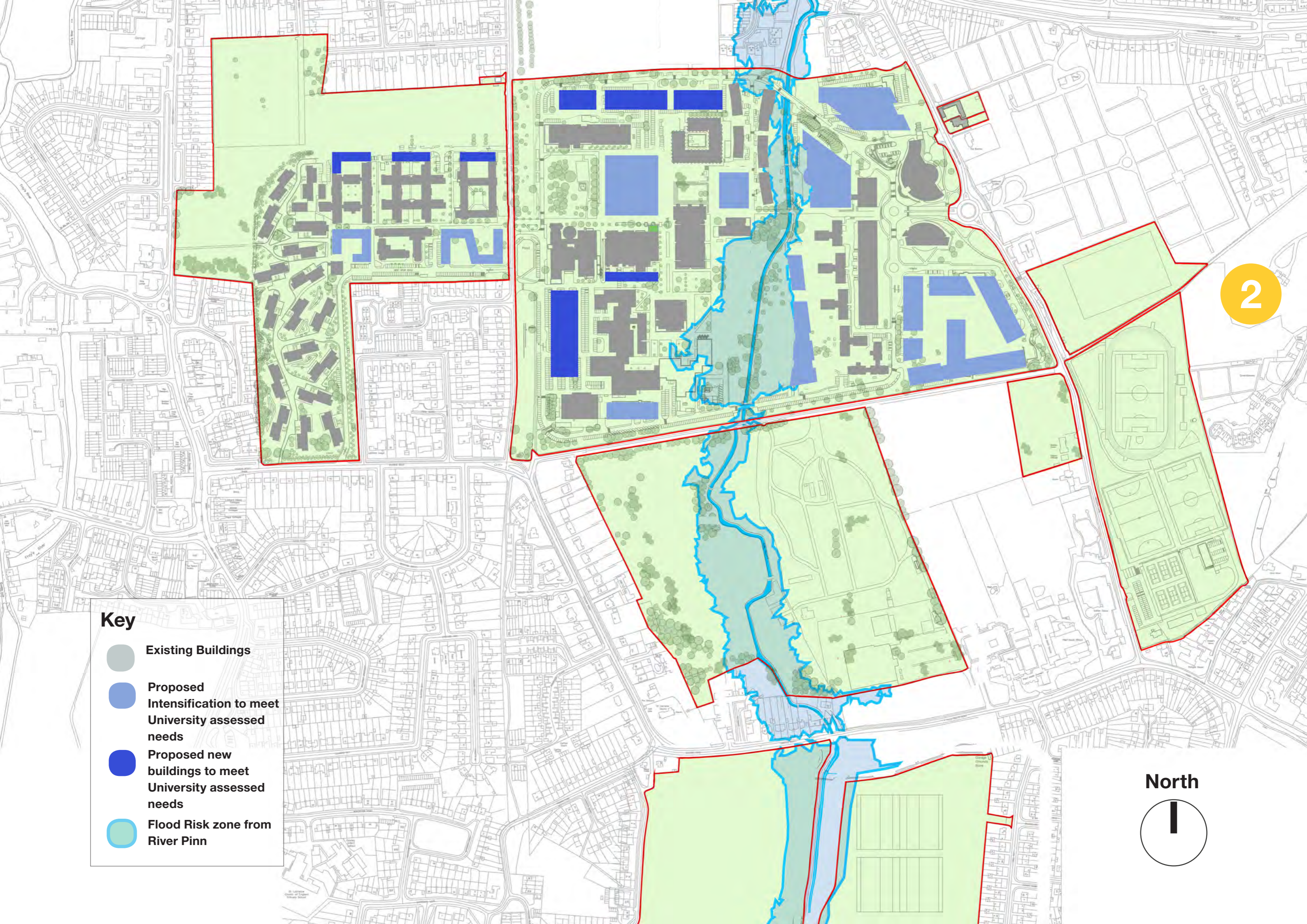
2.3 Site Capacity Assessment for Sites 1 & 2

- 2.3.1 The GVA Assessment of Development Need for Brunel University identified a total net additional requirement beyond existing / refurbished space of 118,550m² by 2026. This is shown in Table 5.4 of the GVA document and referred to as “Future Need”.
- 2.3.2 The drawing on the adjacent page identifies potential redevelopment capacity across the existing developed areas of Sites 1 & 2 of the Brunel University Campus. The drawings are coloured to show new, replaced and retained existing buildings.
- 2.3.3 Building areas have been calculated typically allowing for a range of three to five floors. This is led by existing heights across the campus. The edges of the sites are generally expected to be lower than the central areas. This reflects the low rise areas around the edges of the Campus sites. We have allowed for higher buildings around the central “Quad”. See section 3.8 and height map on page 27.
- 2.3.4 Surface car parking spaces lost to development need to be reprovided. To assist the ‘densification’ of Site 2 car parking spaces will be re-provided through the construction of multi-level car parks. The area of these will occupy some of the identified plots but is outside the Assessed Development Need and thus are excluded from our area calculations.
- 2.3.5 The table on this page identifies the total gross internal area of potential development. It also identifies the area of demolished buildings in order to provide total additional areas for Sites 1 & 2.
- 2.3.6 Sites 1 & 2 can accommodate an additional 65,400m² providing 55% of the assessed additional space need for to 2026. A further 53,150m² is required on sites outside the existing campus developed areas.
- 2.3.7 In order to provide space for the continued education and research business of the University, it may be necessary to first develop sites outside the existing developed areas of the Campus before existing sites can be redeveloped.
- 2.3.8 As shown later in this document there is a strong desire to create an Academic Health Campus linking public health provision with health related academic provision. The lower part of the table opposite indicates the space required to achieve this.

	Plots	Number of Floors	Total Area	Total Removed	Car Park Area	Resultant Addition
Site 1	A11	3	7026	3359	0	3667
	A12	3	3954	1080	0	2874
	A13	3	5724	480	0	5244
Site 2	A1	4	17008	8286	0	8722
	A2	5	8740	4078.9	0	4661.1
	A3	3	0	1071	4389	-1071
	A4	4	3268	0	0	3268
	A5	2	7770	5856	0	1914
	A6	4	8797	4243	4030	4554
	A7	2	20578	6254	0	14324
	A8	3	13579	5090	0	8489
	A9	3	11817	2703	0	9114
	A10	4	7992	8350	10992	-358

	TOTAL ADDED	TOTAL REMOVED	RESULTANT ADDITION
SITE 1	16,705	4,920	11,785
SITE 2	99,555	45,930	53,625

TOTAL ADDITIONAL AREA PROVIDED BY SITES 1 & 2	65,410
TOTAL ASSESSED ADDITIONAL AREA REQUIRED BY 2026 BUL EXPANSION ONLY	118,550 (see GVA Assessment of Development Need Report)
SHORTFALL IN AREA BUL EXPANSION ONLY	53,140
TOTAL ASSESSED ADDITIONAL AREA REQUIRED FOR ACADEMIC HEALTH CAMPUS	87,500 (see NHS Need Assessment Report)
SHORTFALL IN AREA REQUIRED FOR BUL & ACADEMIC HEALTH CAMPUS	140,640



2

Key

- Existing Buildings
- Proposed Intensification to meet University assessed needs
- Proposed new buildings to meet University assessed needs
- Flood Risk zone from River Pinn

North



3.0 Concept Masterplan Principles

3.1 Brunel University Campus Context Green Belt and Land Use

- 3.1.1 A number of studies have been undertaken to inform the development of a concept masterplan which meets the assessed space need. These include the Historical Use (Site 4) Report, the Transport Appraisal and the Green Belt Appraisal. The diagrams on the right have been produced to illustrate the land-use surrounding the site within the ownership of Brunel University, and the developed areas of land within the green belt designation.
- 3.1.2 The Brunel University owned lands sit on the midway point between Uxbridge and West Drayton town centres. Whilst the area around Brunel University is mostly residential, the area also hosts a number of other education and health-related institutions.
- 3.1.3 It can be seen that the green belt designated areas include development. This applies not only to the Brunel University Campus, but includes other educational and sports facilities, as well as the, now closed, commercial nursery.
- 3.1.4 A 'natural corridor' exists each side of the River Pinn running through the developed areas of the Brunel Campus. This 'natural corridor' adds to the quality and character of the campus.
- 3.1.5 The open areas of Site 4 struggle to support sustained growth of self-seeded trees due to the quantity of obstructions in the ground remaining from its previous commercial use. This land is also subject to contamination.
- 3.1.6 For these reasons it might be considered appropriate to develop educational facilities on Site 4 as long as development respects and enhances the environs of the River Pinn and improves the landscape and habitat quality of the area. Development may provide opportunities for improving public access to this area. It should be noted that the removal of buildings from flood risk areas provides increased open area on site 2.

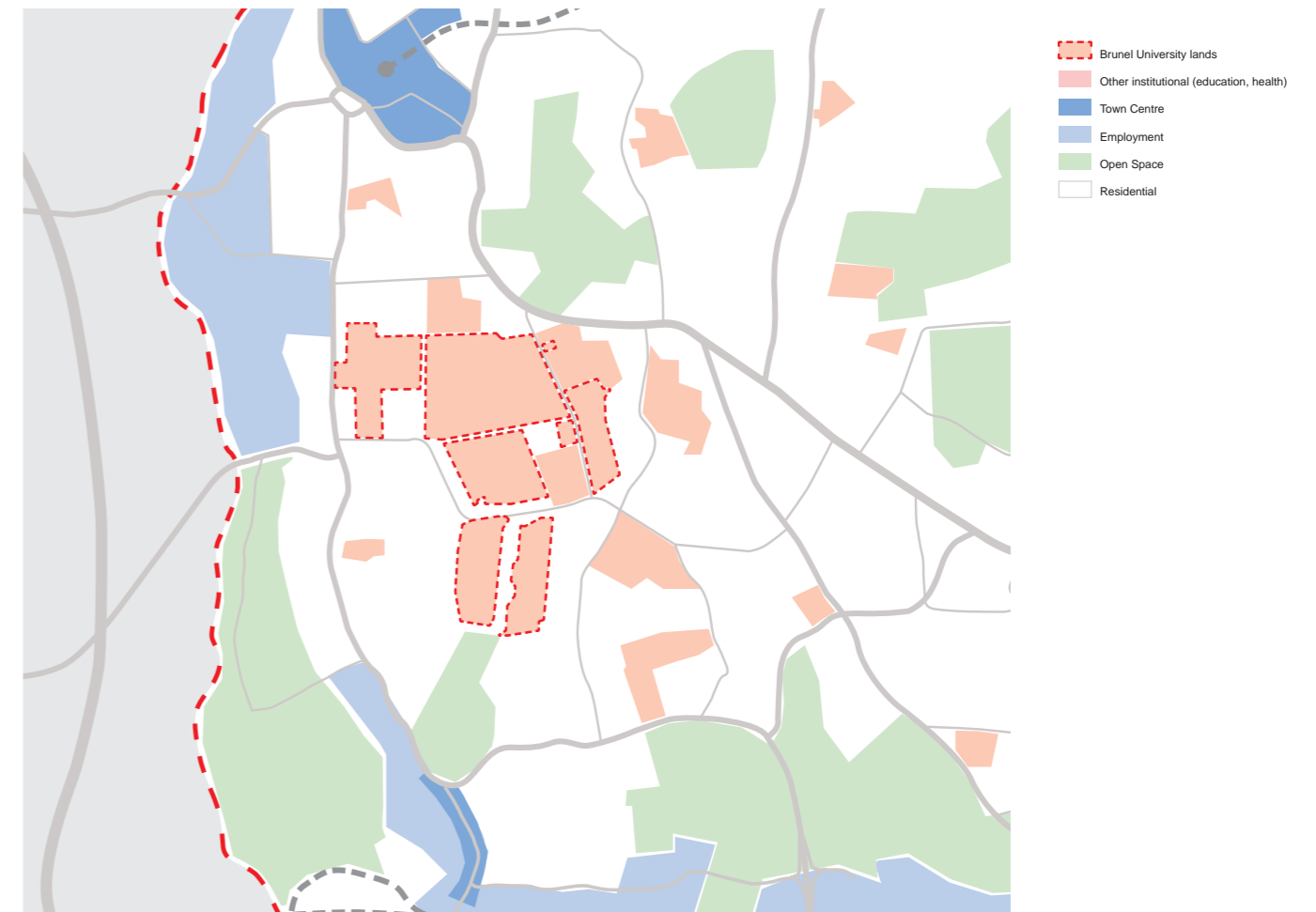


Diagram illustrating land use

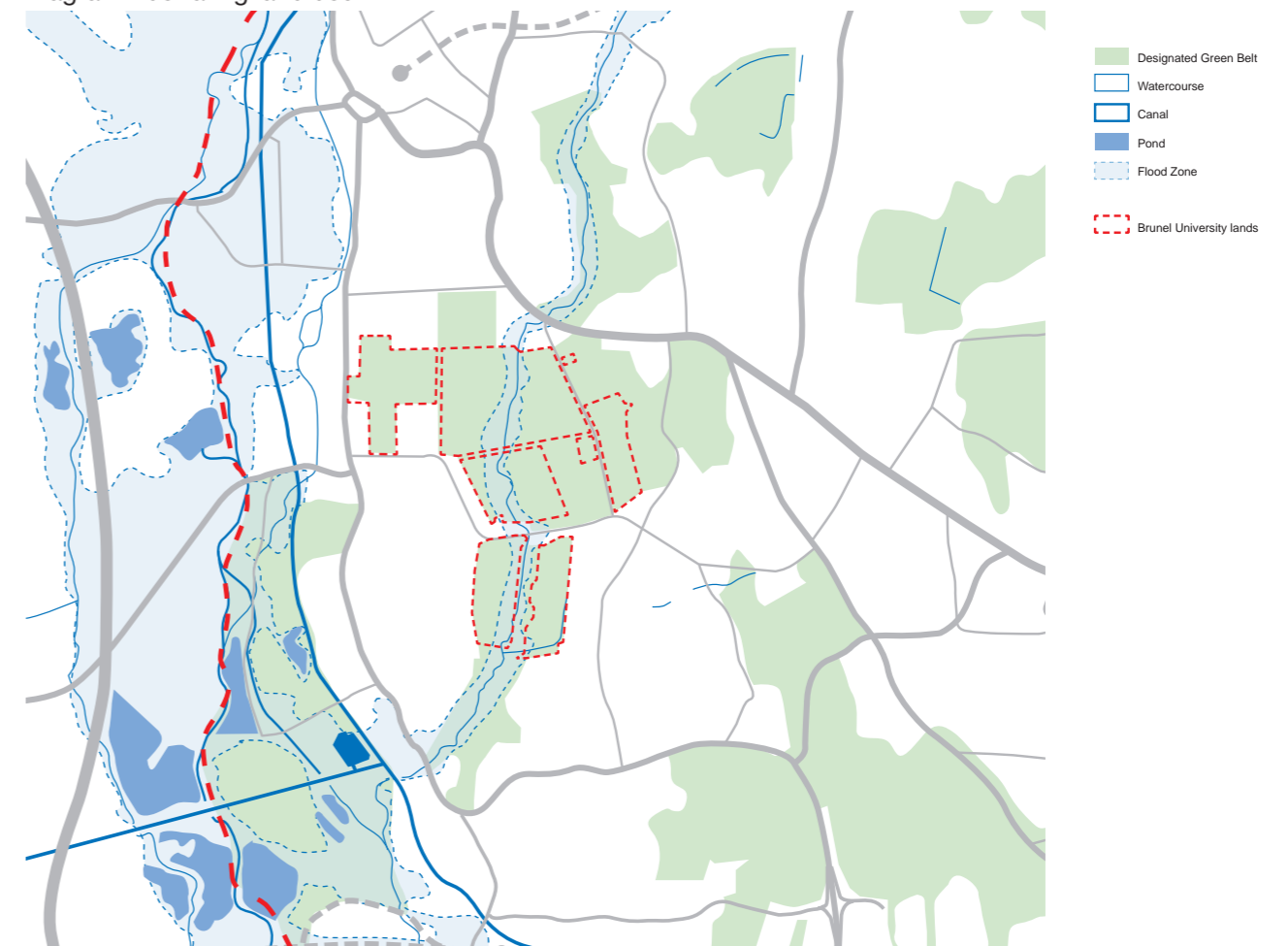


Diagram illustrating water courses



- Designated Green Belt
- Built-up areas of Green Belt lands
- Green Belt lands with public access
- Public open space outside Green Belt
- Brunei University lands

Diagram illustrating development with green belt designation

3.2 Brunel University Campus Context Transport

- 3.2.1 The diagrams on these pages illustrate the transport context of the Brunel University owned lands. These should be read in conjunction with the Transport Assessment.
- 3.2.2 The campus is generally served by B roads. There is no vehicle access from Cowley Road. The undesignated Cleveland Road runs between Sites 1 & 2 and is the route for a number of the University bus routes.
- 3.2.3 Church Road / Pield Heath Road runs to the South of Site 4 and provides access to Site 4 via the entrance to the garden centre. Kingston Lane provides the main vehicle access to Site 1 and the Sports Park.
- 3.2.4 Sites 1 and 2 are separated by the non-vehicle Nursery Lane which also forms part of the Celandine Walk Route.
- 3.2.5 36% of students live on campus, with a further 13% living within the UX8 postcode area. The remaining 51% travel from further afield. Students and staff arrive at campus from both Uxbridge and West Drayton directions making use of the local and University bus routes.
- 3.2.6 Cycle and walking routes should be considered further as part of a detailed study informed by the Transport Assessment.
- 3.2.7 Extending the Campus southwards into site 4 would improve proximity of the University campus for those arriving from West Drayton and increase access to local and University bus routes running along Church Road / Pield Heath Road. New development in Site 4 will allow for improved cycle routes into the campus along a new route running North-South to complement the East-West route.



Diagram illustrating PTAL rating

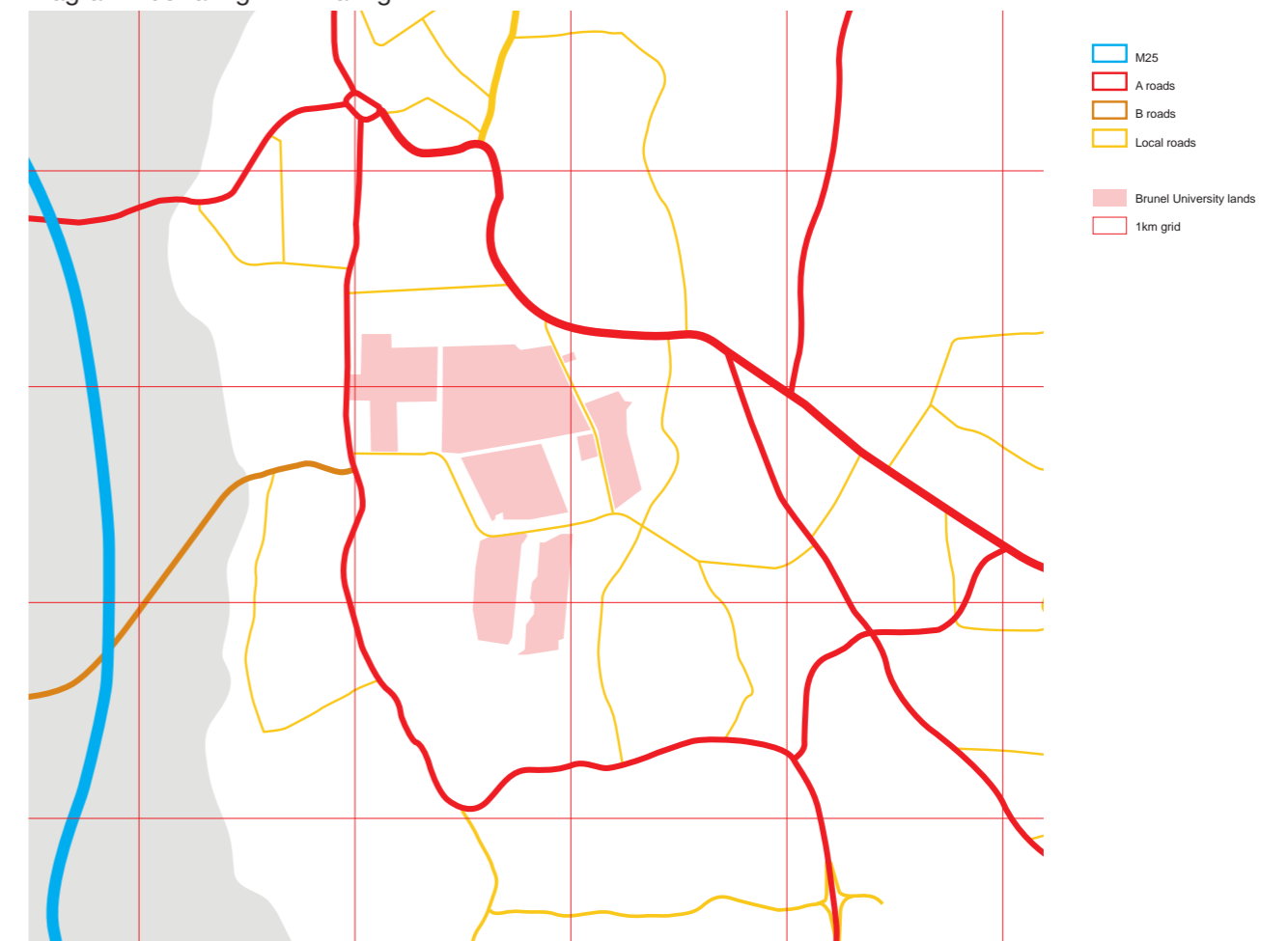
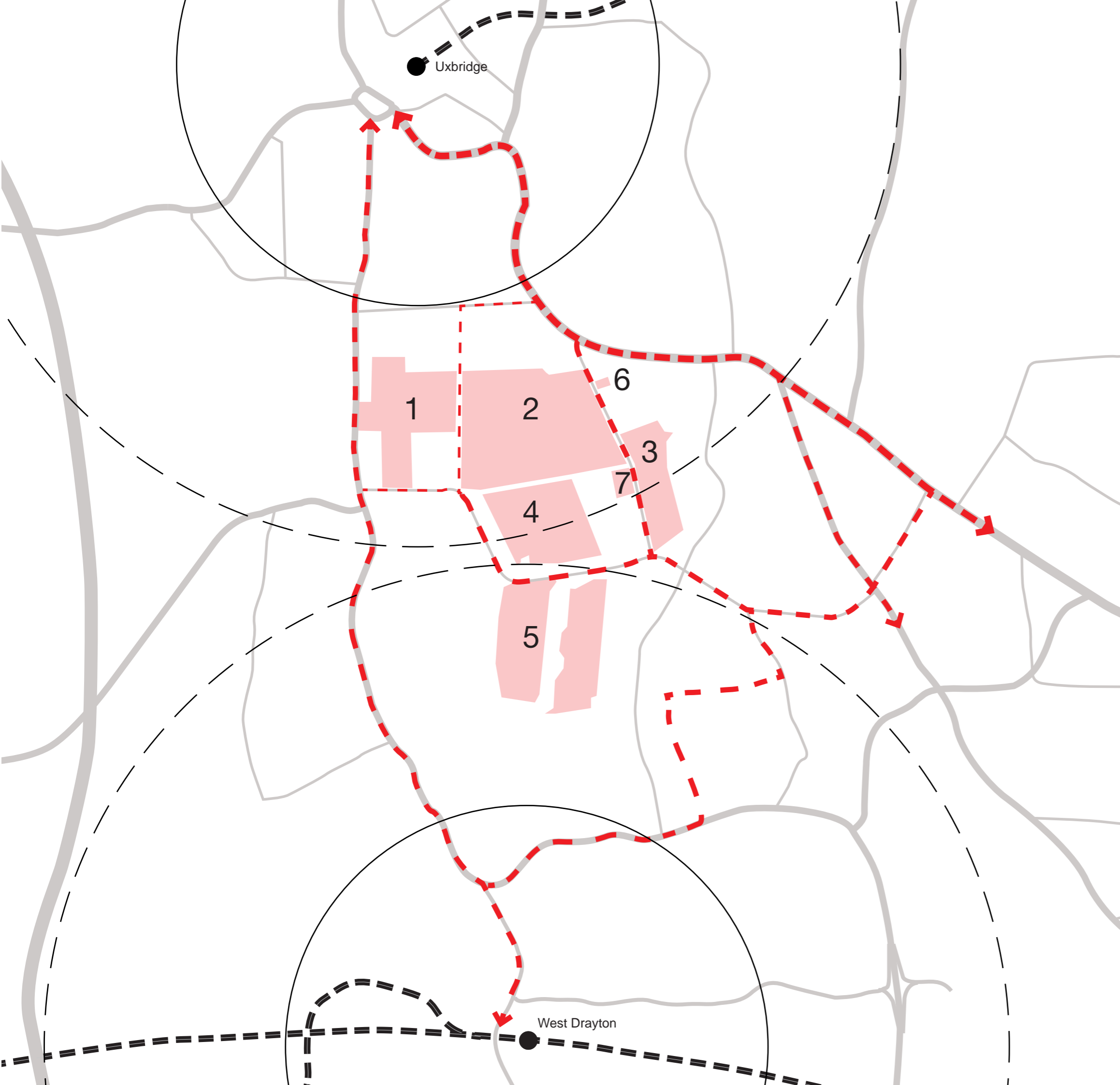


Diagram illustrating surrounding road hierarchy



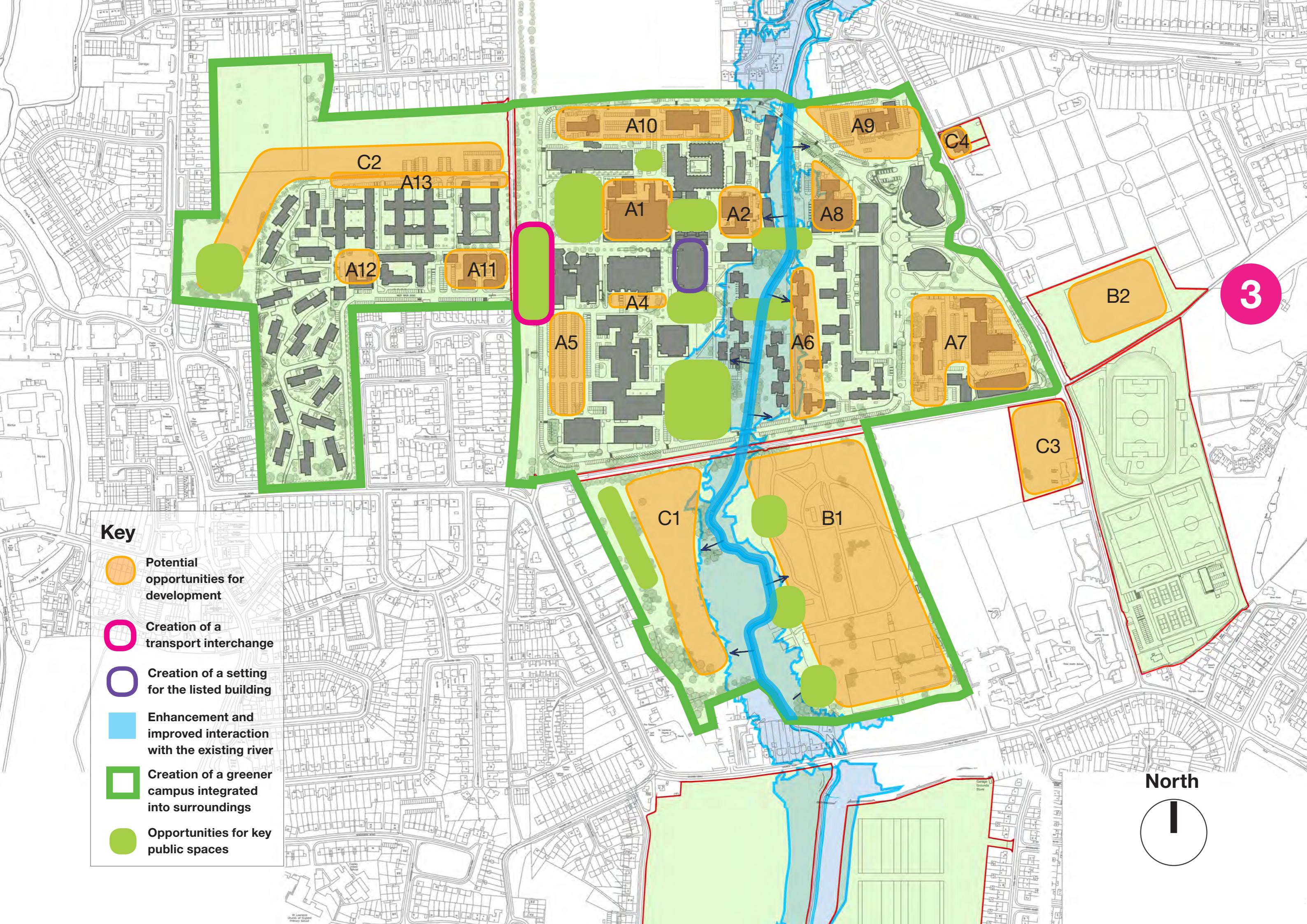
- Rail / Tube station
- 1km walking distance
- 2km walking distance
- 5+ bus routes
- 3-4 bus routes
- 1-2 bus routes
- Brunel University lands

Diagram illustrating local public transport routes







3.3 Potential Development Opportunities Sites 1-7

3

- 3.3.1 The drawing on the adjacent page illustrates the potential development opportunities across all of the sites which form the University campus.
- 3.3.2 The A reference plots are the same as identified in Section 2 of this report and represent appropriate intensification and additions to existing developed areas of the campus.
- 3.3.3 Plot B1 represents an opportunity to develop new academic facilities in a landscaped setting extending the existing campus southwards towards Church Road / Field Heath Road utilising the site of the now closed commercial plant nursery and repurposing the land for educational use.
- 3.3.4 There is an opportunity to consider works to the River Pinn to increase capacity in times of flood and help alleviate flood risks both to the Brunel University campus and for properties downstream.
- 3.3.5 Plot B2 provides an opportunity to provide new sports related accommodation adjacent to the sports pitches. This would allow for the release of plot A8 for intensified development on Site 2.
- 3.3.6 Further development could be accommodated on plot C1 on the West side of the River Pinn on Site 4. This plot is defined by the flood plain extent and by a generous landscape buffer zone between the rear boundary of the adjacent properties.
- 3.3.7 Plot C2 utilises a band to the North of the existing student residential village which is defined by the depth of the surface car parking north of the access road. This plot extends around to Cowley Road providing an opportunity for a new gateway building to the Campus. A clear landscape buffer is maintained on the northern part of the site.
- 3.3.8 Plots C3 and 4 provide opportunities for student residential development.
- 3.3.9 No development is proposed on Site 5 of the Campus.



Key

-  Potential opportunities for development
-  Creation of a transport interchange
-  Creation of a setting for the listed building
-  Enhancement and improved interaction with the existing river
-  Creation of a greener campus integrated into surroundings
-  Opportunities for key public spaces

North



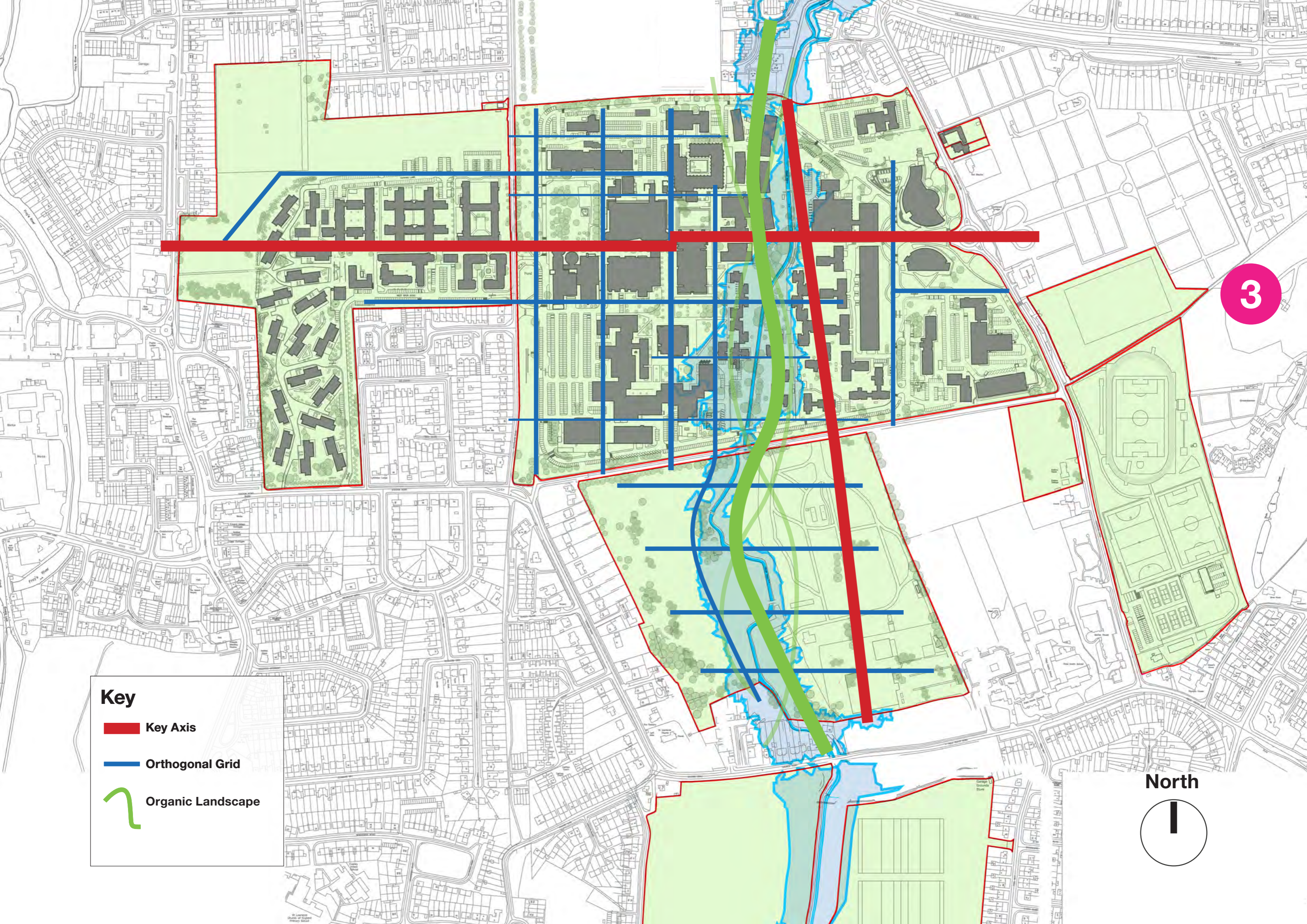
3

A10 A9 C4
 C2 A13 A1 A2 A8
 A12 A11 A4 A6 A7
 A5 B1 C3
 B2

3.4 Concept Masterplan Principles Organisation

3

- 3.4.1 Site 2 of the campus is defined by a loose orthogonal grid defined by the main East-West route which runs through Sites 1 & 2 from Kingston Lane to Cowley Road. This grid provides a good organising principle for the definition of plots on Site 2. Running through the grid is the natural wind of the river corridor providing a natural counterpoint to the rectilinear organisation.
- 3.4.2 Extending the campus development to the south onto Site 4 provides an opportunity to develop an equally strong North-South route to provide a single line running from the point at which the river meets the site boundary to a point linking with the access to Site 4 from Church Road / Field Heath Road. This North-South route will provide much better links across the Eastern part of the existing campus.
- 3.4.3 A softer more naturalistic organisation could be created on the West side of the River Pinn setting buildings sympathetically into the landscape, creating East-West links across the river and linking to the western part of the existing campus. Increased open space is provided along the River Pinn following the removal of buildings in the Flood Risk Zone.
- 3.4.4 The reinforcement of the river corridor through Site 4 provides opportunities to strengthen the ecological benefit of the Site, create water features to help alleviate the impact of flood events and potentially improve access to the Landscape.
- 3.4.5 Site 3 would benefit from better pedestrian links to Site 2 of the campus utilising the existing crossing point on Kingston Lane and linking to the existing sports facilities.



3

Key

-  Key Axis
-  Orthogonal Grid
-  Organic Landscape

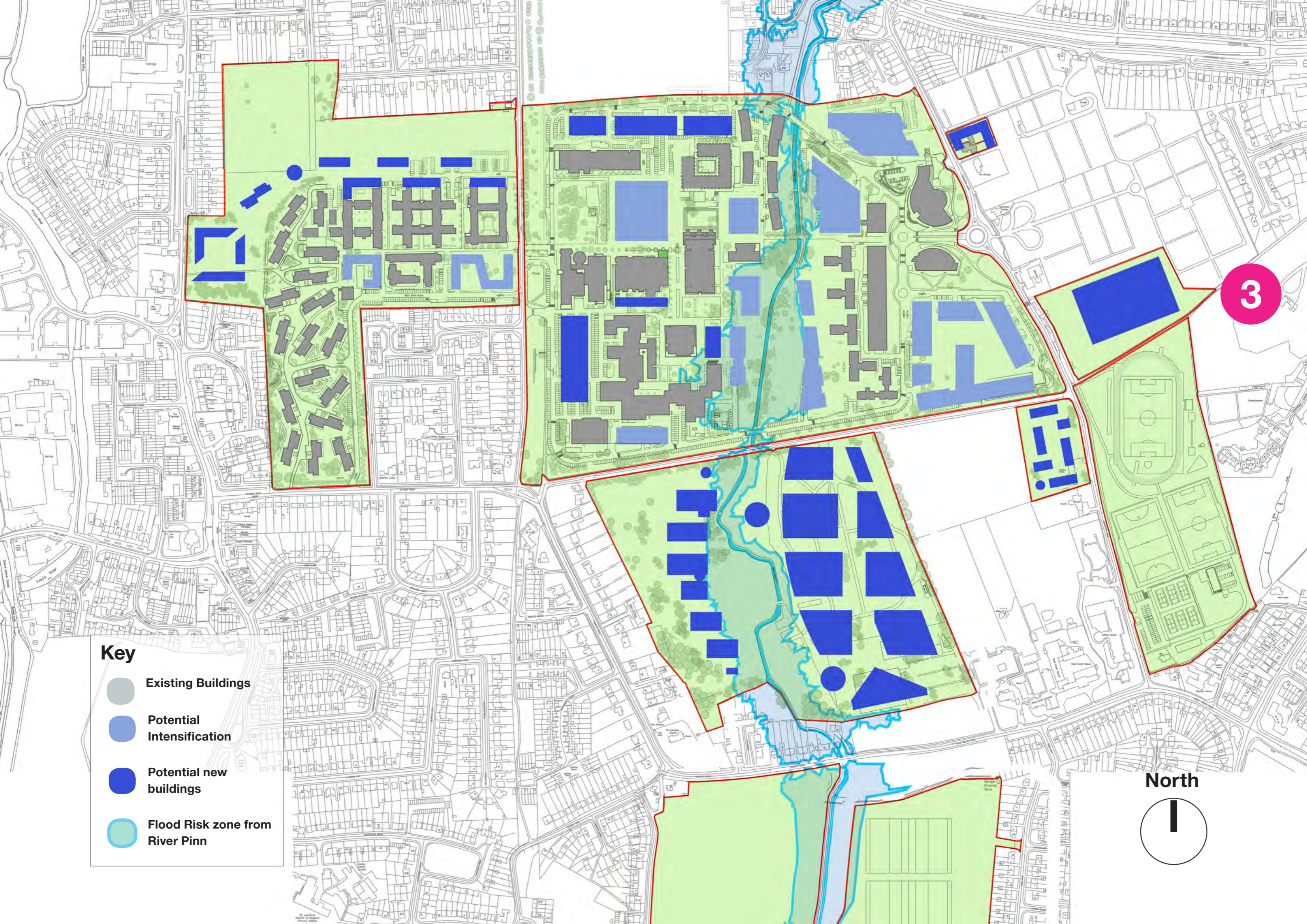
North



3.5 Concept Masterplan Principles Buildings





3

- 3.5.1 The building plot definition has been developed following the principles outlined in this section of the report thus far. Utilising a range of building heights from 3 to 5 storeys on Site 4 and 1 to 2 Storeys on Site 3 we have determined that the additional area required to meet the University's assessed space need can be accommodated within Plot B1 and B2.
- 3.5.2 The diagram on the adjacent page illustrates in blue the intensification of existing building plots (light blue) and development on empty plots (dark blue) required to provide the additional 118,550m² to meet the assessed space need for the University to 2026. Our assessment indicates that a total additional area of approximately 210,000m² could be provided across the University Sites
- 3.5.3 Buildings on the East side of the River Pinn on Site 4 would be defined by routes and view lines to the river, maintaining defined long views between the buildings across the site. These buildings would be set at the waters edge and around a new natural quad reflecting the arrangement of the earlier parts of the existing campus. Buildings will be set in from the tree-lined edge of the site with the strong pedestrian route running between the buildings.
- 3.5.4 Site 1 could, we believe, accommodate buildings of 4 to 5 storeys with a small encroachment into the open space to the north of the Student Village, but within the depth defined by the existing surface car parks.
- 3.5.5 The Grndon Site (at the South West corner of Site 2) and Site 6 could accommodate lower density building for student / staff residences.
- 3.5.6 Site 4 could accommodate buildings on the West side of the River Pinn with a range of heights between 3 & 4 storeys set amongst the landscape designed to accommodate flood waters within an improved ecological setting.



3

Key

-  Existing Buildings
-  Potential Intensification
-  Potential new buildings
-  Flood Risk zone from River Pinn

North



3

3.6 Concept Masterplan Principles Character Zones

- 3.6.1 Brunel Gateway marks the East entrance into the campus. A mix of existing buildings will remain, with significant new development located within the quarter. It will be landscaped to form a new and easily recognisable point of entry, preserving and strengthening key routes and building entrances.
- 3.6.2 Within the Pioneer Quarter the zone around the original campus buildings will be reestablished reflecting the original grid. A series of existing spaces will be enhanced and new spaces created forming key civic public environments for recreation. The main route through the quarter will become the main axis, a social street, linking the different areas of the campus together.
- 3.6.3 The Arrival Square will provide a new key transport interchange into the campus. Located at a pivotal section, it will strengthen the existing gateway into the Pioneer Quarter and the Student Village. A feature sheltered canopy will be positioned and shared surface will provide an inviting and welcoming nodal point to the campus visitors.
- 3.6.4 The Student Village will continue to provide a green lush setting for the buildings which integrates into the existing greenbelt and surrounding tree buffer.
- 3.6.5 The Waterside, originating from the central River Pinn will be turned into an ecological haven for both recreation and educational purposes. The proposed development will be soft in its form to reflect the river and natural setting. Broadwalks will lead off the central axial boulevard and span across the new lake to encourage interaction with the River Pinn and its landscape.
- 3.6.6 The Sports Park will remain as existing, with the support of a new building, which will in turn strengthen the sports village facilities on offer to Brunel University.

BRUNEL GATEWAY



PIONEER QUARTER



ARRIVAL SQUARE



STUDENT VILLAGE

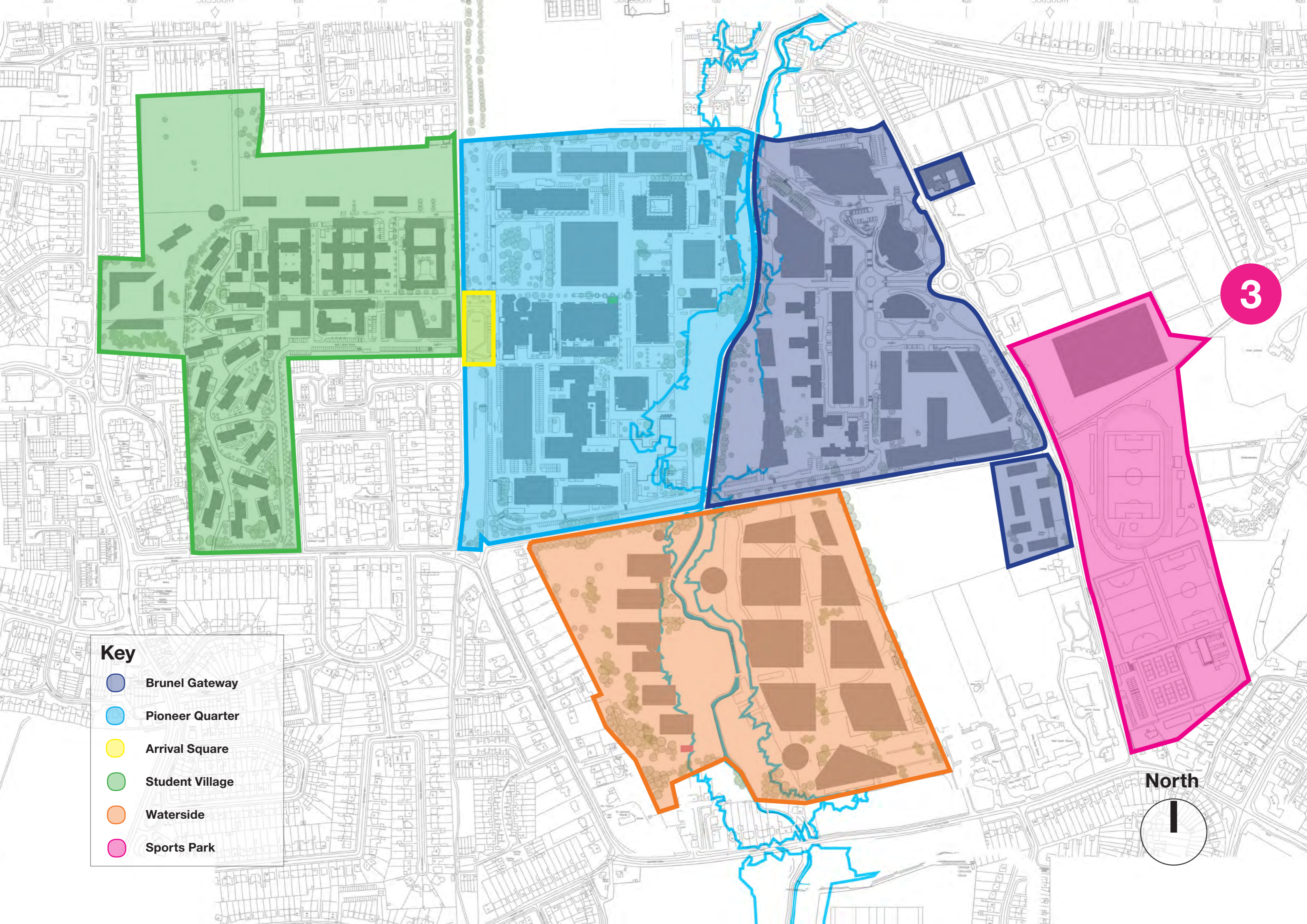


WATERSIDE









SPORTS PARK





3

Key

-  Brunel Gateway
-  Pioneer Quarter
-  Arrival Square
-  Student Village
-  Waterside
-  Sports Park

North



3.7 Concept Masterplan Principles Access and Movement

3

- 3.7.1 The vision for the campus is to create a pedestrian friendly environment, ensuring vehicular routes are located at the perimeter of the campus redesigning routes to give the pedestrian priority.
- 3.7.2 Key arrival gateways into the campus will be highlighted and strengthened to create a prominent identity for the University. Opening up routes from the North, East, South and West will create a more permeable environment for access and movement.
- 3.7.3 Primary axes runs East-West and North-South, these axes define the primary routes for movement through the campus. The routes will be carefully treated to enhance their hierarchy through surface material, landscape and tree planting.
- 3.7.4 A collection of secondary routes are dispersed throughout the campus, always connecting back to the primary access routes. These routes are smaller in scale and more intimate in character and strongly link all parts of the campus.
- 3.7.5 Tertiary routes are located alongside the River Pinn to create meandering footpaths access routes along the riverside from Site 2 to Site 4.
- 3.7.6 The existing loop road which circulates the campus within Site 2 will remain, and be changed into a shared surface for vehicular access and movement. Other vehicular service routes to The Waterside Campus and Student Village will be positioned on the perimeter.



Key

- Arrival Gateway
- ↔ Primary Routes
- ↔ Secondary Routes
- ← → Tertiary Routes
- ↔ Service Routes

North

3

3.8 Concept Masterplan Principles Height Zoning

3

- 3.8.1 In considering how to meet the space needs of Brunel University we have ensured that sufficient external space at ground level is defined to maintain the character of the Campus as a series of complementary buildings linked by high quality external space.
- 3.8.2 Building heights have been determined in relation to surrounding properties, existing building heights on campus and in line with a strategy which sees the tallest of the new buildings centred around the existing 'quad' space and at the edges of the River Pinn corridor. The diagram on the adjacent page illustrates a contour map of building heights across the campus. This diagram reflects both existing and proposed building heights.
- 3.8.3 The tallest existing buildings on site are 7 storeys, and no proposed building is higher than 6 storeys. The heights typically range from 3 to 6 storeys, with most proposed new buildings being 4 or 5 storeys.
- 3.8.4 The heights of the buildings have been set to maximise development potential across the Campus commensurate with the academic need and ensuring the edges of the campus respect the height and density of neighbouring areas. The tallest parts of the campus centre around the 'quad' and along the River Pinn as currently seen on the existing campus with the flood risk zone generally defining the proximity of buildings to the river. This ensures that sufficient space is given to the 'natural corridor' of the River Pinn.
- 3.8.5 The height of buildings on Site 1 are commensurate with the existing buildings on the site and in line with the previously approved masterplan.

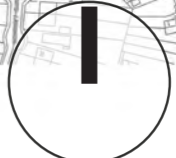


3

Key

-  7 Storeys
-  6 Storeys
-  5 Storeys
-  4 Storeys
-  3 Storeys
-  1-2 Storeys

North





4.0 Concept Masterplan

Introduction

- 4.0.1 The following pages illustrate two concept masterplans for the sites within the ownership of Brunel University London.
- 4.0.2 Section 4.1 (pages 30-35) show how the assessed need for Brunel University could be accommodated. As has been shown earlier in this document, it is not possible to accommodate the assessed need to 2026 on the existing built up sites 1 & 2. It should also be noted that phasing and 'business continuity' is a significant barrier to the development of some potential plots on Sites 1 & 2. It is beneficial to create contiguous academic space for the university rather than spreading academic facilities across a number of disparate sites in order to continue the cohesive BUL academic campus approach. It is for these reasons that plot B1 is the preferred location to accommodate the majority of additional space requirement. A proportion of the required accommodation relates to increased and improved sports provision for the university. Plot B2 is located adjacent to the main sports field provision for the University and is therefore considered the most appropriate location for this element of the BUL assessed space need.
- 4.0.3 Section 4.2 (pages 36-41) illustrate how the combined assessed need for Brunel University and the Hillingdon Hospitals NHS Trust / BUL Academic Health Campus could be accommodated. The location for the public health facilities sits most appropriately on the southern portion of plot B1, as this provides good public access from Church Road. The space requirement necessitates some development on all BUL sites (excluding Site 5). This includes plot C1.
- 4.0.4 We include within both sections a drawing which shows the remaining undeveloped plots as potential locations for future expansion.



Indicative View of the Concept Masterplan from the West

4.0 Concept Masterplan

4.1 Concept Masterplan 1 - Brunel University education needs to 2026

- 4.1.1 The developed concept masterplan illustrated on this and the following three pages meets the additional assessed space needs of Brunel University as set out in the GVA Assessment of Development Need Report (January 2017). This equates to 118,550m² of additional space. 45,400m² of this space is achieved on Sites 1 & 2 with the remaining 73,150m² located on Sites 3 & 4.
- 4.1.2 The masterplan sets out to create a framework for development for the University strengthening and extending the best parts of the Campus while improving and developing the areas in most need of integration. Improved pedestrian links around the campus, and reduced impact of surface car parking improve the character of the campus to its edges.
- 4.1.3 Low density buildings are replaced on Site 1 (generally in line with the existing approved masterplan) and new residential accommodation is proposed enclosing courtyards at the north edge of the existing buildings.
- 4.1.4 The concept masterplan improves the quality and quantity of green space around the campus to create natural gathering spaces beyond the well-used 'quad' and main East-West movement axis. Additional crossing points over the River Pinn extend the main pedestrian circulation options to a parallel route to the south, easing circulation around the campus and providing an improved setting for the listed Lecture Centre. Significant additional new open space is created by the removal of buildings in the Flood Risk Zone along the River Pinn corridor on Site 2, thus increasing green space within the central part of the campus.
- 4.1.5 The 'natural corridor' along the River Pinn is widened and enhanced and the opportunity to create a new body of water in Site 4 is considered to alleviate the impact of flooding events and create a wetland setting for new buildings on the West of the River Pinn on Site 4.
- 4.1.6 The extension of the Campus into Site 4 is gathered along a strong new North-South route, creating new science and health-related academic space. This develops a cohesive extension to the existing built area of the Campus and improves movement among the existing buildings.
- 4.1.7 Sports facilities are proposed for Site 3 improving Sports Park facilities.



4

North



4



Indicative View of the Concept Masterplan from the East



Indicative View of the Concept Masterplan from the South

4

- 4.1.8 The Concept Masterplan illustrated on the previous 4 pages reflects Brunel University's assessed space needs to 2026. It is possible there may be need for further growth beyond this as identified in the Business Case.
- 4.1.9 The drawing to the right illustrates sites which may be considered potential opportunities for future expansion in line with the principles described in this report.
- 4.1.10 Additional development on Site 4 to the West of the River Pinn would complete the academic quarter set around the new wetland habitat. This area could be formed of smaller buildings set into the landscape. A pedestrian link across Nursery Lane and across the wetland would ensure the southern extension forms a cohesive part of the Academic campus.
- 4.1.11 New development to the North and West of the existing Residential Village would provide a gateway building from Cowley Road and increases space provision whilst maintaining open space between the residential village and neighbouring properties.
- 4.1.12 Additional lower density residential provision could be provided on Sites 6 & 7 replacing the existing buildings on these sites.



Key

 Possible Future Development

North





Indicative View of the Concept Masterplan from the West including Academic Health Campus

4.2 Concept Masterplan 2 The Academic Health Campus

- 4.2.1 The Concept Masterplan illustrated in section 4.1 of this report reflects Brunel University's assessed space needs to 2026. Since Revision A of this report was submitted to Hillingdon Borough Council, discussions have taken place regarding the possibility of developing an Academic Health Campus on Site 4 of Brunel University London, which would include a new hospital, associated healthcare facilities, and a medical school alongside new accommodation for the University across their site ownership.
- 4.2.2. Further work is required on the potential for shared / integrated services but an initial space requirement for these facilities with the BUL requirements has been developed and tested (see NHS Need Assessment Report).
- 4.2.3 The Masterplan illustrated on this and the following three pages shows the capacity of the Campus to accommodate the facilities to deliver an Academic Health Campus in line with the principles described in this report.
- 4.2.4 Development on Site 4 to the East of the new River Pinn 'natural corridor' delivers an integrated Academic Health Campus set at the water's edge. Public Access to the Academic Health Campus would be from Church Road / Pield Heath Road which also serves the existing Hillingdon Hospital. Separate staff access could be provided by potentially upgrading Nursery Lane from Kingston Lane to the access road running on the eastern edge of Site 4. Academic space would be placed at the North of Site 4, Public Health Care at the South. The Central zone would accommodate shared facilities. Pedestrian access from Site 2 would remain as shown in sections 4.1 and 4.2.
- 4.2.5 West of the River Pinn the remaining academic and BUL facilities would be set around the wetland habitat, completing the campus in a more informal plan maximising the opportunity to create buildings in a wetland park.
- 4.2.6 An additional new building is proposed on site 2 set just within the 1 in 100 year flood plain which would be protected through landform changes. Additional facilities are shown on Sites 6,7 and to the West end of Site 1.
- 4.2.7 This approach provides the additional 118,500m² requirement of BUL facilities of which 50,675m² is provided on sites 1 & 2 and 68,000m² is provided on sites 3 & 4. Site 4 also provides 87,500m² of public health related space, while improving the Campus experience for students, staff and local residents with improved access to the River Pinn corridor.



4

North



4



Indicative View of the Concept Masterplan from the East including additional further development



Indicative View of the Concept Masterplan from the South including additional further development

4

- 4.2.7 The Concept Masterplan illustrated on the previous 4 pages reflects Brunel University's assessed space needs to 2026 alongside the Hillingdon Hospital NHS Trust / BUL Academic Health Campus. It is possible there may be need for further growth beyond this.
- 4.2.8 The drawing to the right illustrates site which may be considered potential opportunities for future expansion in line with the principles described in this report.



Key

 Possible Future Development

North



Appendix E

Brunel University London Business Case



Business Case for Expansion



Foreword

The Brunel University created on the former market gardening site within the newly formed London Borough of Hillingdon in 1966 has, through careful and planned progress over the past 50 years, developed into the internationally renowned Brunel University London. We now occupy a substantially enhanced campus that has enjoyed successive programmes of expansion and development. The University's strength as a research intensive institution is very firmly established and our world-leading liquid metals research facilities are poised to become a centre of national and international importance. Whilst it is fitting that this most recent success relates back to our engineering roots, the University now offers a far broader range of courses and research opportunities at undergraduate and post-graduate level than in its original portfolio. Thousands of students from highly diverse backgrounds have benefited from this education, a considerable proportion of who have come from the Borough, our traditional catchment area around West London, as well as nationally and from overseas. Our graduates have, in turn, built careers that have made an important contribution to the local, regional, national and international communities.

At each stage of the University's development, we have worked closely in partnership with the local authority to ensure that our campus is appropriate for the teaching and research that we undertake and provides an attractive environment in which our students and staff live and work. We are most mindful of our duties within the community and hope that Uxbridge in particular appreciates its status as a University town. We are equally appreciative that the local community has in the past supported the development of our Green Belt site as our expansion needs have been met. The University is now at a pivotal stage of its history where the combination of a range of factors and opportunities, which are outlined in the supporting business case, requires us to consider the next phase of campus development on some of the remaining undeveloped land that it owns. As has always been the case, we wish to work in close partnership with the London Borough of Hillingdon as we articulate and shape our plans, which we strongly believe could bring great benefit to the local community in addition to supporting the wider regional and national needs.

I would very much welcome your support for the bold vision and development programme that is detailed in this business case.



Deputy Vice-Chancellor (Research)

This document has been prepared by Brunel University London with the support of Richard Collins, Global Head of Education and Innovation at Cushman and Wakefield. He has over 25 years' experience advising over 80 universities on market, feasibility, business and financial planning in the university sector and for science and innovation ventures. He has advised on the establishment of 4 new universities and on several university mergers in the UK and overseas. He has worked for universities, the UK research councils, many leading knowledge intensive corporates, the World Bank and central and local government – all around higher and further education issues. He has UK and international experience and has practical experience of working on internationalisation issues in China, Malaysia, India, the Middle East and other parts of Europe. He has an academic background in economics and town planning.

Business Case Highlights

- Growing student numbers from 13,400 in 2014/15 to 25,000 by 2025/26.
- Focussing investment in major interdisciplinary research, teaching and business interaction infrastructure within Science Technology, Engineering and Mathematics and in Health and Social Care and creating the conditions where the University can deliver large-scale research infrastructure.
- Meeting local and national demands for more graduates, especially in STEM and health care and the challenges of increasing competition
- Income growth is essential to all universities - to remain competitive, sustainable and enhance reputation
- Growing turnover from £192 million to in excess of £350 million, investing in excess of £330 million in new buildings and equipment and supporting ca 2,100 additional local jobs and additional 15,900 jobs in the rest of the UK
- Creating ca 2,000 new student residences on-campus and reducing the impacts of students living in the local private rented sector
- Creating a wide range of local community benefits covering local jobs and apprenticeships, more volunteering, improved access to new sports and arts facilities and improving flood management on the River Pinn. Bringing forward these benefits without a reliance on local authority resources
- Reducing the reliance on the car and securing improved public transport and cycling and pedestrian routes between the new West Drayton Crossrail services and Uxbridge Town Centre
- Concentrating new developments on sites which are currently fenced off and have asbestos contamination and securing this for new University development and a public access meadow and lake

1 Purpose

This Business Case provides the London Borough of Hillingdon with the strategic rationale and the benefits for expanding the current campus and why there are exceptional circumstances to justify removing University campus lands from the Green Belt. It responds to the request by the Council to provide a Business Case for the proposed changes and for this to be made available for its officers and the Cabinet Meeting on the 17th March 2016 in respect of the Revisions to the Draft Local Plan Part 2. The document highlights the academic and business benefits of expansion, together with the wider economic, physical and community benefits. The Business Case also explains the alternative options considered.

2 Introduction

Fifty years ago the University was established within the Green Belt, with it accommodating around 1,000 students. Now, based largely on the same area, the campus is extensively developed. The University has around 13,400 students with buildings comprising 345,000m² of teaching, research, sports, business and associated accommodation. The University also accommodates 4,500 students living on-campus.

The University now needs to expand. It needs to expand to respond to the demands and opportunities from students, the research market, from research- business community, the local health partners and crucially to improve quality and remain competitive. It is crucial that the University is able to invest in multi-disciplinary science and health *at scale* and in collaboration with business and health partners. The University also needs to respond to the growing demand for student residences on-campus with this having the beneficial effect of relieving impacts on the local housing market.

Although the University has plans in place to intensify the use of its existing campus footprint, this is wholly insufficient to meet its needs and therefore it is fundamental that it can expand into a larger campus area.

The area identified for the expansion is directly adjacent to the existing campus (Site 4 – see overleaf) is a semi-derelict contaminated site in the ownership of the University. The development of this site would enable the University to expand and also resolve the on-site contamination. In doing so it would also enable the University to enhance the environmental quality of the site and create additional flood and water management capacity along the River Pinn.

As a general part of the expansion the University would bring forward investment totalling in excess of £330 million. With the University already the second largest employer in the local authority with 2,500 high quality jobs locally supported. With the expansion project it is likely that this will support a further 2,120 high quality local jobs and overall in excess of 15,880 jobs in the rest of the UK by 2024/25¹.

The expansion would also secure a range community and public benefits. These would cover improved access to higher education, major local healthcare and business support investments, new pedestrian, cycling and public transport links to West Drayton and Uxbridge rail stations and improved public access to playing fields and to the River Pinn. Plans to create a new £40m sports facility will also be accessible to the public and help offset financial pressures on the local authority to improve local sports facilities.

The University has already made a detailed submission to the local authority on 8th December 2015. In that submission it was argued that the Local Plan can be made sound by the following changes:

¹ Economic Impact Report Biggar Economics (2016)

Brunel University London: Business Case for Expansion

- Ensuring there is an objective assessment of the development needs of the higher education sector, and add policies to the Plan to meet those needs in full. This should include the allocation of the University's campus (Sites 1 to 5) for higher education/research uses, and to include a Green Belt boundary review that removes the Green Belt designation from Site 1, 2, 3 and 4.
- Deleting the proposed designation of Site 4 of the University's Uxbridge campus as a Nature Conservation Site of Borough Grade II or Local Importance.

The University believes that based on this Business Case and the supporting detailed information already provided there is a compelling case which demonstrates there are exceptional circumstances to adjust the Local Plan to reflect this requirement².

3 Summary of Land and Site Changes

A summary of the current status of the land and the proposed changes are presented below.

Site (approx. area)	Current use	Proposed use	Planning status & Proposed Change
Site 1 (34 acres/14 ha)	Student residential	Additional Student residential	Green Belt (current) Proposed release from Green Belt
Site 2 (66 acres/27ha)	Main campus	Intensification of main campus	Green Belt (current) Proposed release from Green Belt
Site 3 (20 acres/8ha)	Sports facilities	Improved sports facilities	Green Belt Proposed release from Green Belt
Site 4 (31 acres/12ha)	Garden centre, disused greenhouses, derelict structures/infrastructure (10.8ha). The site has substantial areas of asbestos contamination and is closed to public access	Extended campus, especially for engineering research- teaching and business cluster buildings, community health and medical school cluster Flood management area/water body	Green Belt Proposed Release from Green belt
Site 5 (42 acres/17ha)	Sport fields, open Space	Sports fields, open space Improved public access and nature improvements	Green Belt No change

Sites Owned by Brunel University London



² In making the case the University has also taken expert advice from Town Planners (GVA), BDP on masterplanning, Gillespies on Landscape and Green Belts, Atkins on flooding and water management, WSP on Transport, ASP on contamination and asbestos, Biggar Economics on Economic Impact and Cushman and Wakefield on University Business Planning.

4 Project Summary

Details of the proposed land and indicative development proposals have been set out in a number of supporting documents³. The key elements of the project are as follows:

- Expansion of the University in terms of student numbers from 13,400 in 2014/15 to an estimated 22,500 over the period to 2022/23 and this reaching ca 25,000 by 2026
- Expansion of on-campus research and business engagement activities – especially of new inter-disciplinary applied research-business clusters (in STEM related disciplines, in community health and medicine, in the professional services (eg Business and Law) and in the growing areas of the creative industries (Site 4)
- The development of a new community health/primary care practitioner, teaching hospital facilities, research centres and potentially a medical school in partnership with Hillingdon Hospitals NHS Foundation Trust, the Central and North West London NHS Foundation Trust and Imperial College London (Site 4)
- Demolition of up to 411 units of student accommodation (9,200m²) and 5,500 m² of academic space that lie in the River Pinn flood zone and the re-zoning of this area as a new open space and water management spine area. This will run through the entire existing and future campus (Site 2)
- Expansion and improvements in sport facilities including a proposed £40m new sports centre and swimming pool (Site 3)
- Expansion of on-campus student residential accommodation including some accommodation for research and post doctorate research staff (Site 1). Over the period up to 2026 an additional 2,000 units would be required to satisfy an increasing demand to live on-campus – this including a provision to demolish and replace 411 units that are located in the flood plain
- Overall growth in University turnover from £192 million to over £340 million over the next 10-15 years with this having widespread UK, London and local economic, business and community impacts. The University is estimating that with site 4 secured a total of around £330 million would be invested in new buildings
- Creation of a new River Pinn walkway
- Improved community access to the facilities and areas of land owned by the University
- Improved pedestrian and cyclist route links to Uxbridge town centre and West Drayton station
- Removal of a semi-derelict area with asbestos contamination in the proposed major expansion site (Site 4)
- Improved transport with the development of a new public transport hub with links to Uxbridge, West Drayton and Heathrow
- The creation of more biodiversity with informal leisure, meadow, woodland and water areas

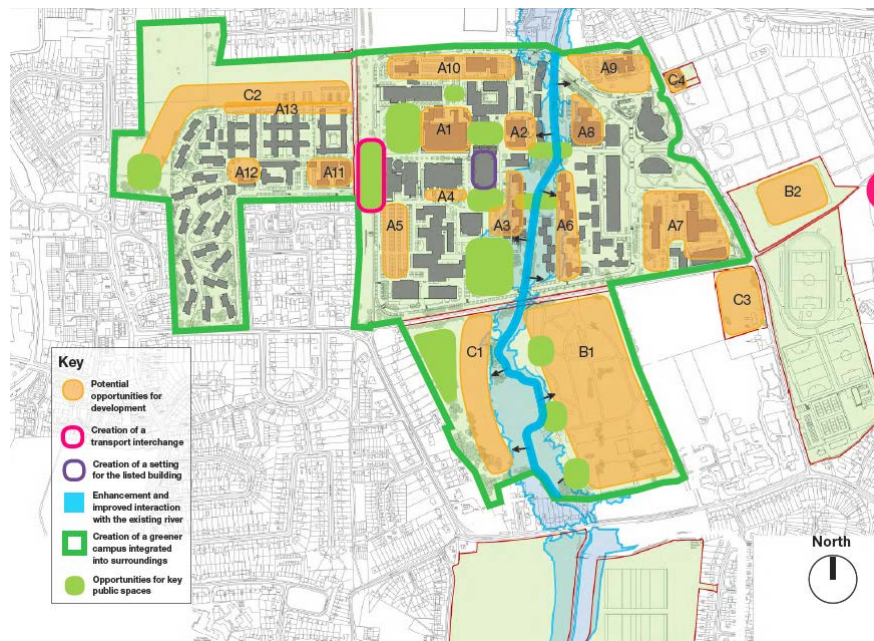
The proposal for expansion has also been identified fully on the basis the existing main campus can and should be intensified. Also that (as at present) the University will continue to work extensively off-campus with students (on-secondment/internships) and with business, voluntary, community,

³ The University representations comprise a completed representation form and cover letter plus: Enclosure A: Site Plan; Enclosure B: Brunel University – Assessment of Development Need; Enclosure C: Site Capacity Assessment and Concept Masterplan Report; Enclosure D: Alternative Site Assessment; Enclosure E: Green Belt Study; Enclosure F: Comparables; Enclosure G: Historical Use Report; Enclosure H: Ecological Appraisal; Enclosure I: Transport and Feasibility Report; Enclosure J: Economic Impact Assessment; Enclosure K: Site 4 Asbestos Survey

health and business partners on research partnerships and Knowledge Transfer Partnerships (KTPs) across the UK. The University will also continue to operate in partnership the innovation centre in Hayes and the major research industry partnerships (such the one operating south of Cambridge) and to work overseas in respect of international recruitment and a number of trans-national education (TNE) ventures. The latter will see many students undergoing Brunel University programmes with overseas partners.

The results of the capacity study showing the areas of site intensification and expansion are shown below, together with the Indicative Masterplan. The intention is to work up the details of this once the Local Plan has been amended and to collaborate with the local authority on the details of any final masterplan.

Capacity Study Plan



Note: Areas A1-A13 means areas of existing campus development and site intensification. Areas B1-2 and C1-4 mean sites involving new build

Indicative Masterplan (illustration only)



5 The Strategic Case for Growth and Expansion

Current Position

Brunel University London currently serves approximately 13,400 students (90% full-time), employing around 2,500 staff and has a turnover of ca £192 million. It provides world leading research, delivers innovative and practical business collaborations with business and provides focussed employability experience to its students. Its impacts are local, regional and international and has a very strong record of high participation from under-represented groups.⁴

The University has steadily improved in the University rankings in the UK and globally. In the UK the University has rocketed up the research rankings by matching quality with quantity in the 2014 Research Excellence Framework (REF) with a rise from 75th to 40th the joint biggest rise among research-intensive universities⁵. Globally amongst all universities that are less than 50 years old it ranks 29th whilst in the UK it ranks 4th out of 14⁶. In the UK Engineering is ranked 4th – above Cambridge, Oxford, Warwick, Bristol and Imperial for student satisfaction. These impressive rankings and continued improvements drive student demand, excellence in staff recruitment and research. It also drives growth.

The quantifiable economic impacts, based on current activities, are estimated to be £1,502 million with each £1 Gross value Added (GVA) generated by the University securing a total economic impact of £6 GVA for the UK economy⁷. The University also delivers a wide range of qualitative economic, community and social benefits, including local graduate employment, placements and volunteering. It supports the voluntary sector (especially in Hillingdon) and strengthens local tourism through summer schools, conferencing and visits from friends and relatives⁸. It provides community access to its superb sports facilities (acknowledged to be among the best in the UK) – with the proposals creating new opportunities for community access to the proposed swimming pool.

The existing campus (Sites 1 and 2) is highly urban in character and all sites are already developed intensively. Sites 3 and 5 are also used fully as sports pitches.

Some recent committed developments are further intensifying and displacing activities within the existing campus, such as the ground breaking STEM Schools Centre, which will bring up to 50,000 school pupils per annum onto the campus.

Justification for Growth and the Benefits of Growth

Since its establishment in Hillingdon⁹, Brunel University London has experienced a tenfold growth in student numbers over the last 50 years with a Cumulative Aggregate Growth Rate (CAGR) of around 5%. Over the last 10 years growth has been slower and volatile (as it has throughout the university sector), following the introduction of student fees and maintenance grants changes and more recently with visa entry requirements of UKVI adversely impacting on especially some Non- EU markets.

Nonetheless, the sector (and Brunel) has witnessed overall growth rates of 2% CAGR common and with Brunel matching this (see Chart 1 in the Appendix). This growth is itself requiring investment in

⁴ % from NS-SEC socio-economic classes 4,5,6,7 of 42% compared with the benchmark of 35%. See Biggar Economics (2015)

⁵ http://www.brunel.ac.uk/news-and-events/news/news-items/ne_401532

⁶ <http://www.brunel.ac.uk/bbs/about-us/rankings>

⁷ Economic Impact of Brunel University London (Biggar Economics), 2015

⁸ Supporting 119 jobs (Biggar 2015)

⁹ Originally the colleges of the University were located in Southwark and Acton

land and buildings and this has been reflected in a number of recent projects the University has implemented.

Based on the strength of the University's market position and its assessment of external drivers, it sees the need to respond to a higher level of growth - at ca 3-4% CAGR. It can justify planning for this based on a number factors:

- **Student Demographics:** the total number of 18-20 year-olds in England and Wales will increase by 15% from 2015 to 2031 (ie ca 300,000) and David Willetts (2014) has estimated the potential additional university student numbers between 2011 and 2035 might be ca 92,000, ie 26% (see Charts 2 and 3 in the Appendix). In fact London universities are likely to exceed these levels of growth fuelled by higher birth rates and higher level of Non EU and EU students.¹⁰
- **Demand from Industry for STEM graduates/post graduates and from business/NHS:** In the UK the overall pool of level 4+ individuals with qualifications that allow them to go into engineering occupations was 82,000 in 2012/13¹¹. This was 25,000 (30%) below the demand of 107,000 per year.¹² To meet this demand universities, colleges and employer based apprenticeships need to double. This is vital to meet the demand for future engineering graduates and to meet the additional shortfall in STEM teachers and engineering lecturers needed to inspire future generations of talented engineers (see Chart 8).
- The local authority has indicated that much of Hillingdon's successful economy is based on knowledge industries, which make up 41.5% of the total and Hillingdon's knowledge economy is the 6th largest in England. In the local authority's economic assessment report it also shows highlights that *'entry level jobs into this sector require qualifications at NVQ level 4 or higher. However, a significant proportion of our resident workforce is not sufficiently qualified to access them. It also has a large and strong Knowledge Economy base attributed to biotech cluster (Amgen, GlaxoSmithKline, Nobel Biocare, Otsuka Pharmaceuticals, Parexcel) concentrated within Stockley Park/Uxbridge and part of this success is related to the significance of Brunel University'*¹³.

The University will respond to this demand – given its high ranking in engineering, its status as working towards national Catapult Centre status as the Centre for Innovative Manufacturing in Liquid Engineering (with Jaguar Land Rover and the Engineering and Physical Sciences Research Council – EPSRC).

It also intends to respond strongly to the community (non-acute) health and social care challenges of West London through a collaborative approach to addressing skills and clinical needs in a variety of key subject areas¹⁴. Growth will also enable the University to meet the rapidly rising demands of the health and care sectors and address medical technology and

¹⁰ London & Partners London's Universities (2015)

¹¹ HNC and above

¹² http://www.engineeringuk.com/EngineeringUK2015/EngUK_Report_2015_Interactive.pdf and Government advisor John Perkins' Review of Engineering Skills citing an estimate by the Royal Academy of Engineering that forecasts a demand of 100,000 new STEM professionals per year until at least 2020

¹³ Hillingdon Local Economic Assessment, 2011. See also 2016 <http://www.hillingdonexpo.com/About/Default.aspx>

¹⁴ Occupational Therapy, Physiotherapy, Social Work, Public Health and Health Promotion, Community Public Health Nursing, Biosciences, Psychology, Sport health and Exercise, Environmental Science and Health Economics

system-wide changes to user and patient care and the high value medtech and life sciences sectors.

- **Creative industries:** the creative industries have been evidenced extensively as a UK growth area – especially in London. They account for major growth opportunities for jobs, GVA and exports in the music, broadcasting, videogames, media, film, fashion and publishing industries.

The University will continue to respond to the growth in these sectors. Growth in student numbers within these areas will be lower than in STEM subjects but it will respond to the overall strength of demand highlighted by (amongst others) the CBI¹⁵

- **Professional services:** another key growth sector highlighted by the CBI and others is the professional services sectors – covering Business and Legal professions¹⁶

The University will continue to respond to the growth in these sectors. Student growth within these areas will be lower than in STEM subjects

- **Growth in Research and the Need for a New Research Infrastructure:** The University has been increasingly successful in securing research funding from a variety of public, third sector and industry sources. Current research funding is around £40m per annum¹⁷ and the University intends to double this over the next 10-15 years.
- However, to respond to the well-established challenges of big science¹⁸ all research intensive universities need to create *new large-scale research infrastructure* – one that provides scale and impact; one that enables multi-disciplinary working; one that by virtue of its size can make increasingly expensive bits of research kit viable; and one that can be developed collaboratively with other universities, research councils/charities and industry. In the STEM area access to the most modern pieces of equipment and facilities is essential and increasingly required by leading researchers and industry.
- The impacts of STEM research and practice also require much stronger interaction with people – through the interaction with the social sciences as well as the arts. The University is extremely well connected with industry, business and the professions and has major strengths in the social sciences.

For Brunel this means that investment in new buildings requires larger sites, bigger buildings to accommodate more and different teaching, research and industry users and equipment. These need to facilitate research and teaching and a range of industry-health interactions and for this to also have innovation space for start-ups and joint working. These projects cannot be developed on the existing campus or building footprints.

¹⁵ http://www.cbi.org.uk/media/2535682/cbi_creative_industries_strategy_final_.pdf

¹⁶ The Complete University Guide 2015 ranked Brunel Business School 2nd in London for student satisfaction

¹⁷ This includes research grants, HEFCE QR funding and some capital funding support for research

¹⁸ For example see Dyson(2010) <https://www.catapult.org.uk/documents/10582/221266/pdf/bbc9d2d4-0d42-4958-a675-4ce6b79a9dc3>

- **Financial Viability and Competiveness:** To improve the quality of the student experience, attract the best staff, do the best research and fully engage with the challenges and needs of businesses and the community – all universities need to *grow income* to remain financially competitive and sustainable and enhance reputation. This Business Case for growth enables this to be achieved.

Scale is itself an important competitive asset. There is clear evidence to show that there is a strong correlation between size and quality related (QR) research impact and QR funding and put simply the larger the university the more likely it will secure research funding (see Charts 4 and 5). Based on this evidence, a doubling in size could help drive research income growth. At the present time Brunel has secured a research income growth of 5-6% pa last 10 years compared with student growth at ca 2% pa. The current University plan is to grow this annual research income growth by up to 10% pa.

Scale is also an increasingly important asset in managing a more volatile university sector and gives the University financial resilience.

Limited size in student numbers and staff also impacts adversely on the ability of the University to host and sustain large scale research infrastructure. For example, the University is significantly smaller than most UK universities (Chart 6) and also amongst similar high ranking under 50 year old European universities.¹⁹

Increased scale, further growth and enhanced financial viability will be supported by the University securing new land for expansion and having the means to invest in large teaching and research infrastructure. This will benefit the University, its students, its industrial and community partners and the local economy.

- **Economic Case:** It is widely recognised that universities play an intrinsic and fundamental role in the UK economy. They increase skills, support innovation and attract investment and talent. Higher education is a high-growth UK export industry in its own right and there is a substantial body of evidence to support this view.^{20 21} More locally the University represents a very important high quality employer in the local labour market and our role and contribution will be further enhanced through expansion given our formidable reputation of promoting employable skills and collaborating around research with industry. This role is fully recognised by the local authority.

The University will be able to fully play its role in supporting the UK, London and the local economy through securing land for expansion.

¹⁹ **YERUN, Young European Research Universities Network** was founded today in Brussels with the aim of promoting joint initiatives in the field of research and teaching, as well as encouraging research and teaching mobility. This network is special as it is made up of young European universities, -under fifty years- with accredited presence in the various rankings of international prestige (Times Higher Education, QS, and Shanghai). The average size of YERUN members is in excess of 20,000 students

²⁰ <http://www.universitiesuk.ac.uk/highereducation/Documents/2015/TheEconomicRoleOfUKUniversities.pdf>

²¹ International students studying at London universities last year provided a £3billion boost to the UK economy and helped support over 37,000 jobs, according to a new report by London & Partners, the Mayor of London's official promotional company.

6 Community Benefits of Growth

Part of the Business Case is that growth also enables the University to bring forward a wider set of community and public benefits. These have been referred to elsewhere, but we summarise these below:

- **Local Jobs and Business Support:** ca 2,120 local additional jobs will be created through the expansion of the campus by 2024/25²², plus an additional 15,880 in the rest of the UK.
- **Volunteering:** the University is already a major contributor to volunteering and this will be further extended through expansion
- **Health and Social Care:** The University wants to bring forward plans for new projects with Hillingdon Hospitals NHS Foundation Trust, the Central and North West London NHS Foundation Trust and Imperial College London around improved health and social care services and facilities
- **Student Housing:** the plan to build more student accommodation on-campus will secure a range of benefits. It will improve the University's competitiveness (most 1st years, most non-local and most rest of EU and Non EU students prefer to live on-campus). The effect of building additional accommodation on-campus will also directly help address local housing market pressures, by reducing the impact of students occupying Private Rental Accommodation (PRS) locally. It would also help reduce travel and traffic impacts and improve the 24/7 community of the campus. The net effect of this is also likely to reduce inevitable social impacts of students living in general housing areas
- **Environmental Water Management:** improvements in flood management through the release of sites currently in the flood plain and more substantively the design of a designed flood management area in Site 4
- **Environmental:** environmental improvements that can be brought forward by better linking the River Pinn wildlife area from north to south in a continuous corridor
- **Transport:** through the growth plans set out the University will want to ensure that traffic impacts are minimised by securing an overall change in the reliance on car movements and by making major improvements to public transport. The plans would include a new public transport interchange and improved bus links between the campus and Uxbridge Town Centre and Station and West Drayton rail station. The latter will secure major improvements in rail services in 2018 following the completion of Cross Rail from 2/3 services per hour to 6 services per hour
- **Cycling and Walking:** as a part of bringing forward its plans the University also wants to see improvements in pedestrian and cycling links between the campus with Uxbridge Town Centre and Station and West Drayton rail station.
- **Sports and Arts:** the major new sports centre planned will increase the quality and range of facilities available to the community and without relying on local authority budgets. Arts facilities on-campus are already used by the public and the expansion of the campus will trigger other projects
- **Removing Asbestos from Site 4:** The development would trigger the comprehensive reclamation of Site 4. This site has confirmed Asbestos in the soil and surveys undertaken by the University have revealed site 25 positive and 26 negative results across the entire site (see Chart 9). The recommendation is that the site remains closed to all unauthorised visitors until further control actions have been implemented. Access restriction signs have

²² With a local Gross Value Added (GVA) of £329million Biggar Economics 2016)

been installed around the perimeter fence line to prevent access and provide warnings. With the development of the site this contamination would be removed and public access established.

- **Public access:** more generally the University will encourage managed public access to the entire campus. The detail of this will require discussion and agreement with the Local Authority

7 The Case to Amend the Local Plan

The Town Planning case for the Local Plan has already been set out in previous submissions. However, for completeness we include the main points below:

- The draft plan has not been informed by an objective assessment of the development needs of the higher education/ research institution sector (including Brunel University), and fails to plan positively to meet such needs in full. As a consequence, the draft plan is:
 - Not positively prepared
 - Not consistent with national policy (including National Planning Policy Framework paragraphs 14, 17, 19 and 20)
 - Not justified
- The draft plan proposes to designate land at Brunel University London (Site 4 of the Uxbridge Campus) as a Nature Conservation Site of Borough Grade 2 or Local Importance. We have been unable to obtain any published evidence to underpin this designation, therefore consider that the plan is not justified in this regard.
- We consider that the Plan can be made sound by the following changes:
 - Undertake an objective assessment of the development needs of the higher education/research institution sector, and add policies to the Plan to meet those needs in full (to include allocating specific sites for development). This should include the allocation of Brunel University London's Uxbridge campus (Sites 1 to 5 – refer to Site Plan at Enclosure A) for higher education/research uses, and to include a Green Belt boundary review that removes the Green Belt designation from Site 1, 2, 3 and 4.
 - Delete the proposed designation of Site 4 of the University's Uxbridge campus as a Nature Conservation Site of Borough Grade II or Local Importance.

For details please refer to the supporting letter (dated 08/12/2015) and associated enclosures.

8 Options for Growth and Expansion

Options for the alternatives to the Business Case set out here have been carefully considered. A 'no growth' option has also been considered but rejected by the University. No growth would effectively mean that the University declines in terms of its reputation and standing and its financial viability is seriously weakened. It would increasingly fail to attract the best staff and student talent, it would adversely affect its research and not enable any of the major the public benefits to be achieved.

The other options considered are as follows:

- Modest growth based only on the intensification of the existing campus
- Develop a second campus
- Grow the University through an expanded campus (this Business Case)

Modest growth/intensification of existing campus

A detailed capacity study of the existing campus has shown with a series of radical and ultimately sub-optimal on-site redevelopments this would only create up to 45,000 m² of new development and would mean that all at grade car parking is converted to multi-storey car parks.

This represents 35% of the forecast need for floorspace and there would be a shortfall of remaining 65% (ie ca 119,000 m²) by 2026.

The University would not be able to secure its preferred option of developing an expanded campus. It would ultimately need to scale down its research and teaching plans. It would limit opportunities to co-locate nationally important applied research-business centres and develop the University's community health/medical school ambitions. It would not enable the University to cluster its teaching, research and business/external engagement space at scale and in the manner required. And it would force the University to incur very high development costs.

It would also force the University to undergo a series of disruptive arrangements to migrate functions out of buildings to be redeveloped – house them temporarily - then relocate them.

If this was the only option open to the University, it would be hugely damaging to the University.

Growth through a Second Campus or Relocation

Another option would be to develop a second campus to accommodate growth. This would not be desired by the University and would generate high adverse traffic impacts as staff and students moved between campuses.

It would also mean that the University would incur high operational costs (moving staff and students between campuses), create unwelcome separations between faculties and disciplines, would hamper inter-disciplinary working and be financially and environmentally damaging.

Although unlikely, a second campus might eventually lead to a relocation of the University²³ in part or in full.

Growth and the Expanded Campus

This is the clear and favoured option with the directly adjoining land already in the University's ownership. It would provide the University with an historic opportunity to grow, remodel its estate to meet current needs and deliver its forecast requirement of 119,000 m² by 2026 and to grow beyond this over the next 25 years at least.

The expanded campus enables the University to remodel and cluster its applied research and business activities - at scale. It would enable it to pursue its community health/medical school ambitions and have more students and staff living on-campus thereby reducing traffic movements. It would also bring forward the University ambition to extend public access to its enlarged campus, enable a new public transport hub to be developed and new cycle route links to be established to link with West Drayton and Uxbridge. It would also confirm a large new area as a University/public sports and Green Belt park area in site 5 and the prospect of better linking an enlarged green spine running along the River Pinn.

²³ Staffordshire University is relocating from Stafford to Stoke-on-Trent and earlier Hull Polytechnic relocated from Hull to Lincoln and became Lincoln University. Cushman and Wakefield can report that in London there are a number of sites owned by the private sector that are very keen to attract a major university to their site.

The enlarged campus would be developed sensitively avoiding any new developments close to existing residences and would protect the river valley areas associated with the 100 year flood zone.

Development in Site 4 would also tackle and resolve at the University's cost all contamination of the site and create additional flood management capacity. This option provides the largest number and range of economic, community and environmental benefits for students, UK and local businesses and the local economy and the community.

Green Belt Boundaries and Green Belt Permitted Development

In the absence of any detailed discussions with the local authority on the expansion and development needs of the University and the boundary of the Green Belt, the University has presented a specific case for the removal of all Sites 1-4 from a Green Belt designation. This remains the firm view of the University and in our opinion fully meets the special circumstances test.

If the Council believe that it is achievable for the University to secure its future full development and expansion meets by some other means we would be prepared to discuss this. In this regard one option maybe to permit all areas identified in Sites 1-4 as exceptional and permissible development within the Green Belt and for a north – south river valley zone containing the 100 year flood within Sites 2 and 4 to all remain in Green Belt. This would enable the University developments to proceed and retain a continuous river valley zone. The disadvantage of this approach is that it retains and further embeds a confusion in the planning status of developments within the University campus. It also introduces a less than explicit boundary associated with the River Pinn valley area.

Another option would be make all the Sites 1-4 as permissible exceptional Green Belt developments. This has all the disadvantages highlighted above and would retain a range of uncertainties associated with the University's development plan needs.

For all these reasons the option we maintain that the best approach is to remove areas 1-4 from the Green Belt.

9 Conclusions and Next Steps

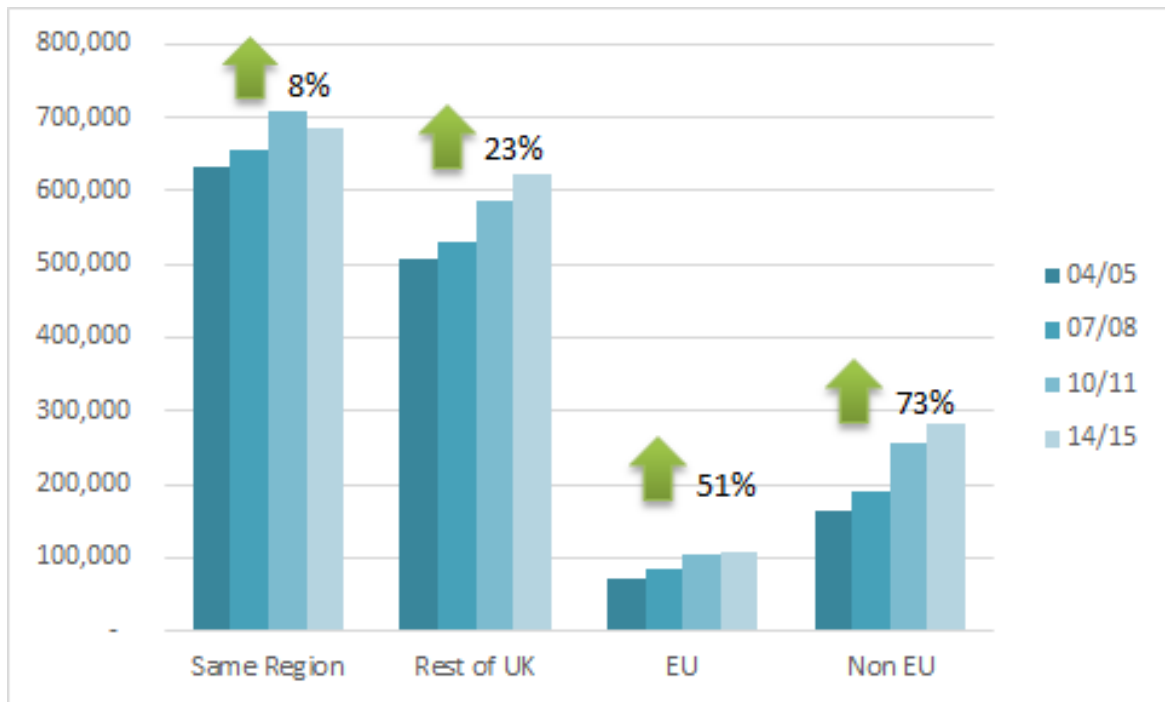
To effect the changes we have set out here the University needs to work in partnership with the local authority. This would achieve the benefits we have set out but would require changes to the Local Plan. It would also require through partnership working assessing and securing the details of the Project which has been outlined.

- As a first step we would invite the local authority to make the changes to the draft Local Plan (Part 2) as suggested in this Business Case and in earlier supporting documents.
- Thereafter and following more detailed work undertaken by the University – we propose working in close collaboration with the Council and all key stakeholders to have a Masterplan Framework and an Access and Transport Plan adopted by the University Council and by the local authority.
- We would then bring forward individual plans for projects and infrastructure changes on a phase by phase basis based on an approved masterplan and outline planning consent.

Appendices

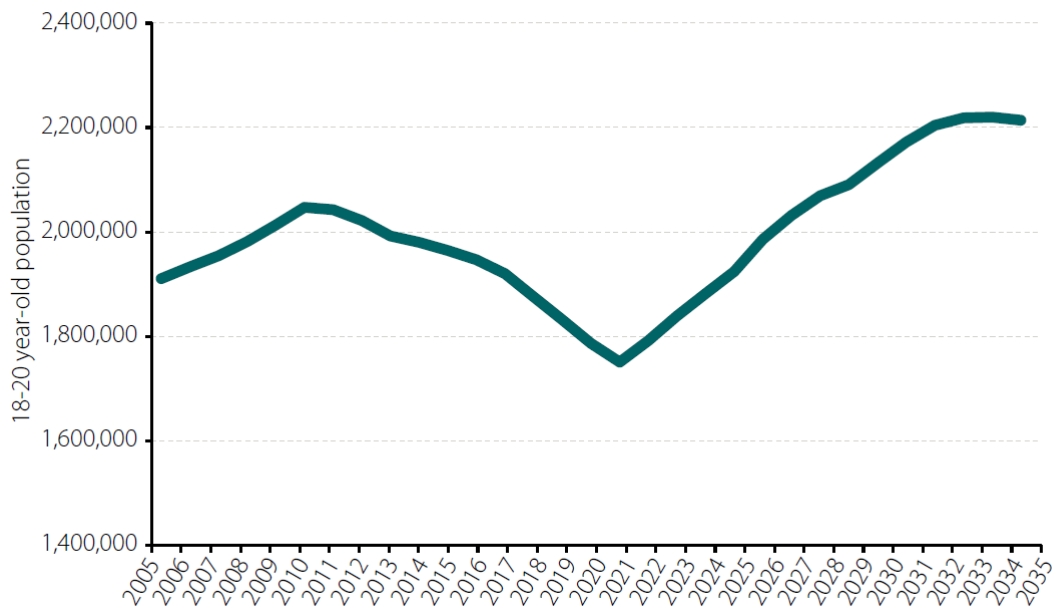


Chart 1: Chart UK Student Domicile Growth 2004/5 to 2013/14



Source: HESA adapted by C&W

Chart 2: Forecast Growth in England and Wales for the 18-20 year-old Population



Source: Willetts (2013); Composite of 2010 based and 2011 based ONS population estimates.

Note: London's Growth will be higher than implied by this chart

Chart 3: Growth in English entrants at UK higher education institutions according to demographic trends

Higher Education entrants projected by population, social demographics and unmet demand		
	Total Entrants	% increase on 2011
2011 (actual)	368,000	-
2020	380,000	4%
2035	460,000	26%

Source: David Willetts 2013 Robbins revisited, bigger better Higher Education, SMF

Note: This looks at the number of qualified and motivated applicants who are denied place after applying – in other words, unmet demand. Robbins predicted a shortfall of 25,000 university places in 1967-8. This is hard to estimate: one method is to look at the number who reapply for university after a first rejection. This would suggest unmet demand today of around 50,000 students. If we add this to our current entrants figure of 368,000 we will have the number of people who could currently enter higher education. Increasing this figure further in line with expected demographic change to 2035 would give us a figure of about 460,000 entrants.

Chart 4: Research Income and Size (Brunel in red)

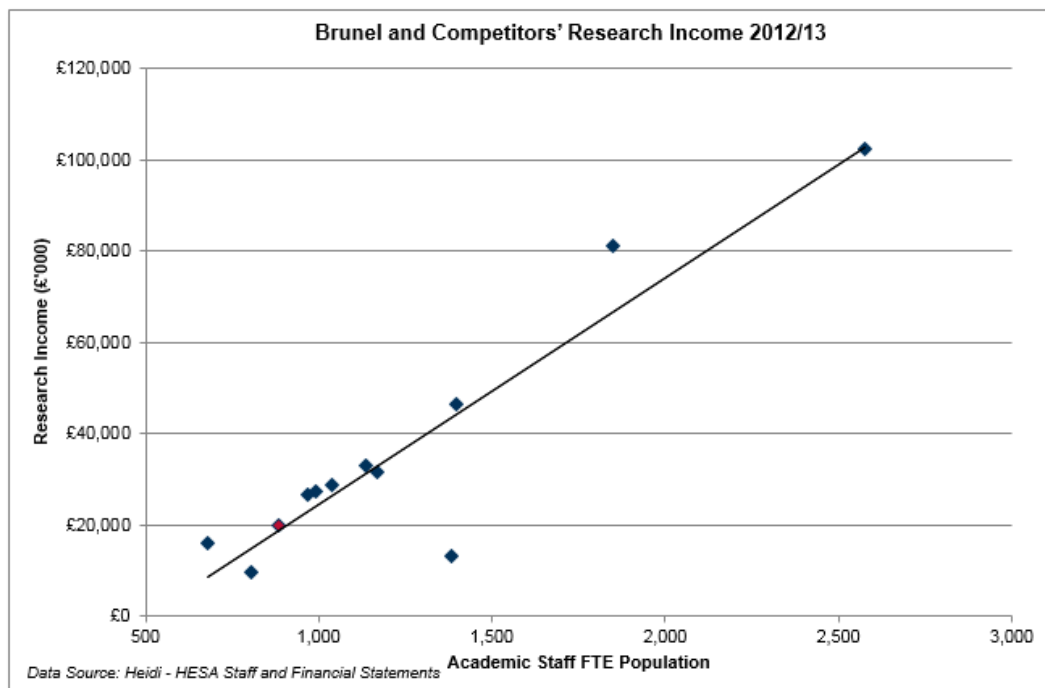
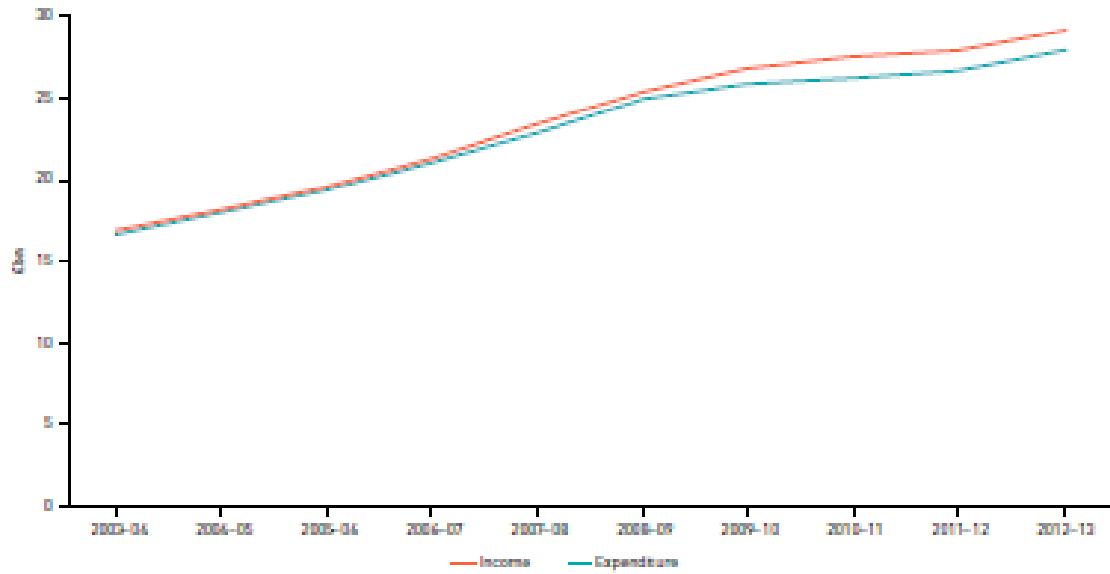


Chart 5: University Growth in Turnover

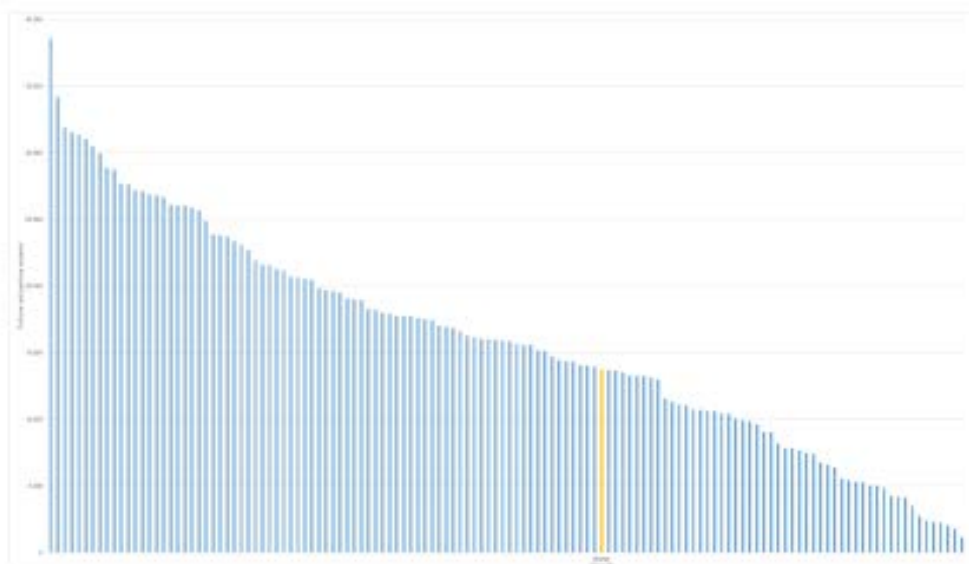


Source: HESA

<http://www.universitiesuk.ac.uk/highereducation/Documents/2014/PatternsAndTrendsInUKHigherEducation2014.pdf>

Chart 6: Size of Brunel relative to UK university sector

Size of Brunel University in comparison to UK university sector (excluding specialist institutions)
Full-time (incl. sandwich) and part-time students 2014/15



Source: HESA 2014/15

Chart 7: Brunel University London; Current and Forecast Numbers

Student numbers	2014/15*	2022/23	2025/26
STEM	5,291		
Professional	5,074		
HASS	3,047		
Total	13,411	22,592	25,225

Source: Brunel University London

Notes: STEM – Science, Engineering, Technology and Mathematics; HASS – Humanities, Arts and Social Sciences; Professional – Business, Law, Journalism and Sport etc

* Sourced from December 2015 **Forecasts as at February 2016

Chart 8: Extract from the *State of Engineering 2015*

Jobs and growth

The contribution of engineering and engineers to the UK economy should not be underestimated. The number of engineering enterprises in the UK has grown by 2.0% over a 12 month period to March 2013. However, this growth has not been even across the country, with London growing by 5.3%. Engineering enterprises employ 5.4 million workers, which is a fifth (19.3%) of all people employed in UK enterprises. Finally, engineering enterprises had a collective turnover of £1.17 trillion. This is a 6.7% increase over 12 months and 9.0% higher than the start of the recession, representing a quarter (24.9%) of the turnover of all UK enterprises. In comparison, the retail sector turns over less than a third (30%) of the engineering sector.

It is worth noting that most engineering enterprises (97.1%) are either small or micro and, overall, 86.9% of engineering enterprises have fewer than 10 employees. However, while companies with at least 250 employees represented 0.4% of all engineering enterprises, they employ over two fifths (42.4%) of those working in engineering enterprises.

At a time of tight control over public spending, the Government continues to offer strong support for science, engineering and research. Recognising that world class research plays a key role in economic growth and improvement to the health and wellbeing of society, the Government continues to protect the cash that has been ring fenced for science for the financial year 2015/16. In addition, the Chancellor has increased investment in science, including a long-term commitment to investment in science infrastructure of £1.1 billion in real terms to 2021. This brings overall investment in science and research to £5.8 billion for 2015/16 – an increase in overall spending compared with recent years.

The UK punches above its weight as a research nation. While we represent just 0.9% of global population, 3.2% of R&D expenditure and 4.1% of researchers, we account for 11.6% of citations, 15.9% of the world's most highly-cited articles and 30 of the top 200 universities in the world. Within engineering, there is an equally good story to tell: the UK ranks 3rd in the G8 for number of citations and 2nd in the EU27. For number of citations per billion dollars GDP, the UK ranks 1st in the G8 showing excellent value for money.

The Government has, for England, also positioned LEPs as key players in steering support for innovation at the local level (as well as their role of supporting education and skills and those Not in Education, Employment or Training), and their role is growing. In 2013, the Department for Business Innovation and Skills announced notional allocations to each LEP for 2014-2020, to come from the £5.3 billion of European Structural and Investment Funds

(ESIF). At least £660 million will be directed towards supporting innovation.

Engineering continues to break away from its Victorian image, however it still needs to be reinforced that modern engineering encompasses a broad church of technologies and industries. This is best illustrated by the following list, which depicts new or existing engineering sub-sectors where the UK has proven strengths and is showing the capability for growth:

Automotive

The automotive sector continues to be a success, building 1,597,433 vehicles across more than 70 different types of model in 2013 and generating exports of £30.7 billion – 10% of the UK trade in goods. Notably it employs 731,000 people, generates £59.3 billion turnover, accounts for 3% of UK GDP and invested £1.7 billion in R&D.

Aerospace

The UK has a 17% global market share in aerospace industry revenues: the largest in Europe and second only to the US worldwide. In 2012, the industry had a turnover of some £20 billion. Furthermore the sector supports more than 3,000 companies distributed across the UK, directly employing 100,000 people and supporting an additional 130,000 jobs indirectly. In 2011, the UK aerospace revenue was £24.2 billion, a real terms increase of 2.5% compared with 2010. Finally, it has been estimated that there will be global demand for 27,000 new passenger aircraft, worth around \$3.7 trillion, by 2031. In addition, global demand for commercial helicopters is expected to be in excess of 40,000 and worth circa \$165 billion by 2031.

Construction

In 2013, construction contributed £83.0 billion to economic output – 6% of the total – and employed 2.15 million people or 6.5% of the UK total. The global construction market is forecast to grow by over 70% by 2025, concentrated primarily in emerging economies. In support of the sector, in July 2013, the Government published *Construction 2025*, which summarises the industrial strategy for the construction sector in the coming decade.

Biosciences

Biosciences are vital to develop the products and processes integral to our lives, from the food we eat to our medical care. Between them, the UK biosciences sectors of pharmaceuticals and industrial biotechnology represent over 13,000 companies, generate over £134 billion in turnover and contribute £41 billion to the economy.

Space

Space technology provides the basis for much of modern life, with services supporting communications, environmental monitoring, navigation and security. The UK space sector contributes £9.1 billion a year to the UK economy and directly employs 28,900 people. It is also one of the UK economy's fastest growing sectors, with an average growth rate of almost 7.5%. The sector has the potential to be a great success story for the UK economy, with ambitions to increase its annual turnover to £40 billion by 2030. The worldwide space market was worth £160 billion in 2008 and is forecast to grow to £400 billion in 2030.

Chemicals

Whether in household products, in food or medicines, or in advanced materials, fuels and process technologies, the UK chemicals sector is fundamental to our economy and quality of life. In 2012, the UK chemicals sector generated annual sales of nearly £31 billion – 11% of all manufacturing exports by value – and employed over 111,000 people directly. The sector generated £8.6 billion in Gross Value Added (GVA) in 2012, and contributed a total of £591 million in R&D investment.

Creative industries

Government analysis shows the sector punches above its weight for the economy, generating £8 million an hour, contributing £71.4 billion GVA and providing 1.68 million jobs (or 2.2 million if we count creative jobs in other sectors) in 2012.

Advanced materials

Advanced materials underpin many sectors including manufacturing, construction, cleantech and transport. The interdependency of advanced materials and high value manufacturing in particular offers a large opportunity for UK innovation and growth. Businesses that produce, process, fabricate and recycle materials form a critical element in high value manufacturing. They have an annual turnover of around £197 billion and contribute £53 billion to the economy.

Electronic, sensors and photonics

Electronics, sensors and photonics underpin many industrial sectors. The UK's electronics sector generates approximately £29 billion a year in revenues, contributing over £12 billion to GVA and employing an estimated 850,000 people in the UK.

Agri-tech

Agri-tech underpins our food and drink manufacturing sector, which is the UK's largest manufacturing sector, worth £25 billion. The entire agri-food supply chain – from farm to table – is worth £96 billion. A UK Strategy for Agricultural Technologies defines this new industrial sector for the first time.

Chart 9: Contamination in Site 4



Appendix F

Economic Impact Assessment

BiGGAR Economics

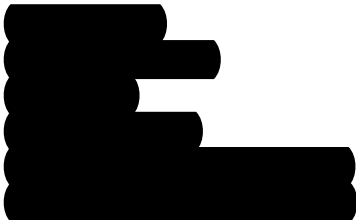
Economic Impact of Brunel University London

A report to



4th September 2015

BiGGAR Economics
Midlothian Innovation Centre



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EXECUTIVE SUMMARY

Brunel University London is a campus-based university located in Hillingdon, West London. With approximately 14,000 students, around 2,000 staff and an annual turnover of £192 million Brunel University London is a major source of economic activity in the Borough of Hillingdon.

Brunel University London is focused on "*addressing society's challenges*" and is doing this through an emphasis on an integrated approach to teaching, research and business collaboration. Together these activities generate an economic impact.

The quantitative impacts considered in this report are: *core operations* – including direct employment and expenditure on goods and services; *students* – including student expenditure, part-time work, volunteering, student placements and graduate productivity; *tourism impacts* – including visits from friends and family to students and conference attendees; and *knowledge transfer impacts* – including consultancy, contract research, commercialisation and new company formation.

In 2013/14 Brunel University London generated an estimated:

- £212.6 million GVA and supported 2,512 jobs in the London Borough of Hillingdon;
- £504.5 million GVA and 5,908 supported jobs in London; and
- £785.4 million GVA and 10,407 supported jobs in the UK.

Each £1 GVA directly generated by the University generates a total economic impact of £6.60 GVA for the UK economy. For every job directly created by the University five jobs are supported throughout the UK economy.

In addition to the considerable quantifiable GVA and job impacts, the University has delivered further qualitative economic and community/social benefits. These include benefits to the local labour market, adding value to the third sector in Hillingdon, strengthening tourism infrastructure and driving initiatives to support the local and regional community.

Brunel University London is an “anchor institution” within its community. It is delivering on the needs of the regional economy and for local people, at the same time as providing world leading research, delivering innovative and meaningful business collaborations with multi-nationals and local small and medium sized enterprises alike, and providing focussed employability experience to its students. Together these activities deliver quantifiable economic benefits at a local and national level as well as a wide range of qualitative economic and social benefits in Hillingdon and across West London.

1. INTRODUCTION

This report presents the findings of an economic impact study of Brunel University London undertaken by BiGGAR Economics in autumn 2015.

1.1 Brunel University London

Brunel University London is a campus-based university located in Hillingdon, West London. With approximately 14,000 students, around 1,970 staff and an annual turnover of £192 million Brunel is a major source of economic activity in the Borough of Hillingdon.

The University is organised into three colleges and three research institutes:

- College of Engineering, Design and Physical Sciences;
- College of Business, Arts and Social Sciences;
- College of Health and Life Sciences;
- Institute of Energy Futures;
- Institute of Environment, Health and Societies; and
- Institute of Materials and Manufacturing.

1.2 Impact Approach

The approach in this study aims to demonstrate how the activities of Brunel University London create benefits and impacts for the economy. Wherever possible these impacts have been quantified. Quantifiable impacts are expressed in terms of:

- Gross Value Added (GVA), which measures the monetary contribution of an organisation or individual to the economy; and
- employment, which is measured in the total number of jobs supported.

It takes account of impacts elsewhere in the supply chain (multiplier impact) and impacts that occurs outside the study area (leakage).

The study areas considered are:

- London Borough of Hillingdon – this is defined by Hillingdon Council's geography;
- London – the region of London; and
- the UK.

The quantitative impacts considered in this report include:

- core operations – including direct employment and expenditure on goods and services;

- students – including student expenditure, part-time work, volunteering, student placements and graduate productivity;
- tourism impacts – including visits from friends and family to students and conference attendees; and
- knowledge transfer impacts – including consultancy, contract research, commercialisation and new company formation.

It is important to highlight that monetary figures cannot fully capture the total value of the activity undertaken by Brunel University London. Although GVA is one of the most widely used measures of economic performance it does have important limitations that are widely recognised by economists and policy makers. One of the most important of these is that GVA only measures economic production but does not capture the effect that this has on people's well-being.

The quantifiable impacts described in this report therefore represent only a snapshot of the total contribution that Brunel University London makes to the local, regional and national economies. For this reason this report also highlights examples of how Brunel University London contributes to the well-being of individuals and groups both locally and around the world and discusses these qualitatively.

1.3 Report Structure

The remainder of this report is structured as follows:

- chapter two describes the economic context in which Brunel University London operates and provides further detail about the University itself;
- chapter three quantifies the core operational impacts of Brunel University London arising from the University's expenditure on supplies, staff expenditure and the impact of capital projects;
- chapter four quantifies the impacts generated by the University's students, through their expenditure, part-time employment, volunteering and undertaking student placements;
- chapter five describes the various ways in which the University commercialises its research and supports businesses;
- chapter six discusses how the University supports the visitor economy by attracting additional visitors;
- chapter seven describes the additional value added to the UK economy by graduates from Brunel University London;
- chapter eight discusses wider impacts of Brunel University London, such as the health impacts arising from research undertaken at the University and wider community benefits;
- chapter nine summarises the current quantifiable impacts of Brunel University London and draws together the main conclusions of the report; and
- the technical appendix describes in detail how each of the economic impacts considered were estimated.

2. CONTEXT

This chapter describes the socio-economic context in which Brunel University London operates and provides background to the University.

2.1 Socio-economic Context

2.1.1 Population

The population of the Borough of Hillingdon is approximately 293,000 and accounts for 3% of the population of the wider London region. Hillingdon has a population demographic which is similar to London as a whole, with a higher proportion of working age people and young people aged under 15 than the UK average. The area also has a significantly lower proportion of people over the age of 65.

Table 2.1 – Population of Study Areas

	Hillingdon	London	UK
Population	292,700	8,538,700	64,596,800

Source: ONS (2015), *Mid-Year Population Estimates 2014*.

2.1.2 Economic Indicators

The unemployment rate in Hillingdon is slightly higher (6.7%) than the UK average (6.4%) but lower than the rate for London as a whole (7.1%). Hillingdon has an economic activity rate which is below London but in line with the UK average.

There is a lower proportion of the working age population in Hillingdon claiming Job Seekers Allowance than both London and the UK as a whole and average annual income is around £4,000 higher in Hillingdon than the average across the UK.

Table 2.2 – Economic Indicators

	Hillingdon	London	UK
Unemployment Rate*	6.7%	7.1%	6.4%
Economic Activity Rate*	77.1%	76.7%	77.2%
Claimant Count (% of working age population)**	1.4	1.9	1.8
Average Annual Income***	£31,229	£32,781	£27,195

Source: *ONS (2015), *Annual Population Survey Jan 2014- Dec 2014*. **ONS (2015), *Claimant Count June 2015*. ***ONS (2015), *Annual Survey of Hours and Earnings 2014*.

The industries that are most important for employment in Hillingdon are shown in Table 2.3 alongside their relative proportions for London and the UK as a whole. This indicates that the largest source of employment in Hillingdon is the transport and storage sector. This is primarily due to the presence of Heathrow Airport within the Borough of Hillingdon.

The second largest sector of employment is the business administration and support services sector, which accounts for 12.7% of employment in Hillingdon, a

higher proportion than both London and the UK as a whole. The professional, scientific and technical sector also has a large presence in Hillingdon, accounting for 8.6% of jobs, many of which will be attributable to the presence of Brunel University London.

Table 2.3 – Key Employment Sectors

	Hillingdon	London	UK
Transport & storage	26.7%	4.6%	4.4%
Business administration and support services	12.7%	10.1%	8.2%
Professional, scientific and technical	8.6%	14.0%	8.0%
Accommodation & food services	8.0%	7.5%	7.0%

Source: ONS (2014), *Business Register and Employment Survey, 2013*.

2.1.3 Education and Skills

Qualification levels of those aged 16-64 for each of the study areas are shown in Table 2.4. The table indicates that 9.5% of the population of Hillingdon have no qualifications, in line with the UK average, but higher than the average across London.

Almost 40% of Hillingdon’s working age population are educated to degree level, below London (49%) but higher than the UK average (35%).

Table 2.4 – Qualification Levels: % of 16-64 Population

	Hillingdon	London	UK
No NVQ Qualifications	9.5%	7.8%	9.0%
NVQ 1+ (1-4 GCSEs or equivalent)	81.4%	84.2%	84.8%
NVQ 2+ (5+ GCSEs or equivalent)	69.7%	76.4%	73.1%
NVQ 3+ (A-Levels or equivalent)	56.4%	64.7%	56.5%
NVQ 4+ (Degree or equivalent)	39.8%	49.1%	35.8%

ONS (2015), *Annual Survey of Hours and Earnings 2014*.

2.2 Brunel University London

Brunel University London is a campus-based university located in Hillingdon, West London that had 14,000 students in 2013/14.

The University's origins can be traced to Acton Technical College, which split into two in 1957. The new Brunel College of Technology (named after Isambard Kingdom Brunel, the British engineer) was dedicated to the education of chartered engineers. The College was awarded a Royal Charter in 1966, granting it university status. Brunel University London’s traditional fields remained engineering, science, technology, social science and management. Subsequent mergers with Shoreditch College of Education and the West London Institute of Higher Education allowed Brunel University London to add expertise in new

subject areas such as performing arts, humanities, geography, education, health, social work, sport sciences and business.

The University's aim has always been to combine academic rigour with the practical, entrepreneurial and imaginative approach pioneered by the University's namesake Isambard Kingdom Brunel. Its mission, as stated in its Strategic Plan¹, is therefore to: *'create knowledge and advance understanding, and equip versatile graduates with the confidence to apply what they have learnt for the benefit of society.'*

Brunel University London is well placed in terms of rankings. The Times Higher Education 100 Under 50 is a ranking of the top 100 universities in the world under 50 years old and Brunel is placed 25th in these rankings. As well as teaching and research excellence, Brunel University London provides a high-quality all round student experience. The 2014 National Student Survey, which surveys final year students across all higher education institutions in the UK, found that Brunel University London had an overall satisfaction score of 89%, placing it 27th overall for student satisfaction out of 154 institutions.

2.2.1 Funding

In the year ending July 2014 the total income of Brunel University London was £192 million. As might be expected the main component of the University's income was comprised of tuition fees and education contracts, which represented 51% of total income. A breakdown of Brunel University London's income by main source is provided in Table 2.5

Table 2.5 – Brunel University London income by source, year ending 31st July 2014

Source	Amount (millions)
Tuition fees and education contracts	£98.1
Other income	£40.3
Funding body grants	£32.0
Research grants and contracts	£21.6
Endowment and investment income	£0.5
Total	£192.4

Source: Brunel University London Financial Statements 2013-14

2.2.2 Student Participation Rates

Student participation rates provide an indicator of how successful a higher education institution is in attracting students from diverse backgrounds.

The statistics are based on young (aged under 21), full-time undergraduate entrants in 2013/14. As the table below indicates Brunel University London performs very well in terms of participation rates, with 94.8% of its full time first-degree entrants from state schools, and 42.1% from deprived backgrounds.

The statistics use benchmarks to allow for comparison between institutions and the higher education sector as a whole. The benchmarks take into account factors that contribute to the differences between institutions such as subject of study,

¹ Brunel University London (2012), Strategic Plan 2012-2017.

qualifications on entry and age on entry. Brunel University London's performance in all of the indicators is significantly better than its benchmark indicating a high participation rate of under-represented groups in higher education at the University.

Table 2.6 – Participation Rates

	Indicator	Benchmark
% from state schools or colleges	94.8%	92.5%
% from NS-SEC (socio-economic) classes 4, 5, 6, 7	42.1%	35.1%

Source: HESA UKPIs 2013/14

3. CORE ECONOMIC IMPACTS

The core economic impacts associated with the University are those that occur through the day-to-day operations of the organisation and include:

- direct impacts – these are the impacts resulting from the University’s income and employment;
- supplier impact – the impact of the University purchasing goods and services, which increases the turnover of those businesses and supports jobs in its supply chain.
- staff spending impact – staff spending their wages increases the turnover of businesses in the economy, which generates wealth and supports employment; and
- impact of capital spending – expenditure on capital projects supports additional economic activity in businesses in the wider economy, particularly in the construction sector.

The key assumptions required to estimate the impact of this activity are given in Table 3.1.

Table 3.1 – Key Assumptions for the Core Impact 2013/14

	Value	Source
Income	£192.4m	Financial Statements 2013/14
Staff – Headcount	2,153	Brunel University London HR
Staff – Full time equivalents (ftes)	1,965	Brunel University London HR
% living in LB of Hillingdon	37%	Brunel University London HR
% living in London	71%	
% living in UK	100%	
Expenditure on wages	£80.1m	Brunel University London
Expenditure on goods and services	£67.0m	Financial Statements 2013/14
% purchased from LB of Hillingdon	12%	BiGGAR Economics Assumption based on Oxford Economics, 'The Economic Impact of the University of West London'.
% purchased from London	58%	
% purchased from UK	97%	
Average annual capital expenditure (2009-2019)	£22.7m	Brunel University London
% capital suppliers from LB of Hillingdon	7%	Brunel University London
% capital suppliers from London	12%	
% capital suppliers from UK	99%	

3.1 Economic Impact

Using the key assumptions described in Table 3.1, it was estimated that the University's core activities in 2013/14 supported economic activity with a value estimated at £128.9 million GVA and 965 jobs in the London Borough of Hillingdon, £182.6 million GVA and 3,081 jobs in London and £269.1 million GVA and 5,707 jobs in the UK as a whole.

A breakdown of this impact is provided below and the method used to derive this is described in the Technical Appendix.

Table 3.2 – Core Economic Impact 2013/14

	Hillingdon	London	UK
GVA (£m)			
Direct	119.6	119.6	119.6
Supplier Spending	4.8	33.1	60.1
Staff Spending	3.6	27.6	68.8
Capital Spending	0.8	2.3	20.6
Total GVA	128.9	182.6	269.1
Employment (jobs)			
Direct	728	1,389	1,965
Supplier Spending	141	1,001	1,832
Staff Spending	83	654	1,639
Capital Spending	13	37	270
Total Employment	965	3,081	5,707

3.2 Local Benefits from Core Operations

The impact arising from Brunel University London's core operations, as described above, includes significant localised impacts. The University's third party contracts include a catering contract with Sodexo, which employs 120 people on site, along with a cleaning contract that can have 80 to 150 employees on site depending on the time of year. The cleaning contract, worth £8 million over five years has recently been let to a local company, allowing the local economy to benefit from University operations.

While the economic impacts of these contracts are captured in the supplier impact, the scale of the additional employment on-site is worthy of note as these contracts provide jobs directly within the local labour market.

4. STUDENT ACTIVITY IMPACTS

4.1 Student Population

In 2013/14 Brunel University London had a student population of 14,000 full time, part time and distance learning students, of which 70% were undergraduates and the remaining were postgraduate students.

The vast majority (90%) of Brunel University London’s students were studying full time with the University and this report only considers the economic impact of these 12,915 students. These students support economic impact through their spending, part-time work, volunteering and through undertaking placements.

Table 4.1 shows the profile of undergraduate and postgraduate students studying with Brunel University London in 2013/14.

Table 4.1 – Student Profile, 2013/14

	Full time	Part time	Distance learners	Total
Undergraduate	9,806	241	0	10,047
Taught Postgraduate	2,369	495	420	3,284
Research Postgraduate	740	231	0	971
Total	12,915	967	420	14,302

Source: Brunel University London

In 2013/14, there were more than 4,000 international students studying on campus at Brunel University, around 31% of the University's student population. The vast majority of these students were overseas students from outside the EU.

Table 4.2 – International Students, 2013/14

	EU (excluding UK)	Outside EU	Total
International Students	887	3,536	4,423

Source: Brunel University London

4.2 Impacts From Students

The impacts associated with Brunel University London’s students include:

- student spending impacts – students have an impact on the economy through their spending in the same way that staff have an impact through the spend of their wages;
- students’ part-time work – without students some businesses would not have the additional labour they require to increase their economic impact;
- student volunteering – data provided by Brunel University London indicates that 432 students volunteered 10,402 hours between them in 2013/14; and
- student placements – almost 1,400 students at Brunel University London undertook work placements, 52% of which lasted for a year.

A key impact of students is their increased productivity from obtaining an undergraduate or postgraduate degree. This is considered in Chapter 7.

The key assumptions required to estimate the impact of Brunel University London's students are given in Table 4.3 below.

Table 4.3 – Key Assumptions for Student Impact 2013/14

	Value	Source
Full-time students	12,915	Brunel University London
Undergraduate	9,806	Brunel University London
Taught Postgraduate	2,369	
Research Postgraduate	740	
% living in LB of Hillingdon	48%	BiGGAR Economics calculation based on data provided by Brunel University London
% living in London	66%	
% living in UK	100%	
Annual spend by students living in London	£12,921	Department for Business Innovation and Skills, Student Income and Expenditure Survey 2011/12
Proportion of full-time students who work	57%	Endsleigh Insurance and National Union of Students Survey 2013
Proportion of student part-time workers that are additional to the labour force	64%	BiGGAR Economics Assumption
Proportion of employed students who work for Brunel University London	8%	Brunel University London
Number of students who volunteer	432	Brunel University London
Average number of hours volunteered per year	24 hours	
Total number of placements (minimum of 12 weeks long)	1,397	Brunel University London
Number of year-long placements	730	
Productivity as a % of worker productivity	33%	BiGGAR Economics Assumption

The method for deriving estimates for the economic impacts of Brunel University London's students discussed in this chapter is described in the Technical Appendix. This used the key assumptions in Table 4.3 to estimate the values in Table 4.4.

Using the assumptions described in Table 4.3 it was estimated that in 2013/14 students at Brunel University London supported economic activity with an estimated value of £48.2 million GVA in the London Borough of Hillingdon, £97.5 million GVA in London and £163.7 million GVA in the UK as a whole through their spending, part-time work, volunteering and placements. Students also supported an estimated 1,331 jobs in the London Borough of Hillingdon, 2,432 jobs in

London and 3,991 jobs in the UK as a whole. These impacts are summarised in Table 4.4.

Table 4.4 – Impact Supported by Students 2013/14

	Hillingdon	London	UK
GVA (£m)			
Student Spending	17.6	45.2	80.2
Student Part-time Work	19.5	31.4	49.5
Student Volunteering	0.04	0.06	0.09
Student Placements	11.1	20.8	33.9
Total GVA	48.2	97.5	163.7
Employment (jobs)			
Student Spending	349	840	1,482
Student Part-time Work	802	1,242	1,934
Student Volunteering	-	-	-
Student Placements	180	350	574
Total Employment	1,331	2,432	3,991

4.3 Enriching the student experience – employment, volunteering and employability

Student work, volunteering and placements are a particular feature of Brunel University London.

The University's Placement and Careers Centre (PCC), part of the Professional Development Centre, plays a central role in stimulating employment opportunities and contributing to the local labour market. The PCC Job Shop provides access to hundreds of part-time and temporary vacancies both on campus and in the local area, through its vacancy listings. This also provides a valuable service to local employers, improving their opportunities to fill vacancies, reducing the likelihood of costly unfilled vacancies and helping to ensure the operation of an effective local labour market.

The PCC Job Shop advertises roles in business, IT, finance, media, creative industries and many more sectors. Roles on campus often offer flexible working hours or are event based, enabling students to find working solutions that enhance their student experience at Brunel. The University also runs workshops and a Part-Time Jobs Fair to help students with part-time job applications and job searching.

Student volunteering is taken seriously at Brunel, with a structured and resourced approach to matching students to volunteering opportunities. This is supported by the Brunel Volunteers website, which advertises vacancies and provides advice and support to volunteer. Student volunteering provides a dual benefit, adding to students' skills and employability, while providing a valuable resource for local third sector organisations. The University works alongside voluntary groups,

charities and other not-for-profit organisations in the Hillingdon and London area. It provides organisations with students eager to volunteer, and also assistance and collaboration on community events. It should be noted that the University also encourages staff to volunteer. As part of Brunel's commitment to staff development and the local community, the University operates an employer-supported volunteering scheme, which allows permanent staff thirty-six hours a year to volunteer with organisations in Hillingdon.

During 2013/14, 432 Brunel Volunteers completed 10,402 hours of volunteering in the local community. Beneficiaries of the work of Brunel Volunteers included WRVS, Northwood School, Age UK Hillingdon, Different Strokes and Hillingdon Women's Centre. An example of the type of activities supported by Brunel Volunteers is the Maths Mentoring Scheme, where volunteers with a mathematics background have been providing maths tutoring to students at Northwood School.

Although students are not paid for this work it still adds value to the economy by enabling local charitable organisations to undertake additional activity that they may not be able to fund otherwise. In doing so this creates important partnerships and links with the local community. In addition, there will be wider benefits arising from the volunteering activities themselves. Volunteering benefits service users by improving their wellbeing, which can have a further impact by resulting in cost savings in health and social services. Student volunteering not only provides valuable support to local charities but also helps to enhance future career prospects for students by providing students with the opportunity to gain valuable skills.

In line with the University's mission to equip graduates to be able to apply what they have learnt, one of Brunel University London's distinctive features is the inclusion of work experience in many of its degree programmes. All students at the University are encouraged to undertake some form of work experience with many courses offering a one year work placement or two six month work experience periods. Around half of students currently have some supported work experience while studying, including a year's placement, which is taken up by over 700 students per year, about one third of the undergraduate cohort. The University has an aspiration to increase to 80% the proportion of students engaged in "meaningful work based learning" within three years.

Work placements benefit students in a variety of different ways. They offer students the opportunity for personal development as well as contextualising the knowledge learnt while studying. Placements can also help students to confirm their chosen career path by opening their eyes to opportunities they had never previously considered and helping them to decide what jobs they would or would not like to do in the future.

The experience and skills gained by students during their placement improves their employability as it means they are able to start contributing to their employer's business earlier than a less experienced graduate would be able to.

Brunel University London's focus on providing student part-time employment opportunities, supporting volunteering and actively encouraging work placements are all examples highlighting the importance Brunel University London places on ensuring students leave the University work ready and enriched by a wide variety of experiences during their time at the University.

5. WORKING WITH BUSINESS

Brunel University London drives economic impact through its business university engagement including its collaborative partnerships with businesses and the business support activities it undertakes.

The University's leading research interests form the centrepiece of its knowledge exchange activity. The University positions its research to provide "Solutions to Worldwide Problems"². Brunel University London's research is organised into three institutes and 15 themes working on addressing global challenges through the adoption of inter-disciplinary methodologies. The themes are:

- Advanced Engines and Biofuels;
- Energy Efficient and Sustainable Technologies;
- Smart Power Networks;
- Resource Efficient Future Cities;
- Healthy Ageing;
- Health and Environment;
- Health Economics;
- Synthetic Biology;
- Biomedical Engineering and Healthcare Technologies;
- Social Sciences and Health;
- Structural Integrity;
- Liquid Metal Engineering;
- Micro-Nano Manufacturing;
- Materials Characterisation and Processing; and
- Design for Sustainable Manufacturing.

5.1 Business Collaboration

Brunel University London has an integrated approach to research, teaching and business collaboration. The University's intention is not to create one-off activities, but rather to develop long-term relationships which it does through placements and internships (discussed in Section 4.3) collaborative projects, and funded research and development projects.

The University's approach to business collaboration is clearly articulated:

"For us at Brunel University London collaborating with employers is at the centre of our work. Everything we do is underpinned by our employer links which are

² Brunel University London, <http://www.brunel.ac.uk/research> (accessed 4th August 2015).

*varied and strong. We are also clear that we have a responsibility to support SMEs within our region.*³

The University undertakes a range of collaborative activities with businesses including:

- specialist consultancy;
- contract research services;
- continued professional development (CPD) training; and
- supporting Knowledge Transfer Partnerships (KTPs) with industrial partners.

These services can lead to in depth and highly constructive collaborations, which can have a transformative impact on individual businesses, as our case studies below show. Business collaborations also provide opportunities to develop the skills of the University's graduates, strengthening its employability performance.

Knowledge Transfer Partnerships (KTPs) at Brunel University London have provided successful routes to deliver dual benefits to businesses and graduates. The KTP scheme is a UK wide initiative designed to enable businesses to access the knowledge and expertise available within universities and colleges. A KTP is the three-way partnership between an academic, a business partner (including private sector companies, charities and public sector organisations) and a recent graduate (known as the Associate) who is employed to work on the specific project relevant to the business partner. Figure 5.1 provides a case study of successful business collaboration with Brunel University London through the KTP scheme and Figure 5.2 describes a Brunel University London venture to facilitate business university collaborations.

Figure 5.1 – Case Study: Business Collaboration with HaB International Ltd.

This successful collaboration involved HaB International Ltd, academic experts from Brunel University London and a knowledge transfer partnership (KTP).

The company was founded in 1988 as Leisure Systems International Ltd with sales, marketing and distribution of products for sport, health, lifestyle and wellness sectors. In April 2001 the company acquired the rights to the POWERbreathe inspiratory muscle training product. Since 2004 the company has taken part in three KTP projects with Brunel University London with Professor Alison McConnell as lead academic. As a result, the company has diversified into small-scale manufacture and been transformed, and now has its own product design and development capability. Three of the four KTP Associates on the projects still work for the company.

The purpose of the projects was to develop different aspects of the POWERbreathe and other non-pharmacological products for chronic disease management. A patent has been submitted with three academics and three Associates as co-inventors.

This KTP has resulted in a transformation in the company and the exploitation of expertise to develop a family of new products and a new capability within the company. It was a winning formula that has resulted in a continuing process of collaboration.

Source: Brunel University London

³ Brunel University London (2015), Thirty Thousand Hours of Collaborative Innovation.

Figure 5.2 – Case Study: Co-Innovate

Co-Innovate is a programme jointly funded by Brunel University London and the European Regional Development Fund. Over the two year duration of the project the initiative has supported 250 small and medium sized enterprises (SMEs) in the London region. Co-Innovate provides design-led innovation, advice and guidance to SMEs, including providing direct support to SMEs from laboratory facilities, testing and prototyping.

Co-Innovate builds on the internationally renowned work of Brunel's School of Engineering and Design and is distinguished from many other initiatives to enhance collaboration between universities and industry through a focus on design and open, collaborative innovation.

The project's aim was to improve access and accelerate the transfer of knowledge and research expertise from Brunel University London to SMEs, introducing a dynamic range of activities to support new product and service development leading to business growth for the participating companies and economic and employment benefits for the region.

The project primarily targets London based SMEs who are currently not investing in innovation by building awareness and capacity to connect SMEs to the applied research expertise at the University.

Source: Brunel University London

Brunel University London is also involved in several collaborative research ventures with industry partners. Building on its research strengths in liquid metal engineering, the University is working to establish a new research centre, the Advanced Metals Casting Centre (AMCC) in partnership with Jaguar Land Rover, Constellium and others in the supply chain. Industry partners have committed over £50 million of funding for the Centre. The case study in Figure 5.3 provides further detail about this joint business university venture.

The University has medium term plans to build further on the success of the Brunel Centre for Advanced Solidification Technology (BCAST) with plans for a second and third phase of an Advanced Metals Processing Centre (AMCC), perhaps in the longer term leading to the development of a National Metals Park which would commercialise the technology from BCAST's expertise and ensure the UK receives the full economic benefits of Brunel's academic excellence. This seems achievable, given that AMCC is already working at an industrial scale. Unusually for a university commercialisation initiative, the industrialisation process here is about the business model, rather than developing the technology at scale – the starting point is already a proven industrial scale process. We would anticipate the timescales for the future economic impact of this development to be less than typically the case for academic/commercial collaboration.

Other major investments include co-investment with technology engineering organisation TWI Ltd at Granta Park, Cambridge to build the National Centre for Structural Integrity. In 2012 Brunel University London was awarded £15 million of funding from the Higher Education Funding Council for England (HEFCE) as part of this new £60 million initiative, with the balance of funding, £45 million, from industry. Along with TWI Ltd. other partners include major companies from the rail, marine, aerospace and energy sectors as well as University College London, the University of Cambridge and the University of Manchester.

The purpose-built National Centre will house more than 100 postgraduate taught and research students and more than 50 staff. It provides the most up-to-date facilities for engineering and materials research in the UK.

Figure 5.3 – Case Study: Manufacturing Engineering and Industry Partners

Brunel University London has research strengths in the field of manufacturing engineering, particularly within the sector of advanced materials. In fact, the preliminary findings of Sir Andrew Witty’s Review of Universities and Growth featured Brunel as a University with research excellence in the advanced materials sector.

Research at Brunel within this field focuses on the recyclability of metals and is led by Professor Zhongyun Fan, Professor of Metallurgy, Director of the Brunel Centre for Advanced Solidification Technology (BCAST) and Principal Director of LiME, a national centre of excellence in liquid metal engineering at Brunel University London.

The aim of the research is to reduce the amount of new metal mined by reusing metal that has already been used to make high quality parts and materials. Revolutionary new metal casting techniques developed at Brunel have proved successful in creating superior quality components from recycled metal.

The challenge now faced is to scale these methods up for commercial use and show that they can reduce cost and improve quality. In order to overcome this, an Advanced Metals Casting Centre (AMCC) is being established at Brunel University London as a joint venture between the EPSRC (Engineering and Physical Sciences Research Council), Brunel University London and industry partners such as Jaguar Land Rover, Constellium and other companies in the supply chain. Industry partners have committed over £50 million of funding for the Centre.

The £17.4 million purpose built building will act as a national scale-up facility to bridge the gap between fundamental, laboratory scale research and full scale industrial trials and thereby shorten the time to bring laboratory discoveries to market. The Centre’s initial focus will be the automotive industry with a longer term aim to make the facilities available to partners in other engineering sectors, including aerospace, defence, electronics and the general engineering sector.

The University intends to build on success in this area with plans for a second and third phase of the AMCC with the objective of developing a National Metals Park at Brunel. A major research bid, worth £77 million, for the second phase of the AMCC has been successfully obtained. This would commercialise the technology developed at the University in conjunction with Jaguar Land Rover, Constellium and other companies in the supply chain, as well as ensuring that the associated economic benefits are retained within the UK.

This research and collaboration with industry has the potential to lead to the development of an entirely new sector, advanced metals casting. This would not only bring significant environmental benefits but would also support jobs and economic growth and secure a future for the manufacturing of advanced materials in the UK. It therefore provides a prime example of the role of Brunel University London in pushing the boundaries of academic discovery and supporting the diffusion of this knowledge throughout the economy, providing the basis for future productivity improvements and therefore economic growth.

5.1.1 Business Collaboration Impact

In 2013/14 the University earned over £4.5 million for undertaking contract research, over £200,000 from providing consultancy services and over £70,000 for delivering CPD. The University supported 17 KTPs over the past six years, five of which were on-going in 2013/14. The impact of this activity was estimated using the assumptions set out in Table 5.1. The detailed methodology used to do this is presented in the Technical Appendix.

Table 5.1 – Key Assumptions for Business Collaboration Impact 2013/14

	Value	Source
Total income from business services	£4.8m	Brunel University and HE-BCI
Contract research	£4.6m	Financial Statements 2013/14
Consultancy	£209,000	HE-BCI 2012/13
CPD	£74,000	HE-BCI 2012/13
Location of business services clients		
% in LB of Hillingdon	0%	BiGGAR Economics Assumption
% in London	50%	
% in UK	100%	
Number of ongoing KTPs	5	Brunel University London
Number of KTPs completed in last 6 yrs	17	
LB of Hillingdon	1	
Rest of London	6	
Rest of UK	10	
Jobs created by each KTP	3	Regeneris Consulting, Knowledge Transfer Partnerships, Strategic Review
Annual GVA per KTP (London)	£147,833	

Using these assumptions, it was estimated that in 2013/14 business collaboration activities undertaken services by Brunel University London enabled businesses to generate £1.6 million GVA and support 62 jobs in Hillingdon, £16.8 million GVA and 276 jobs in London and £35.5 million GVA and 568 jobs in the UK.

5.2 Business Support

Brunel University London supports businesses by providing space for them to locate on its Science Park and by supporting the formation of new businesses.

5.2.1 Brunel Science Park

Brunel Science Park was established in 1986 on the edge of the university campus, attracting a range of tenants including new start-ups and small specialist companies as well as spin-outs from established international companies. The Park offers flexible tenancy agreements designed to foster growth and offers a range of support services including guidance, access to R&D funding, patent and trademarks, training and venture finance.

Being located close to the University means that the companies based on the Science Park have easy access to the research base, facilities, business support services and business networking opportunities. These opportunities all help to support the growth of tenant companies. By providing suitable facilities with flexible leasing arrangements, the University also helps to retain these companies in the Hillingdon area.

Consultations with staff at Brunel University London indicate that there 18 tenant companies on the Science Park, employing a total of 80 people across 12,000 square feet of lettable space. One of these is Brunel University Enterprises Limited which manages the Science Park and acts as the holding company for any spin-off companies.

In order to estimate this impact it was necessary to make assumptions about the extent to which the activity supported by these companies could be attributed to the University. This is based on BiGGAR Economics' previous experience of estimating the impact of Science Parks and is explained further in the Technical Appendix.

In providing space for businesses to locate in its Science Park, Brunel University London generates economic impact. The value of this in 2013/14 was an estimated £6.3 million GVA and 113 jobs in the Borough of Hillingdon, £3.9 million GVA and 70 jobs in London and £2.6 million GVA and 46 jobs in the UK.

5.2.2 Spin-outs

One of the ways in which research can generate economic activity is through the creation of spin-out companies. There are currently two active spin-out companies from Brunel University London.

Dynamic Extractions is a specialist chromatography company based in Slough, which was spun-out in 2003. The company develops novel separation technologies which has particular value to the life sciences sector where it is used in the drug discovery and commercial sectors to isolate very high value active pharmaceutical and nutritional products.

Vizzata, based in Oxford is a company which has developed an online research tool and method, that can be used by Government and industry to engage with people at very short notice to find out their views and reactions to text, audio or visual content.

The economic impact of these companies was estimated based on their turnover, direct employment and location. The assumptions used to do this are presented in Table 5.2. The detailed methodology used is described in the Technical Appendix.

Table 5.2 – Key Assumptions for Spin-out Impact 2013/14

	Value	Source
Turnover of spin-outs	£591,000	Brunel University London
Dynamic Extractions employment	2	BiGGAR Economics assumption based on company website
Vizzata employment	4	BiGGAR Economics assumption based on company website

Using these assumptions it was estimated that in 2013/14 spin-outs associated with Brunel University London generated £0.2 million GVA for the UK economy and supported 10 jobs.

5.2.3 Local Business Support

As well as the activities discussed above Brunel University London holds many events on campus every year which provides wider support to the local business community. As an example the University organised the Hillingdon Business Expo, held for the first time in 2015. More than 700 visitors attended this showcase event for the Borough’s business community, held at Brunel University London. 56 Hillingdon businesses exhibited, with a Business Breakfast for exhibitors and sponsors, 14 workshops (including one by Brunel discussing placements and the services the Professional Development Centre can offer), and public admission throughout the day.

5.3 Summary Working with Business Impact

This section has described the numerous ways in which Brunel University London engages with businesses and estimated that this activity generated £35.6 million GVA for the UK economy in 2013/14 and supported more than 600 jobs. A breakdown of this impact by source is provided in Table 5.3 below.

Table 5.3 – Working with Business Impact in 2013/14

	Hillingdon	London	UK
GVA (£m)			
Contract research	-	13.9	30.2
Consultancy	-	0.7	1.4
CPD	-	0.2	0.5
KTPs	0.1	1.0	2.6
Science Park	6.3	3.9	2.6
Spin-outs	-	-	0.2
Total GVA	6.4	19.8	37.5
Employment (jobs)			
Contract research	0	207	457
Consultancy	0	10	21
CPD	0	2	4
KTPs	3	21	51
Science Park	113	70	46
Spin-outs	0	0	10
Total Employment	116	310	590

6. TOURISM IMPACTS

Brunel University London contributes to the tourism economy in a number of ways. Staff and students at Brunel University London receive visits from family and friends throughout their time at the University. The University also hosts a range of conferences and events, which attract further visitors. In addition, the University provides additional accommodation capacity by letting its student residences for summer language school students. The expenditure of all of these visitors is attributable to the presence of Brunel University London and directly benefits the local tourism sector.

6.1 Quantifiable Tourism Impact

The assumptions used to estimate the impacts of visitors to the University, its staff and students are described in Table 6.1 below. This shows assumptions about the number of visitors to friends and family and their expenditure along with assumptions about visitors to conferences and events hosted at the University and summer school students. The methodology used to estimate the impact is explained in the Technical Appendix.

Table 6.1 – Key Assumptions for Tourism Impact 2013/14

Visiting Friends and Family Assumptions	Value	Source
Number of full time students	12,915	Brunel University London
Number of staff	2,153	
Number of domestic visiting family and friends trips to London/head	0.53	VisitEngland, Domestic Tourism Overview and ONS, Mid-Year Population Estimates
Number of overseas visiting family and friends trips to London/head	0.46	VisitBritain, International Passenger Survey and ONS, Mid-Year Population Estimates
Average expenditure/trip of domestic visitors to family and friends in London	£127	VisitEngland (2014), Domestic Tourism Overview
Average expenditure/trip of overseas visitors to family and friends in London	£471	VisitBritain (2014), International Passenger Survey
Conferences and Events Assumptions		
Number of conference bednights in University accommodation	29,118	Brunel University London
Proportion of overseas delegates	77%	London™ Tourism Report 2012/13
Proportion of domestic delegates	23%	
Proportion of visitors from outside LB of Hillingdon	90%	BiGGAR Economics Assumption
Proportion of visitors from outside London	33%	
Proportion of visitors from rest of the UK	33%	
Average overseas visitor spend per night	£107	London™ Tourism Report 2012/13
Average domestic visitor spend per night	£101	
Summer School Assumptions		
Number of summer school bednights	109,112	Brunel University London
Summer school visitor spend per day	£107	BiGGAR Economics Assumption

Using these assumptions it was estimated that in 2013/14 visits to staff and students from friends and relatives, conference delegates to Brunel University London and summer school students staying at Brunel University London contributed £3.5 million GVA to the UK economy and supported 119 jobs in the tourism sector. A breakdown of this impact within each of the study areas is provided in Table 6.2.

Table 6.2 – Tourism Impact in 2013/14

	Hillingdon	London	UK
GVA (£m)			
Visiting Friends & Relatives	0.8	1.6	2.6
Conferences and Events	0.8	0.4	0.4
Summer Schools	1.0	0.5	0.5
Total GVA	2.6	2.5	3.5
Employment (jobs)			
Visiting Friends & Relatives	32	55	87
Conferences and Events	30	13	14
Summer Schools	39	17	18
Total Employment	101	86	119

6.2 Local Tourism Contribution

6.2.1 Tourism Infrastructure

Brunel University London contributes significantly to the tourism infrastructure in Hillingdon.

The University owns and operates a 40 bedroom hotel onsite - Lancaster Hotel & Spa. Offering hotel, gym and spa facilities, it is marketed for its location just 5 miles from Heathrow Airport and a 20-minute walk from Uxbridge Tube station. Visitors to the University use the hotel and consultations with University staff suggest that around 35% of business is entirely external to the University. As one of the few hotels in the area (outside Heathrow airport), it provides a useful asset for the business tourism market. The hotel has preferred supplier status with major companies, such as Coca Cola which has its UK headquarters nearby, as well as supplying meeting room, function and accommodation space for local small businesses.

The University also has 4,500 bedrooms in halls of residences which are available between June and September, providing 109,100 bednights per year for international summer schools (language students). These rooms run at almost full capacity. There is no doubt that the accommodation infrastructure provided by the University plays a role in attracting summer schools and these students to the area, bringing custom to local retail and catering businesses. The impact of these students was estimated above.

6.2.2 Brunel University Sport

Brunel University London's sports facilities are among the best in the UK. The University is committed to providing students, staff and the wider community with the best possible opportunities to start, stay and succeed in sport at every level. It provides community access to state of the art facilities and highly skilled coaches.

There are around 3,000 members of Brunel University Sport, with about a quarter of members being external (community) users. Brunel University Sport offers a

wide range of activities for the community, including adult exercise classes and junior courses. Its Active 50's+ club boasts over 170 members and is evidence of a successful relationship within the local community. It also offers holiday programmes for half term and summer holidays, providing local children with opportunities to learn and develop new skills.

6.2.3 Other Community Events

For the last six years Brunel University London has staged an annual Bonfire and Fireworks night for the benefit of staff, students and its local community. This is a large annual event and in 2014 it was moved to Brunel University Sport's Running Track, allowing for a larger venue and a more spectacular display, with more entertainment and more food outlets. A range of entertainment is also provided, headlined by the students of the University's Circus Skills Society. It was estimated that 6,500 people attended the 2014 event.

Other examples of the University's community role include a community literary festival, currently being planned.

7. GRADUATE PRODUCTIVITY IMPACTS

7.1 Graduate Premium

One of the most important ways in which Brunel University London generates economic impact is through its graduates. The skills students learn and the experiences they have while at University directly enhance their future productivity. This enables them to contribute more to their employer and generate a greater benefit for the UK economy than they would otherwise be able to.

The GVA of this productivity gain includes the additional profits that employers are able to generate by employing graduates and the additional employment costs they are willing to pay in order to generate these additional profits.

The subject of graduate earnings premiums has been well researched so information about them is readily available and can be used to provide a measure of the additional contribution graduates make to the economy each year. Unfortunately information about the additional profits of graduate employers or the additional taxation revenue they help to generate is not readily available so the impact presented in this section is likely to underestimate the true productivity impact of learning.

Information about the graduate premium for different subject areas is provided in a research paper produced by the Department for Business Innovation & Skills⁴, which considered data from the Labour Force Survey between 1996 and 2009. Although the data used in the report is now somewhat dated, evidence from the OECD⁵ suggests that returns to higher education are fairly consistent over time. For this reason, the report remains the most robust and comprehensive source available for estimating this impact.

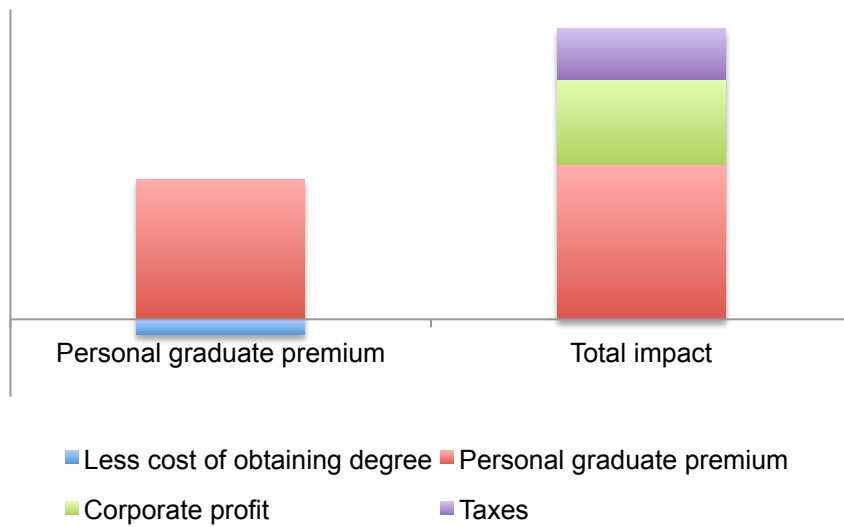
The analysis considered the after tax earnings of a graduate compared to the after tax earnings of a non-graduate. The direct and indirect costs were then subtracted from the gross graduate premium for each degree subject to give the net graduate premium.

In this way the total graduate premium gives the combined personal economic benefit that the year's graduates will obtain rather than the increase in national productivity associated with the degree, which will be higher. It therefore does not include the corporate profit associated with each graduate as well as the taxes paid to the Treasury. For these reasons (as illustrated in Figure 7.1) the impact presented in this section is likely to underestimate the full impact that graduates from Brunel University London generate for the UK economy.

⁴ Department for Business Innovation & Skills (June 2011), *The Returns to Higher Education Qualifications*.

⁵ Education at a Glance, OECD Indicators series

Figure 7.1 – Personal Graduate Premium Benefit Vs. Economic Benefit



7.2 Estimating the Graduate Earnings Premium

Degree subject determines the earnings premium that a graduate can expect to achieve over the course of his or her working life. The impact associated with graduates from Brunel University London was therefore estimated by applying the graduate premium for each degree subject to the number of graduates in each subject area. The assumptions used to do this are provided in Table 7.1.

Table 7.1 – Graduate Premium Assumptions – UK Students

	Undergraduate Graduates	Undergraduate Premium
Biological sciences	375	£66,443
Business and administrative studies	327	£117,853
Creative arts and design	293	£16,183
Education	52	£159,995
Engineering	197	£143,959
Historical and philosophical studies	73	£23,226
Languages	99	£48,627
Law	104	£171,543
Mathematical and computing sciences	264	£136,309
Mass communication and documentation	64	£33,015
Social studies	267	£103,470
Subjects allied to medicine	142	£186,392
Total/Average	2,257	£108,121
	Postgraduate Graduates	Postgraduate Premium
Masters graduates	747	£55,720
Doctoral graduates	55	£62,395

Source: Brunel University London and Department of Business, Innovation and Skills (2011), *The Returns to Higher Education Qualifications*.

It was necessary to exclude students who leave the UK after graduation since these graduates will benefit the economies where they live rather than the UK. However, studies undertaken by the Department for Business Innovation and Skills⁶ find that approximately 20% of overseas students remain in the UK after graduation. In 2013/14 there were 1,688 non-UK students graduating from Brunel University London, and the impact of 20% of these students was included.

Assumptions about where graduates live after graduation (Table 7.2) were then applied to the total graduate premium of UK students and the total graduate premium of the 20% of non-UK students who remain in the UK after graduation.

Table 7.2 – Destination of Graduates

	Hillingdon	London	UK
Location of UK Graduates	9%	68%	99%

Source: Brunel University London

This indicates that the total graduate premium is £287.9 million in the UK.

⁶ Department for Business Innovation and Skills, *Tracking International Graduate Outcomes 2011*, January 2012

Table 7.3 – Graduate Premium by Study Area (£m)

	Hillingdon	London	UK
Total Graduate Premium (£m)	26.2	197.7	287.9

7.3 Estimating the Graduate Placement Premium

The Destinations of Leavers from Higher Education (DLHE) survey provides a snapshot of graduate activity six months after completing their studies. Data from the survey indicates that in 2013/14, 72% of Brunel University London graduates were working 6 months after graduating. It also found that 80% of graduates who undertook a placement while they were studying were employed 6 months after graduating, compared to 68% for graduates who had not undertaken a placement.

In addition to this, the average starting salary for a graduate who had undertaken a year long work placement during their studies was £3,196 higher than those who had not. In 2013/14, 730 students undertook year long work placements. Based on this information it can be estimated that the earnings premium associated with graduates undertaking year long work placements contributed £2.3 million to the UK economy.

As an example, many of Brunel University's PGCE (Postgraduate Certificate in Education) students undertake placements in local schools while studying and upon graduating contribute to the local workforce by providing skilled staff for local schools.

Table 7.4 – Graduate Placement Premium (£m)

	Hillingdon	London	UK
Placement Premium	0.2	1.6	2.3

7.4 Summary Graduate Productivity Impacts

The overall graduate productivity impacts arising from the estimated earnings premium of Brunel University London graduates and the additional premium associated with students undertaking a year long placement during their studies are summarised in Table 7.5.

This indicates that productivity impacts from Brunel University London graduates contribute more than £290.0 million to the UK economy.

Table 7.5 – Graduate Productivity Impacts (£m)

	Hillingdon	London	UK
Graduate Premium	26.2	197.7	287.9
Placement Premium	0.2	1.6	2.3
Total Graduate Productivity Impact	26.4	199.3	290.2

7.5 Societal Impacts of Higher Education

It is important to note that the graduate premium quantified above focuses only on the economic benefit of each year's cohort of graduates. It does not take into account the significant wider benefits to the individual and society of higher education.

These benefits have been well documented⁷ and include:

- reduced risk of unemployment;
- better physical health;
- reduced risk of depression; and
- greater civic engagement.

Higher education can also help to break cycles of educational deprivation. This suggests that increasing higher education in one generation can enhance the prospects, and therefore skills, of future generations.

Many of the benefits identified translate directly into economic benefit. For example, better physical and psychological health would lead to reduced health costs for the economy. These impacts are impossible to quantify but improve the well-being of individuals and have a wider societal impact.

⁷ Institute of Education, University of London (July 2001), *The wider benefits of higher education*, published by HEFCE.

8. WIDER IMPACTS

8.1 Contribution to Health

Brunel University London's Institute of Environment, Health and Societies delivers research that has a long term impact on health and quality of life, which, in turn, creates long term economic benefits. The Institute's research themes are:

- **Healthy Ageing:** to advance knowledge in the field of ageing with the aim of improving the quality of life and health of older people;
- **Health and Environment:** to further our understanding of ill-health and biodiversity loss, and to develop technologies and innovations that contribute to a sustainable environment and improved health;
- **Health Economics:** to undertake economic evaluations of a broad range of clinical and health service technologies in order to provide applied, policy-relevant research;
- **Synthetic Biology:** to design and engineer biologically based parts, novel devices and systems, and re-design existing natural biological systems to deliver improved products and applications;
- **Biomedical Engineering and Healthcare Technologies:** to research new and innovative solutions in practice for health, medicine and surgery to enrich the quality of life and services for 21st century needs; and
- **Social Sciences and Health:** to develop interventions and innovations that promote the behavioural health, wellbeing and resilience of human societies.

An example of this impact comes from Brunel's Health Economics Research Group (HERG), which undertook an assessment of the cost-effectiveness of a screening programme for abdominal aortic aneurysms (AAA), which in turn is estimated to have helped save just under half of the 6,800 men killed by the illness every year. A case study is provided in the figure below.

Figure 8.1 – Health Economics Research Group (HERG), AAA trial

A trial looking into the implementation of a screening programme for abdominal aortic aneurysms (AAA) is estimated to have helped save just under half of the 6,800 men killed by the illness every year. A vital part of the Multi-centre Aneurysm Screening Study (MASS) trial was an assessment of the cost-effectiveness of the screening programme – undertaken by Brunel’s Health Economics Research Group (HERG) and published in the *Lancet* in 2002.

The assessment helped inform a policy announced by the Government in 2008 to introduce a national screening programme for all men over the age of 65 years old.

The final report into the effectiveness of the MASS trial in 2012 estimated a 42% reduction in the AAA-related mortality rate by screening men aged 65 to 74 years old. By spring 2013 the programme was fully introduced in England, offering screening to 300,000 men annually.

In 2013/14, the NHS reported that nearly 500 men went on to have potentially life-saving surgery after attending a screening. Nearly 3,700 had aneurysms detected, leading to regular monitoring.

In 2011 the Department of Health recognised the work of HERG in informing the policy research programme, saying: “This has made a significant contribution to strengthening the evidence-base for policymaking through a range of applied economic research.”

Internationally, MASS is the most significant trial of AAA screening and provides the most robust evidence-based model of its cost-effectiveness. HERG’s research has influenced AAA screening guidelines and policies across Europe and the USA.

Source: Brunel University London

In 2013/14 Brunel University London received almost £4.0 million in medical and health research income. Research by the Wellcome Trust on the value of medical research in the UK considers two types of return: health gains (net of the health care costs of delivering them) and economic gains⁸.

8.1.1 Quality of Life Impact

The value of health gains was assessed in the Wellcome Trust report using the quality adjusted life years (QALY) method⁹. This is a widely used method developed by health economists to assess how many extra months or years of life of a reasonable quality a person might gain as a result of treatment. The Wellcome Trust report considered two areas of medical research expenditure, for cardiovascular disease and mental health.

The value of the health benefit was presented as a return on the initial expenditure on the research (IRR). This varies slightly between the two different areas of study, and more widely between the different scenarios for each of the study areas. The best estimate for the IRR in cardiovascular disease research is 9.2%, although the report also considered high and low expenditure scenarios that ranged from 7.7% and 13.9%. Similarly, the best estimate for the IRR for investment in mental health research was 7.0%. The high and low estimates for this area of study had a greater range and varied between 3.7% and 10.8%.

⁸ Medical Research: What’s it worth? Estimating the economic benefits from medical research in the UK, For the Medical Research Council, the Wellcome Trust and the Academy of Medical Sciences, November 2008

⁹ Ibid.

In order to apply these IRRs to the wide range of medical research undertaken at Brunel University London the average of the two best estimates was used. Therefore for every £1 invested in medical research results in health gains with a value of £0.08 each year in the UK for perpetuity.

8.1.2 Economic Impact

The Wellcome Trust also considered the effect that medical research expenditure would have on GDP. The study considered the impact that this would have in stimulating investment in the private R&D sector and the social returns to the private investment that is stimulated by the publically funded medical research. This found that a £1 investment by a public body in medical research and development stimulated an increase in private R&D investment of between £2.20 and £5.10. The report also found that the social rate of return to private sector R&D funding was approximately 50%.

As with the estimates for the Quality of Life IRR, the study finds that there is a range of estimates for the IRR for GDP impacts. The lowest estimate for IRR is 20% and the highest is 67%. The best estimate that is given is 30%. Unlike the Quality of Life research, there was no estimates given for the GDP impacts associated with mental health research and therefore the 30% is assumed to apply to all types of medical research. Therefore for every £1 invested in medical research results in GDP with a value of £0.30 each year in the UK in perpetuity.

8.1.3 Total Returns to Medical Research

As in the Wellcome Trust report we have calculated the Net Present Value of the University’s investment in medical research using the Treasury approved discount rate of 3.5%. The impact in each of the other study areas was assumed to be proportional to their population.

Table 8.1 – Key Assumptions for Medical Research 2013/14

	Value	Source
Income for Medical Research	£3,962,318	Brunel University London
Hillingdon	0.5%	ONS (2015), Mid-Year Population Estimates 2014
London	13.2%	
UK	100%	
Time Period (Years)	20	BiGGAR Economics
Discount Rate	3.5%	
Social Return IRR	8%	Wellcome Trust
Economic Return IRR	30%	

Using these assumptions it was estimated that in 2013/14 the medical research undertaken by Brunel University London would contribute £21.4 million GVA to the UK economy, £2.8 million to the London economy and £1.0 million in Hillingdon. At the UK level, £4.5 million would be from the social health gains and £16.9 million would be from economic impacts.

Table 8.2 – Health Impacts (£m)

	Hillingdon	London	UK
Social Returns to Research	<0.1	0.6	4.5
Economic Returns to Research	0.1	2.2	16.9
Total Returns to Medical Research	0.1	2.8	21.4

8.2 Benefits to the Local and Regional Community

8.2.1 Securing Industrial Heritage and Growing Local Entrepreneurs

Brunel University London has been instrumental in the development of the Central Research Laboratory at the Old Vinyl Factory in Hayes, described in the case study in Figure 8-2 below. This will stimulate local economic development in a deprived part of the city while at the same time driving innovation in manufacturing. The site may well have been used for other functions, such as housing, however the presence of Brunel University London in the development partnership has ensured a future for the site as an innovation hub with strong local economic development potential. In doing so, Brunel University London has helped secure future economic benefits for the local area including stimulating regeneration of local businesses in the supply chain, including retail, catering and cleaning firms as well as securing high value employment for the area.

Figure 8-2: Case Study: Central Research Laboratory at the Old Vinyl Factory

The Central Research Laboratory is an exciting new idea in British manufacturing and technology, also providing a bright future for The Old Vinyl Factory. EMI's headquarters at The Old Vinyl Factory in Hayes were once a global centre for innovation in product design, technology and manufacturing. The CAT scanner, stereo sound recording and airborne radar were all invented here - alongside landmark advances in TV broadcasting, computing - in a remarkable building called The Central Research Laboratory.

Brunel University London has created a space to bring the CRL back to life as a key part of the redevelopment of the entire site. The new CRL provides entrepreneurs, makers and inventors with a range of shared resources and work space including cutting edge prototyping facilities, expert mentoring, technical support and an inspiring place to collaborate and work. These facilities will also be available to local SMEs. On 2nd September 2015 a pilot facility will open with 25 individuals across 11 companies, who have been selected following a selection process including a 'Dragons' Den' type exercise. The full facility will open a year later with space for 182 individuals.

The CRL is jointly funded by the developers, the Mayor of London (through the Growing Places Fund) and Brunel University London in partnership with the Higher Education Funding Council for England.

The Central Research Laboratory will be about making extraordinary products, starting businesses and giving makers and start-ups a place with everything they need to bring their innovations to the marketplace.

What will make the CRL unique is that it's designed to support makers at every stage of the entrepreneurial journey – from concept development, through prototyping and first batch and beyond – with mentoring and investment provided along the way.

The CRL also has a strong commitment to collaboration and community engagement. Its programme of commercial support, technical advice, exhibitions and events is just as important as its prototyping labs and workspaces.

Source: <http://www.theoldvinylfactory.com/>

In addition to growing entrepreneurs at the CRL, there are a number of other excellent examples of student entrepreneurship, with several awards won. In 2014, PhD student Adam Lynch found himself the focus of national press attention when he “hacked his own microscope” and made a discovery that could save millions of pounds in bio testing fields. He created his own inverted microscope by adapting a cheap instrument he bought online to save himself time and money. The tool is used to measure cell motility, but the high-quality equipment, used to automatically test multiple samples, can normally stretch to hundreds of thousands of pounds. The technology also means that studies could be carried out in countries where diseases are rife, but resources low.

A further example can be found in Alumni of the Year, Damien Kennedy and Greg Duggan, who established Wheyhey ice cream in 2012. It is now a successful company trading “the world's first and best selling protein ice cream” (<http://wheyhey.com/>). The ice cream is low in fat and uses natural sweetener xylitol, which has no insulin response and is recommended by dentists. They managed to scale up their production and grow the business, which is now forecast to turn over £2.5 million this year and employs nine full-time staff. Greg and Damien recently returned to Brunel University London to speak to students in the Entrepreneurs' Society to share their experiences and advice.

8.2.2 Growing Local Skills Capacity

We have shown that Brunel University London is an important driver of economic development in Hillingdon. The University is also taking steps to grow local skills capacity, for example, through its involvement in the Aviation University Technical College (UTC). Sponsored by Brunel University London, the Aviation UTC is focused on developing future aviation engineers. It aims to meet the growing local need for technically competent, employable young people to join the expanding aviation industry. Along with 14 other new UTCs, it will provide a practical grounding in mathematics, science and engineering for young people aged between 14 and 19 from a wide geographical area.

Brunel University London will work with partners including BAA, British Airways, Virgin Atlantic and other major businesses to provide practical assistance in the form of input to curriculum development and delivery as well as widening participation and schools liaison activities.

The UTC will fill an important gap in the local provision of high quality technical education and will make an important impact on the socio-economic challenges of the area by contributing to regional skills and employability targets.

Further investment in local skills is also underway, with a £5 million investment by the University (funded by a HEFCE grant) to re-balance the gender gap in science, engineering, technology and maths-based careers. Brunel University London will refurbish its facilities to grow its engineering undergraduate programmes 5% a year for the next five years and further increase those taking the apprenticeship route through the Aviation UTC. Key to the growth plans is working with schools and other stakeholders to create a step-change in the number of girls studying engineering and science subjects.

The new facilities will be the springboard for a large increase in STEM subject graduates but importantly, it will take an integrated approach to attracting many more girls into studying maths, physics and computing to A-level and beyond. At the heart of the new facilities will be a STEM Outreach Lab which will reach 30,000 school pupils a year on and off campus.

8.2.3 Contributing to Local Capital Infrastructure

Brunel University London has undertaken major capital investments over the last ten years, in the region of £350 million of development, with its four campuses being consolidated into one. There are quantitative economic impacts from this, in terms of GVA and jobs created, which have been captured by our impact analysis in Section 3.1. However, there are considerable wider impacts which are hard to quantify.

As a result of the significant campus investment, more students have been brought into Hillingdon, bringing with them a lively and vibrant youth focused culture. Students deliver other benefits, for example, a strong volunteering effort that adds value to local third sector organisations (see Section 4.3). New buildings in themselves can stimulate economic confidence, improving the local amenity and the impression a place makes, including stimulated inward investment of businesses and attraction to existing and new residents. Indeed, it is anticipated that this positive influence on the local area will increase in the future, with planned investment in three areas:

- a new health and sports centre, with a 1,500 seat arena;
- new learning and teaching facilities; and
- new engineering facilities.

The total capital spend over the last five years of £54.5 million will be dwarfed over the next five years by an estimated investment in the region of £170 million. This is in addition to the major multi-million pound academic/industry developments highlighted in Chapter 5.

8.2.4 Widening Participation and Improving Life Chances

Widening participation (WP) activities in 2013/14 were targeted at students from under-represented groups with particular emphasis on students with disabilities and care-leavers. The aim is to ensure that Brunel University London continues to exceed its WP benchmarks in key areas.

The University's performance is currently very good:

- the number of young full time first degree students from Low Partition Neighbourhoods (LPNs) has increased from the baseline of 4.8% set in 2008 to 7.3% in 2012/13;
- the number of full time first degree students in receipt of the Disabled Students Allowance has increased from a baseline of 3.8% set in 2008 to 9.2% in 2012/13;
- in autumn 2012 Brunel was re-awarded the Buttle UK Quality Mark for a further three years for its work with care leavers. A Care Leaver/Foyer Federation bursary of £1,000 per annum first introduced for entrants in 2013 was awarded to 16 undergraduates from a care background; and
- evidence of activity to support the transition, progression, retention and employability of all WP students during 2013/14 includes the introduction of a WP Internship project to support the employability of under-represented undergraduates.

The WP Office has also continued to operate two strands of Professional Mentoring for UK second year undergraduates from widening participation backgrounds and under-represented ethnic minorities. The Ethnic Minority Undergraduate Scheme (EMUS) targets undergraduates from ethnic minority backgrounds and is managed in collaboration with the National Mentoring Consortium (NMC). Both programmes draw on experienced individuals from employers in the private and public sectors. Mentors receive full training and give their time voluntarily over a period of seven months. The scheme was cited by Government's Office for Fair Access (OFFA) and HEFCE in April 2014 as an example of good practice.

Brunel University London's WP Programme was cited as an example of best practice by OFFA in its annual report which stated:

"Brunel University's approach to access encompasses not only outreach and financial support but also activity to improve retention and success. It focuses on employer engagement to improve job prospects, including a programme of

mentoring for undergraduates by professionals who work in a sector or industry related to the student's subject or career aspiration".

8.2.5 Public Engagement

Brunel University London's annual Public Lecture Series has been running since 2009. Attendance at the lectures is free and is open to the public, providing an important educational and cultural resource in an area of the city where there is low supply of such opportunities. The lecture series attracts over 7,000 people each year from the local community and beyond. The format was amended for this year, with a Spring and an Autumn series, and each lecture delivered by one high-profile speaker with follow-up discussion involving audience participation.

For the Spring 2014 phase, the broad overarching theme was 'Visions of the Future'. Professor AC Grayling, a renowned philosopher, and the Master of the New College of the Humanities, presented his vision on the future of secularism and religion, the Rt Hon David Willetts MP and former minister for Higher Education, spoke about his vision for the future of Higher Education and finally, Professor Lord Robert Winston, one of the UK's most respected scientists, spoke on the intriguing topic of 'Meddling with the Future'. By attracting renowned speakers addressing a range of topics and sharing the research of its staff through public lectures such as these Brunel University London provides an important forum for disseminating knowledge and expertise and engaging with the public.

9. SUMMARY AND CONCLUSIONS

Brunel University London is focused on "*addressing society's challenges*" and is doing this through an emphasis on an integrated approach to teaching, research and business collaboration. The aim at Brunel is to have an ecosystem where teaching and research are not seen as separate activities and where there are no barriers between fundamental and applied research.

We have shown that each of these areas delivers considerable economic impact, bringing quantifiable benefits to the local, regional and national economy as well as driving a range of qualitative impacts that are harder to measure

9.1 Summary of Key Findings

The tables below show that as an integrated package of teaching, research and business collaboration in 2013/14 Brunel University London generated an estimated:

- £212.6 million GVA and supported 2,512 jobs in the London Borough of Hillingdon;
- £504.5 million GVA and 5,908 supported jobs in London; and
- £785.4 million GVA and 10,407 supported jobs in the UK.

Table 9.1 – Brunel University London GVA Impact 2013/14 (£m)

	Hillingdon	London	UK
Direct	119.6	119.6	119.6
Supplier Spending	4.8	33.1	60.1
Staff Spending	3.7	27.6	68.8
Capital Spending	0.8	2.3	20.6
Subtotal Core Impact	128.9	182.6	269.1
Student Spending	17.6	45.2	80.2
Student Part-time Work	19.5	31.4	49.5
Student Volunteering	0.04	0.06	0.09
Student Placements	11.1	20.8	33.9
Subtotal Student Impact	48.2	97.5	163.7
Contract research	-	13.9	30.2
Consultancy	-	0.7	1.4
CPD	-	0.2	0.5
KTPs	0.1	1.0	2.6
Science Park	6.3	3.9	2.6
Spin-outs	-	-	0.2
Subtotal Business Support	6.4	19.8	37.5
Visiting Friends & Relatives	0.8	1.6	2.6
Conferences and Events	0.8	0.4	0.4
Summer Schools	1.0	0.5	0.5
Subtotal Tourism Impact	2.6	2.5	3.5
Sub-total Impact	186.2	302.4	473.9
Graduate Premium	26.2	197.7	287.9
Placement Premium	0.2	1.6	2.3
Total Graduate Productivity Impact	26.4	199.3	290.2
Returns to Medical Research	0.1	2.8	21.4
GVA (£m)	212.6	504.5	785.4

Note: Totals may not sum due to rounding

Table 9.2 – Brunel University London Employment Impact 2013/14 (jobs)

	Hillingdon	London	UK
Direct	728	1,389	1,965
Supplier Spending	141	1,001	1,832
Staff Spending	83	654	1,639
Capital Spending	13	37	270
Subtotal Core Impact	965	3,081	5,707
Student Spending	349	840	1,482
Student Part-time Work	802	1,242	1,934
Student Volunteering	-	-	-
Student Placements	180	350	574
Subtotal Student Impact	1,331	2,432	3,991
Contract research	0	207	457
Consultancy	0	10	21
CPD	0	2	4
KTPs	3	21	51
Science Park	113	70	46
Spin-outs	0	0	10
Subtotal Working with Business	116	310	590
Visiting Friends & Relatives	32	55	87
Conferences and Events	30	13	14
Summer Schools	39	17	18
Subtotal Tourism Impact	101	86	119
TOTAL EMPLOYMENT	2,512	5,908	10,407

Note: Totals may not sum due to rounding

9.2 Costs and Benefits

In 2013/14 Brunel University London directly contributed £119.0 million GVA to the UK economy and generated a total quantifiable economic impact of £785.4 million GVA. This implies that the GVA multiplier of the University is 6.6 and means that each £1 GVA directly generated by the University generates a total economic impact of £6.60 GVA for the UK economy.

In 2013/14 Brunel University London supported 10,407 jobs throughout the UK economy. This included 1,965 jobs of people who are directly employed by the University, which means that every job directly created by the University supported five jobs throughout the UK economy.

Brunel University London received £32.0 million of its income in the form of higher education funding body grants. This suggests that every £1 invested by higher education funding bodies generates £24.60 GVA for the UK economy.

These multipliers are summarised in Table 9.3.

Table 9.3 – Brunel University London Impact Multipliers

	Including Graduate Productivity & Returns to Medical Research	Excluding Graduate Productivity & Returns to Medical Research
Direct GVA : Total GVA	6.6	4.0
Direct Jobs : Total Jobs	5.3	5.3
Funding Body Income : Impact	24.6	14.8

Source: BiGGAR Economics

9.3 Conclusions

Being based in London, Brunel University may be less visible than universities in other cities, because it is one of many universities in a city with many very powerful economic drivers, not least the economic powerhouse of Heathrow Airport so close by. This means that its role as a contributor to the regional economy is not as obvious as it perhaps should be, given the scale and nature of the economic benefit it provides.

In addition to the considerable quantifiable GVA and job impacts described in the tables above, the University has delivered further qualitative economic and community/social benefits, including:

- Benefits to the local labour market from a structured emphasis on student employment and brokerage, filling vacancies in local businesses;
- Adding value to the third sector in Hillingdon, working alongside voluntary groups, charities and other not-for-profit organisations, where over 400 Brunel Volunteers completed over 10,000 hours of volunteering in the local community – a very large pool of volunteer labour with a very structured approach to filling volunteer vacancies;
- Strengthening tourism infrastructure, through significant capital development and creation of thousands of bed nights in the area, provision of sports facilities, and provision of community events of interest to visitors and local residents alike; and
- Driving initiatives to support the local and regional community, including industrial heritage, growing local skills capacity, delivering capital infrastructure that adds to local amenity, widening participation and public engagement activity.

Brunel University London is an “anchor institution” within its community. The concept of anchor institutions evolved in the USA as a way of understanding how certain public and private sector institutions have fundamentally shaped the character of particular cities. According to the Work Foundation...

“Anchor institutions do not have a democratic mandate and their primary missions do not involve regeneration or local economic development. Nonetheless, their scale, local rootedness and community links are such that they are acknowledged to play a key role in local development and economic growth. They perform this role through their day-to-day tasks and activities, but also by acting more strategically, individually or – better still – collectively.”

Source: Work Foundation, January 2010

According to the University of Pennsylvania (2008), anchor institutions:

- have a large stake and important presence in the city and community;
- have substantial economic impacts on employment, revenue gathering, and spending patterns;
- are one of the largest local employers;
- consume sizeable amounts of land;
- have relatively fixed assets and are unlikely to relocate;
- are among the largest purchasers of goods and services in the local area;
- generate jobs and employment, both directly and indirectly;
- attract businesses and highly skilled individuals;
- provide multiple employment possibilities at all levels; and
- are centres of culture, learning and innovation with substantial human and intellectual resources.

Within its local and regional community, Brunel University London certainly performs these functions. This is an unusual position for a London based university. Many of the London higher education institutions operate in an international market quite outside the context of their immediate geographical areas and so their reach and impact bypass their local communities. But as this study has shown, Brunel is delivering on the needs of the regional economy and for local people, at the same time as providing world leading research and achieving as an international university.

Brunel's engagement with business is meaningful, forging long term and highly constructive relationships with large multi-nationals and SMEs alike, including delivering activities and events that are focused on supporting the local business community. The University recognises the benefits it gains from knowledge exchange including, for example, new research material, opportunities for testing new technologies in real world situations and opportunities to secure new research funding. The quantifiable business support impact identified in this study demonstrates that Brunel University London's students and staff are providing real value to the businesses they have worked with. The case studies show that these impacts go beyond the quantifiable, providing wider benefits such as reducing the massive environmental impact of mining for metals or the health impacts of working with life sciences firms and NHS organisations. And, of course, in applying their skills to projects that enhance business performance, students and graduates are developing their individual experience and becoming highly employable.

This study has shown that Brunel University London's integrated approach to teaching, research and business collaboration delivers considerable economic impact, bringing quantifiable benefits to the local, regional and national economy as well as driving a wide range of qualitative impacts that underpin the University's role as a regional anchor institution.

10. TECHNICAL APPENDIX

10.1 Approach

Economic impact is reported in two ways:

- Gross Value Added (GVA) measures the monetary contribution of the organisation and individual to the economy; and
- employment, measured in full time equivalent (ftes) jobs supported.

Each area of impact requires the use of three types of economic assumptions:

- turnover to GVA ratio – this is used to estimate the GVA impact of the spend in an area. This is obtained from the UK Annual Business Survey¹⁰;
- turnover per employee – this is used to estimate the employment impact of the spend in area. This is obtained from the UK Annual Business Survey; and
- GVA and employment multipliers – these are used to estimate supplier and income impact created by businesses that directly benefit from additional spend in the area. These multipliers have been based on those published in the Scottish Government’s Input-Output tables¹¹. The Scottish multipliers have been adapted to each of the study areas to reflect the comparative size of the economy in that area. This source has been used because it is more up to date than equivalent information published about the UK economy as a whole and also provides multipliers for different sectors.

10.2 Multipliers

The multipliers that are given in the Scottish Input-Output Tables give both the effects on the supply chain and the effects of staff spending. The location of some of the induced and supply chain activity is likely to be outside the area where the direct impacts occur. To reflect this, the Scottish multipliers were adjusted to reflect the size of each study area and the proportions used are given in Table 10.1.

Table 10.1 – Economic Multipliers as % Scottish Multipliers

	Borough of Hillingdon	London	UK
Multipliers as % Scottish Multipliers	33%	100%	120%

Source: BiGGAR Economics

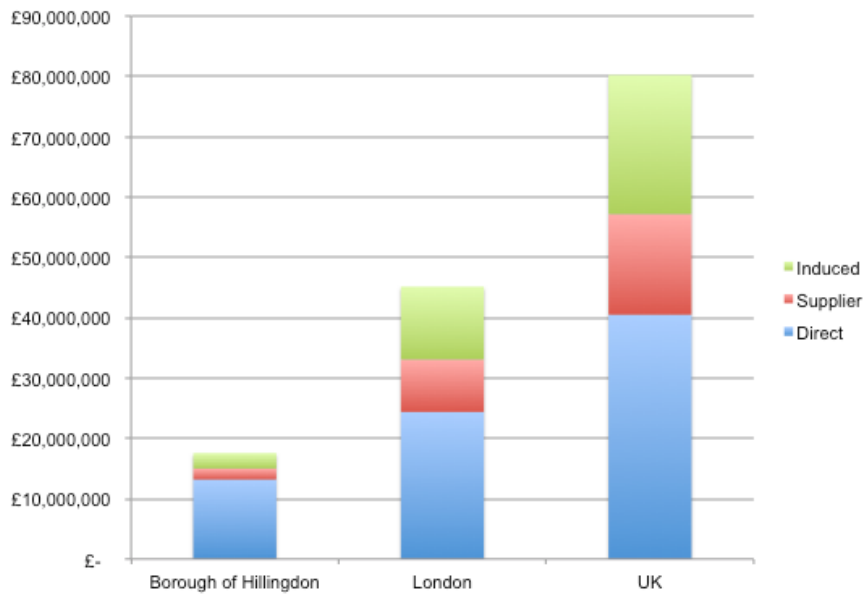
The result of these multiplier adjustments is that direct spending within the Borough of Hillingdon has a greater total economic impact in the UK, than within the Borough. This is because a greater proportion of the supply chain and induced impacts are captured outwith the Borough. In addition to this, direct spending outwith the Borough does not have any indirect impacts there. These two properties result in the impacts in the UK being significantly higher than those in the Borough of Hillingdon, even in instances where the direct spending is similar. This is shown in Figure 10.1, which gives the impact of student spending

¹⁰ ONS, UK Annual Business Survey 2012, 2014

¹¹ Scottish Government, Input-Output Tables 2011, 2014

and shows the magnitude of the induced and supply chain impacts elsewhere in the UK.

Figure 10.1: Student Spending Impact (GVA) Location of Impact by Type



10.3 Core Impacts

10.3.1 Direct Impact

The direct impact of any organisation is the value it adds to the economy and the number of jobs it supports in a given time frame. The direct operational Gross Value Added (GVA) of the University was calculated by subtracting all of the non-staff expenditure from the total operational income of the University.

10.3.2 Supplier Spending Impact

Brunel University London has an impact on the wider economy through the purchase of goods and services as this increases turnover and supports employment in the companies that supply the University.

The first step in estimating this impact is to estimate how much of the supplier spending occurs in each study area.

The GVA impact of the spend on supplies is estimated by considering the spend on supplies by sector. The spend in each sector supports different GVA depending on the turnover to GVA ratio for that sector (the UK Annual Business Survey gives a breakdown of these figures for industries and smaller sectors). The direct impacts were distributed by the geographical distribution of the contracts to calculate the impacts based on the increased turnover in each area. The impact throughout the economy is estimated by applying GVA multipliers appropriate to the sector.

The employment impact of the spend on supplies is estimated by applying the turnover per employee in the industries relevant to the spend. The impact throughout the economy is estimated by applying employment multipliers appropriate to the sector.

10.3.3 Staff Spending Impact

The staff employed by Brunel University London have an impact on the economy by spending their salaries. This requires two steps to estimate.

The first is that the level of salary paid in each study area was assumed to be proportional to the number of staff that live in each area. Data provided by the University provided a breakdown of the proportion of staff living in each study area. This was applied to the staff salaries paid by the University in 2013/14 in order to estimate how much of the staff spending occurs in each study area.

The second step is an assumption of how much of a person’s wage is spent in each study area as shown in Table 10.2. This assumption is different for the staff living in each study area, for example, staff living in the rest of London are estimated to spend 93% of their salaries in the UK (i.e. 7% of salaries are spent outside the UK), of which 74% of salaries are spent in London (excluding Hillingdon) and 5% are spent in Hillingdon itself. The assumption for total spend in the UK is based on data available in the Scottish input-output tables.

Table 10.2: Staff Spending Assumptions

Where staff live	Where staff spend their salaries		
	Hillingdon	Rest of London	Rest of UK
Hillingdon	33%	74%	93%
Rest of London	5%	74%	93%
Rest of UK	5%	33%	93%

The economic impact of staff spending as measured by GVA and employment supported, is estimated by applying economic assumptions appropriate to the sector as described in the previous section (i.e. turnover/GVA ratio, turnover/employee ratio, GVA multiplier and employment multipliers).

10.3.4 Capital Spending Impact

The first step in estimating this impact is to estimate how much of the capital spending occurs in each study area.

The economic impact of capital project spending as measured by GVA and employment supported, is estimated by applying economic assumptions appropriate to the sector as described in the previous section (i.e. turnover/GVA ratio, turnover/employee ratio, GVA multiplier and employment multipliers).

10.4 Student Impacts

10.4.1 Student Spending Impact

This impact considers:

- how much students spend;
- where they spend it; and
- what they spend it on.

To measure where students spend their money it was assumed that the students spend their money in the study area where they live.

The amount of money that students spend was based on the cost of living provided by the University of Hull on its website.

The analysis excludes money spent on University accommodation as this will have been accounted for in the University's turnover and is therefore part of the direct impact analysis.

Not all students will spend on all the categories listed. For example, it is assumed that students who stay with their parents will not spend money on accommodation and less money on food than students living independently. This enables the direct spend in each area to be calculated for each spending category.

The economic impact of student spending as measured by GVA and employment supported, is estimated by applying economic assumptions appropriate to the sector as described in the previous section (i.e. turnover/GVA ratio, turnover/employee ratio, GVA multiplier and employment multipliers).

10.4.2 Student Part-time Work Impact

The part-time work that students undertake also contributes to the economy. The economic impact of students' paid employment comes from the additional GVA of the businesses that employ them and the multiplier effect that these additional workers have on those businesses' supply chains.

This impact considers:

- the number of students who work;
- additionality of labour – what proportion of jobs undertaken by student would have been unfilled without the availability of student labour. It is reasonable to assume that some part-time jobs may otherwise have been filled by non-students. In order to reflect this we have taken account of local labour market conditions by using the youth unemployment rate as an indicator of the availability of replacement labour. The Annual Population Survey published annually by the ONS indicates that 20% of young people in London are unemployed. The additionality of student labour is therefore assumed to be inversely proportional to the youth unemployment rate and was calculated to be 64%;
- proportion of employed students who work for the University – these students are removed from the analysis as their contribution is already included in the core activities;
- average hours worked per year by a student with a part time job; and
- additional GVA that students generate for their employees - is calculated using the GVA per employee ratios for the industries in which students most frequently find work.

Applying these assumptions to the number of full time students studying with Brunel University London results in an estimation of how much labour is additional to the economy. The additional GVA that students generate for their employees

is calculated using the GVA per employee ratios for the industries in which students most frequently find work.

10.4.3 Student Volunteering

Students also make an impact through volunteering. Data provided by Brunel University London indicates that 432 students volunteer, on average 24 hours a year. This indicates that 10,402 hours were volunteered in 2013/14. The FTE equivalent of this was then estimated. The value of the hours volunteered to organisations is estimated by assuming that the average output of a student's voluntary work is equivalent to the average GVA per employee in the social work activities sector. It was assumed that volunteering was undertaken where students live.

The nature of this type of activity is that it will contribute to increasing the productivity of the organisation volunteered for (by contributing to service provision) and will therefore have a GVA impact rather than an employment impact.

10.4.4 Student Placements

Only placements that are 12 weeks or longer are included as placements shorter than this would not allow students enough time to learn about the organisation's activities and make a contribution.

Data provided by the University indicated the number of students undertaking placements by subject area. 730 of the 1,397 placements were a year long and the rest of were assumed to be 12 weeks long.

The contribution of these students to the organisations that they are placed in is lower than the average output that would be expected of a worker due to a student having less experience. To reflect this it is assumed that the GVA of students on placement is 33% of the average workers' GVA.

The employment impact of these placements was estimated by multiplying this percentage to the FTE equivalent of the weeks spent on placement. The direct GVA was estimated by multiplying the number of jobs supported by the average GVA/employee in each sector. Appropriate multipliers were then applied.

10.5 Business Collaboration

10.5.1 Consultancy, Contract Research and CPD

Universities also support local businesses by providing consultancy services, supporting contract research and offering Continuing Professional Development (CPD). These services support businesses by enabling them to undertake activity that they may not have the skills or facilities to undertake in-house.

It is reasonable to assume that the businesses that commissioned consultancy or contract research projects or paid for CPD would only have done so if they expected these projects to generate positive returns. Detailed information about the level of these returns is not available for Brunel University London's clients; however, an estimate can be made based on the findings of research from similar activity elsewhere.

BiGGAR Economics has evaluated the economic impact of several knowledge transfer initiatives around the UK¹². These initiatives have covered a range of different types of engagement from small consultancy projects and access to university equipment and facilities through to company sponsored PhDs. The findings of these studies have shown that businesses investing in these types of activities receive an average direct return on investment of 360%. That is that every £1 invested by businesses generated £3.60 GVA in direct economic benefits.

The GVA impact of services provided to businesses by Brunel University London was therefore estimated by multiplying the amount spent by businesses on these services by £3.60. The employment impact was then estimated by dividing the direct GVA impact by GVA/employee in relevant sectors and the indirect effects were captured by applying appropriate multipliers.

10.5.2 Knowledge Transfer Partnerships

A strategic review of the KTP programme undertaken in 2010 found that on average, KTPs undertaken in London contributed £887,000 GVA to the UK economy, equivalent to an annual impact of £147,833 in the six years after the KTP is completed. It is assumed that the annual impacts for the duration of the project are only 10% of the impacts after the KTP has been completed, as the outputs of the knowledge exchange will not have been realised. The same study found that on average, each KTP project supports the creation of three jobs.

By multiplying the impacts from this strategic review by the number of KTP projects undertaken by the University it was possible to estimate the economic impact that the KTPs have in each area.

10.5.3 Brunel University Science Park

Consultations with Brunel University London staff indicated that the Science Park had 18 tenants employing approximately 80 people across the site.

The turnover of each company was estimated by using the average turnover/employee for the sector each company operates in. The direct GVA was then estimated by dividing the estimated turnover of each company by the average turnover to GVA ratio for that sector. GVA and employment multipliers were then applied.

The main assumption to be made was how much of the economic activity that was created at the Science Park could be attributable to Brunel University London.

Many of the companies would have found properties elsewhere in the country if the Science Park was not available. Previous studies by BiGGAR Economics, particularly one carried out for the University of Surrey in 2013, found that approximately 1/3 of the economic activity in the Science Park was attributable to the University. As the additionality for London would be higher than that at the national level it was assumed to be 50%. For Hillingdon it was assumed to be 80%.

¹² Most recently this has included an economic impact study on behalf of Interface, the organisation responsible for facilitating engagement between industry and Scotland's higher education institutions.

These additionality assumptions were applied to the direct and indirect impact to estimate the impact of the science park by study area.

10.5.4 Spin-outs

The turnover, employment and location of Brunel University London's two spin-out companies was provided by the University.

The direct GVA impact of these companies was estimated by dividing the estimated turnover of each company by the turnover/GVA ratio for the sector in which it operates. The indirect impact of these companies was then captured by multiplying the direct turnover of each company by GVA multipliers and the direct employment (as given by the University) by employment multipliers appropriate to the sector in which it operates

10.6 Tourism

10.6.1 Visits to Staff and Students

It is expected that friends and family who are not normally resident in the local area will visit staff and students of the university. These trips are referred to as visiting friends and relatives (VFR). The expenditure of these visitors generates GVA and supports jobs in the tourism sector.

The first step towards calculating this impact is to estimate the number of visits from friends and family that students and staff will receive. VisitEngland and VisitBritain compile data on the number of VFR trips from domestic and overseas visitors. Dividing this data by the population of London allowed the number of overseas and domestic VFR trips per capita to be calculated.

The number of domestic and overseas VFR trips per person was multiplied by the number of students and staff at the University to provide an estimate of the visits stimulated by the University. The number of trips attributable to the University was then multiplied by the average trip spend of a VFR domestic and overseas visitor.

The economic impacts of the spend from visitors to friends and family was estimated by using economic assumptions.

10.6.2 Conferences and Events

In 2013/14, there were 29,118 conference associated bednights in Brunel University London accommodation. The expenditure of these delegates on accommodation has already been captured in the direct impact of the University. However, the expenditure of these visitors on shopping, entertainment, food and drink has not been estimated elsewhere and would not occur if the University did not exist and is therefore captured here.

It was assumed that 90% of these visitors were additional to Hillingdon, i.e. 90% of delegates would not have been staying in Hillingdon were it not for the presence of the University. It was assumed that 33% of the delegates (and therefore the bednights) were additional to London and the UK. In this way the number of additional bednights by study area was estimated.

The number of additional bednights was multiplied by the average spend per night for domestic/visitors to London. The data indicated that 77% of visitors to

London were from overseas and this same proportion was applied to the number of additional bednights.

Data from VisitScotland indicates that 33% of visitor spend in Scotland was on accommodation. Based on this, it was possible to exclude accommodation spend from the total visitor spend.

10.6.3 Summer School

In 2013/14 there were 109,112 bednights associated with summer school students. Although Brunel University London provided accommodation and food for these children during their stay, it is reasonable to expect that each child will have made additional expenditure, or have had expenditure made on his or her behalf, during their stay. For example, it is usual for children attending summer schools to participate in a number of group excursions during their visit. It is also reasonable to expect that each child will spend money on things such as souvenirs, food and drink during their trip. All of this expenditure is in addition to the money that Brunel University London generates from summer schools and has therefore not been considered elsewhere in this report.

In order to estimate the impact of this it was assumed that this expenditure amounted to £25 per child per day. By multiplying this by the number of language school associated bednights in 2013/14 and applying the same additionality assumptions as before allowed for an estimate of additional spend by area.

The additional spend by area was converted to direct GVA and employment by applying economic ratios and multipliers.

Appendix G

Green Belt Assessment



Green Belt Study

Brunel University London Uxbridge Campus

Prepared on behalf of:
Brunel University London

Date:
December 2015

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REV	DATE	BY	CHKD	STATUS	REASONS FOR REVISION/COMMENTS	
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GLOSSARY AND ABBREVIATIONS

REFERENCES

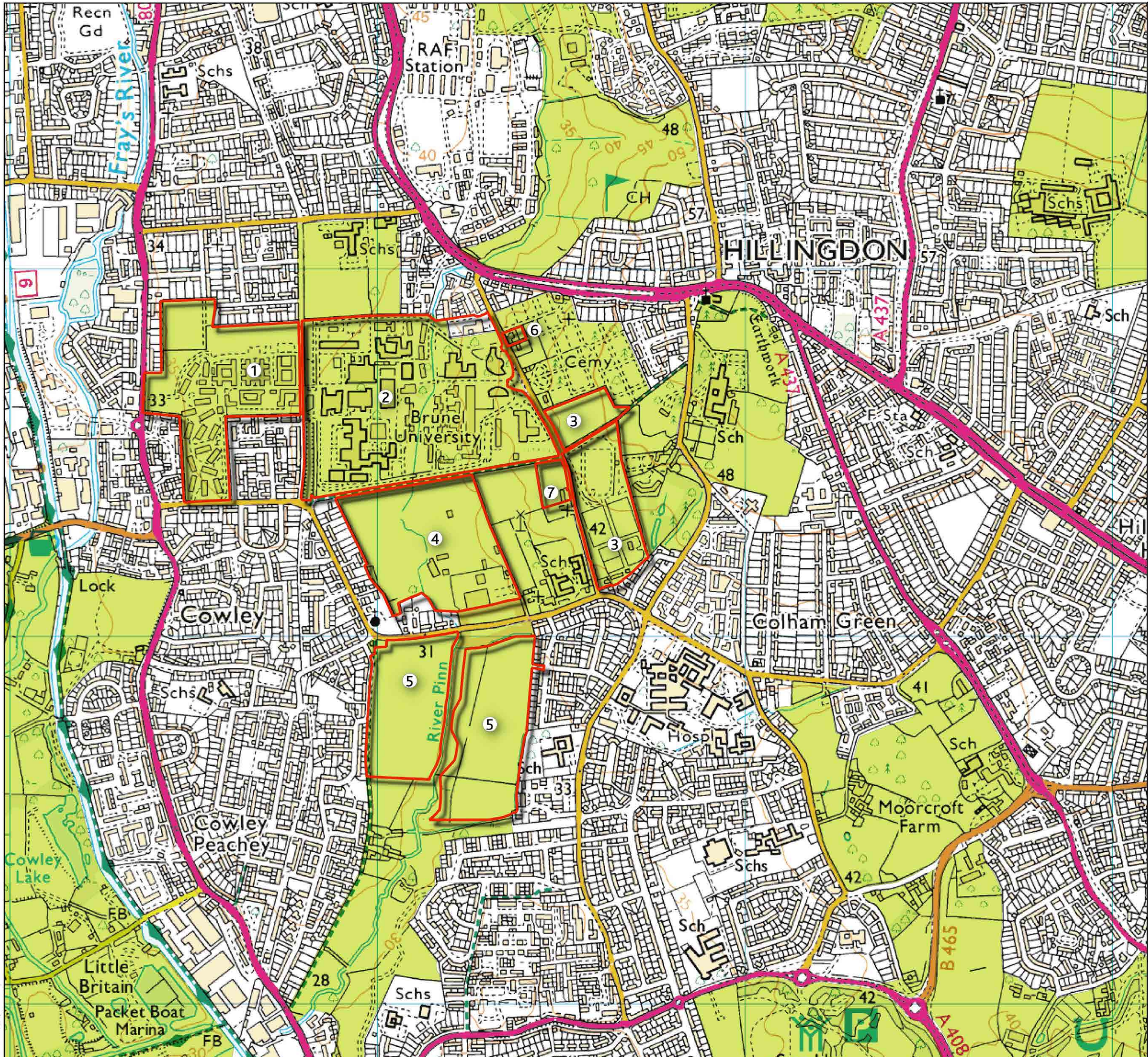
APPENDICES

Appendix 1 Figures

1 Introduction

1.1 The purpose of the study

- 1.1.1 In October 2015, Gillespies was instructed by Brunel University London (BUL) to prepare a Green Belt Study for seven land areas which form part of the Uxbridge campus of BUL. BUL operates from a 78 ha campus located approximately 1km to the south of Uxbridge town centre, within the London Borough of Hillingdon (LBH).
- 1.1.2 The study assessed these land areas against the five purposes of Green Belts, as set out in the National Planning Policy Framework (NPPF). The report sets out the context for the study in terms of national and local policy context and the landscape character of the assessment areas and their wider context. The seven land areas assessed are shown on **OX3476/3 Figure 01 Land Areas for Assessment**. The report sets out the study findings for each land area.



LEGEND
 Land Area Locations
 Green Belt Extents



Project
OX5376-3
Brunel University London Green Belt Assessment

Drawing Title
Land Area Locations

Drawing Number
Figure 01

Drawing Status		Revision		Client Brunel University London
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2 Context

2.1 Introduction

2.1.1 This section identifies and describes legislation, policy and guidance of relevance to the assessment.

2.2 National Green Belt policy

2.2.1 The National Planning Policy Framework (NPPF) takes forward previous national Green Belt policy set out in PPG2 (Green Belts).

Paragraph 79 of the NPPF states that;

'...the fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are their openness and their permanence'.

2.2.2 This is elaborated in NPPF paragraph 80, which states that Green Belts should serve five purposes, as set out in below:

- To check the unrestricted sprawl of large built-up areas.
- To prevent neighbouring towns merging into one another.
- To assist in safeguarding the countryside from encroachment.
- To preserve the setting and special character of historic towns.
- To assist in urban regeneration, by encouraging the recycling of derelict and other urban land.

2.2.3 In paragraph 83 of the NPPF states that local planning authorities should establish Green Belt boundaries in their Local Plans which set the framework for Green Belt and settlement policy.

'Once established, Green Belt boundaries should only be altered in exceptional circumstances, through the preparation or review of the Local Plan. At that time, authorities should consider the Green Belt boundaries having regard to their intended permanence in the long term, so that they should be capable of enduring beyond the plan period.'

2.2.4 Paragraph 84 of the NPPF states:

'When drawing up or reviewing Green Belt boundaries local planning authorities should take account of the need to promote sustainable patterns of development. They should consider the consequences for sustainable development of channelling development towards urban areas inside the Green Belt boundary, towards towns and villages inset within the Green Belt or towards locations beyond the outer Green Belt boundary'.

2.3 Paragraph 85 of the NPPF says that Local Planning Authorities should ensure consistency with the Local Plan strategy for meeting identified requirements for sustainable development; not include land which it is unnecessary to keep permanently open; may wish to identify areas of 'safeguarded land' between the urban area and the Green Belt to accommodate long-term development needs well beyond the plan period. New boundaries must have regard for the permanence of the designation by redefining boundaries which endure beyond the Local Plan period. New boundaries should be defined clearly, using readily recognisable, permanent physical features.

2.4 Current guidance therefore makes it clear that the Green Belt is a strategic planning tool designed primarily to prevent the spread of development and the coalescence of urban areas. As a result, land should be designated because of its position, rather than its landscape quality or recreational use. However, Paragraph 81 of the NPPF states:

"Local planning authorities should plan positively to enhance the beneficial use of the Green Belt, such as looking for opportunities to provide access; to provide opportunities for outdoor sport and recreation; to retain and enhance landscapes, visual amenity and biodiversity; or to improve damaged and derelict land."

2.5 **London Green Belt**

2.5.1 The Green Belt which covers the BUL Uxbridge Campus is part of the larger London Green Belt. The London Green Belt covers 514,080 square hectares. The purpose of the London Green Belt was to prevent the sprawl of London merging with surrounding towns and

encroachment in to the surrounding countryside. It also helped to preserve the setting and character of the main urban areas. The Green Belt helped to encourage regeneration by directing development to brownfield sites within major urban areas.

2.5.2 On 10 March 2015, the Mayor adopted the Further Alterations to the London Plan (FALP). Policy 7.16 Green Belt of the London Plan states ‘The Major *strongly supports the current extent of London’s Green Belt, its extension in appropriate circumstances and its protection from inappropriate development*’.

2.5.3 *‘The strongest protection should be given to London’s Green Belt, in accordance with national guidance. Inappropriate development should be refused, except in very special circumstances. Development will be supported if it is appropriate and helps secure the objectives of improving the Green Belt as set out in national guidance’.*

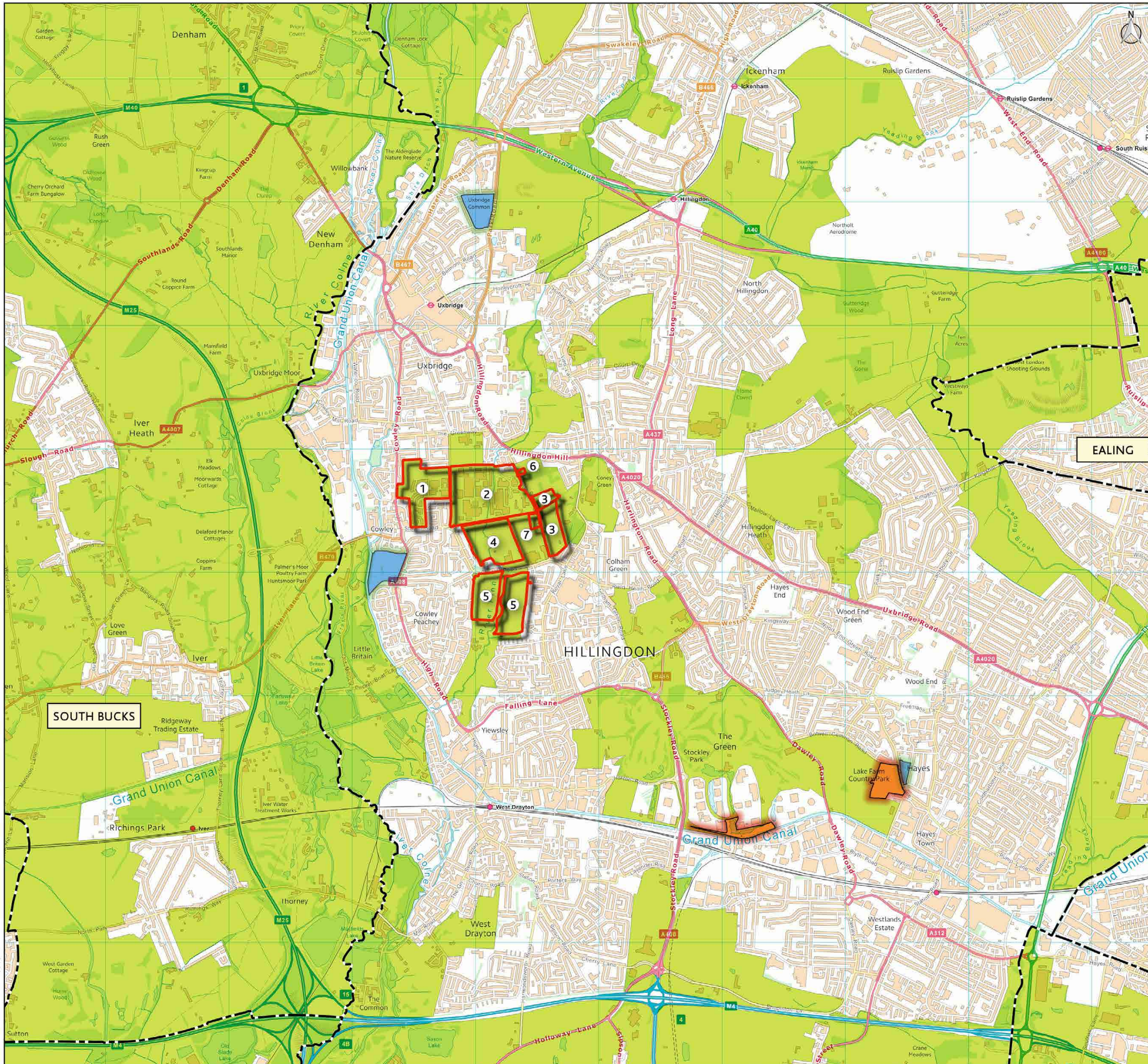
2.6 Green Belt in the London Borough of Hillingdon

2.6.1 The study area is located within the London Borough of Hillingdon (LBH). The Development Plan for the borough comprises the Unitary Development Plan (UDP 1995, saved policies 2007) and Hillingdon Local Plan: Part 1 - Strategic Policies, adopted in November 2012. Consultation is currently being undertaken on site specific allocations development management policies and a policies map which will be adopted as Hillingdon Local Plan: Part 2. Consultation ends on the 8th December 2015. The plan will play a key role in shaping the future of the borough up to 2026. It will influence what development will take place, how much and where within the Borough it will be located.

2.6.2 The purposes of the Green Belt are set out within the Paragraph 8.20 of the Hillingdon Local Plan Part 1- Strategic Policies:
“The most important attribute of Green Belts is their openness. The main purpose of Hillingdon’s Green Belt is to keep land open and free from development, to maintain the character and identity of individual settlements and to make a clear distinction between rural and urban environments, in support of strategic objective SO3. The Hillingdon Local Plan: Part 1- Strategic Policies aims to create sustainable communities by concentrating new development in urban areas and local town centres. The Green Belt’s role is to help reinforce this strategy by strictly controlling development in the open countryside.”

2.6.3 The current extent of the London Green Belt within Hillingdon is 4,970 square hectares and is shown in **OX5376-3 Figure 02** Green Belt Extents 1 and **OX5376-3 Figure 03** Green Belt Extents 2 shows the context of the Hillingdon Green Belt in the wider landscape.

2.6.4 The national and local policies which apply to the BUL Uxbridge Campus are shown on **OX3476-3 Figure 04 National Designations** and **OX3476-3 Figure 05 Local Plan Policies**. LBH's UDP was adopted in 1998 and is now out of date, as the policies contained in the Plan are under review as part of the preparation of the new Hillingdon Local Plan – Part 2. The proposed policies that apply to the land areas are shown on **OX3476-3 Figure 06 Draft Local Policies**. For the purposes of context is noted that Saved UDP Policy PR22 related specifically to BUL and Table 3.3 originally identified Brunel University as a '*Major Development Site in the Green Belt*'. It was under this policy that much of the recent redevelopment of the University took place.

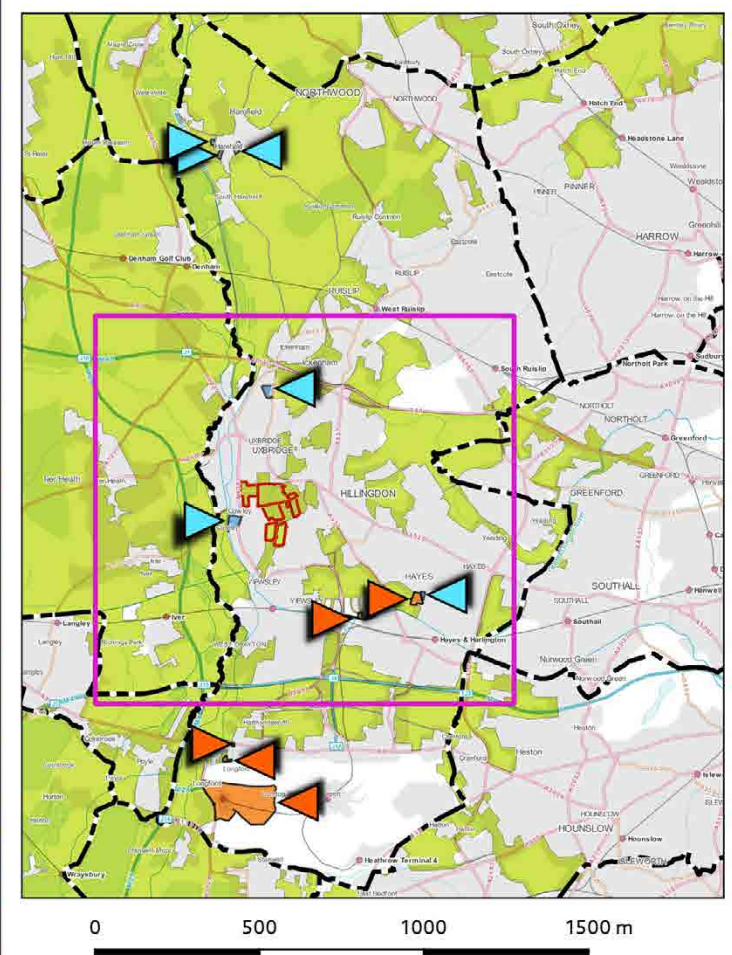


LEGEND

- Land Area Locations
- Administrative Boundary

PROPOSED CHANGES TO GREEN BELT*

- Green Belt
- Proposed Additions to Green Belt
- Proposed Deletions from Green Belt




NOTES:

Green Belt changes are derived from the Hillingdon Local Plan Part 2: Policies Map - Atlas of Changes (Revised Proposed Submission Version, October 2015)

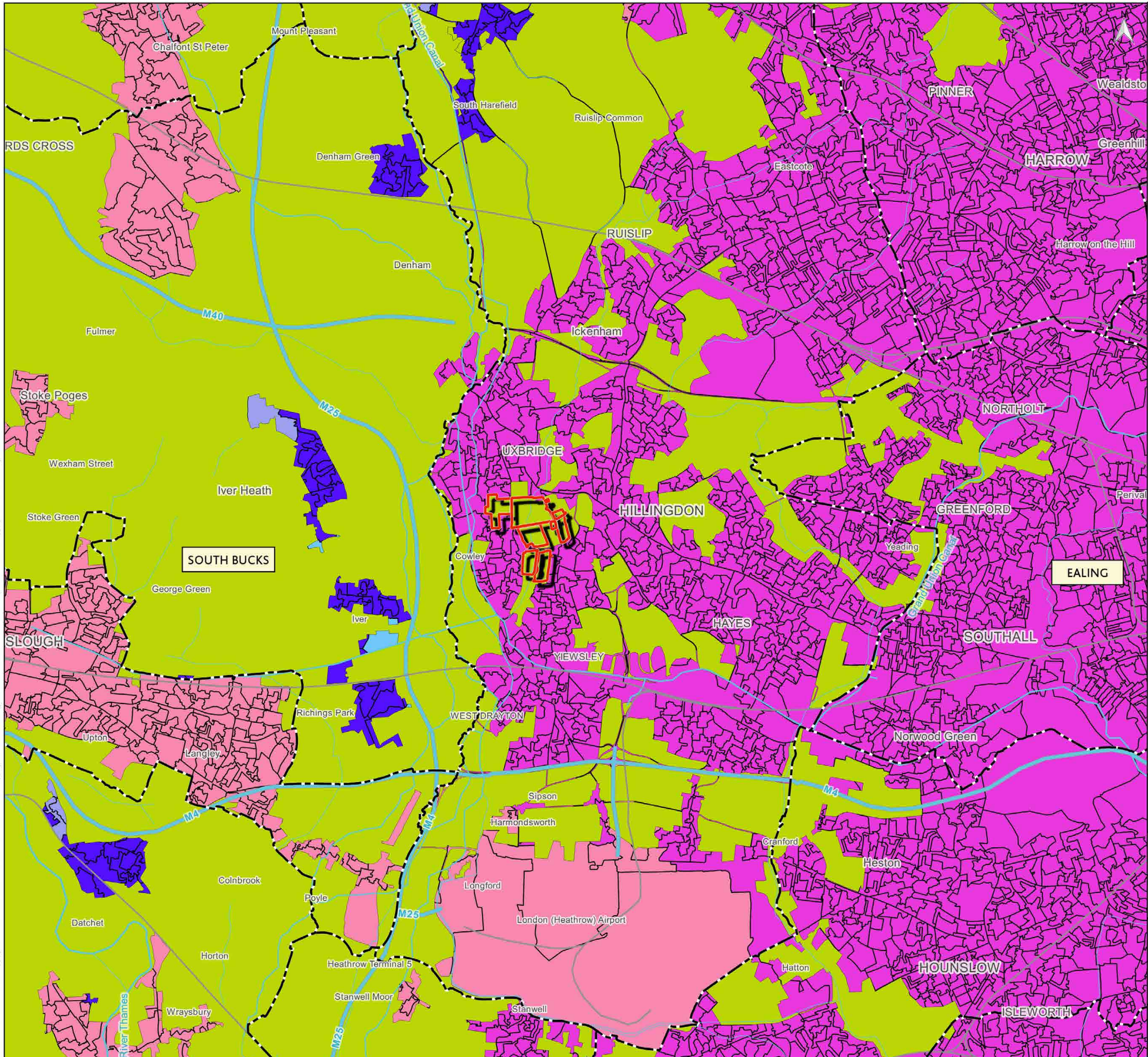
Project
OX5376-3
Brunel University London Green Belt Assessment

Drawing Title
Green Belt Extents

Drawing Number
Figure 02

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LEGEND

- Land Area Locations
- District/ Borough Boundary
- Green Belt Extents

2011 RURAL-URBAN CLASSIFICATION

- Rural: Hamlets and Isolated Dwellings
- Rural: Village
- Rural: Town and Fringe
- Urban: City and Town
- Urban: Major Conurbation



NOTES:

The Rural-Urban Classification is derived from GIS Shapefiles for Local Enterprise Partnerships (LEPs) showing the 2011 Rural-Urban Classification for Local Authority Districts in England. Department for Environment, Food & Rural Affairs, 2013.

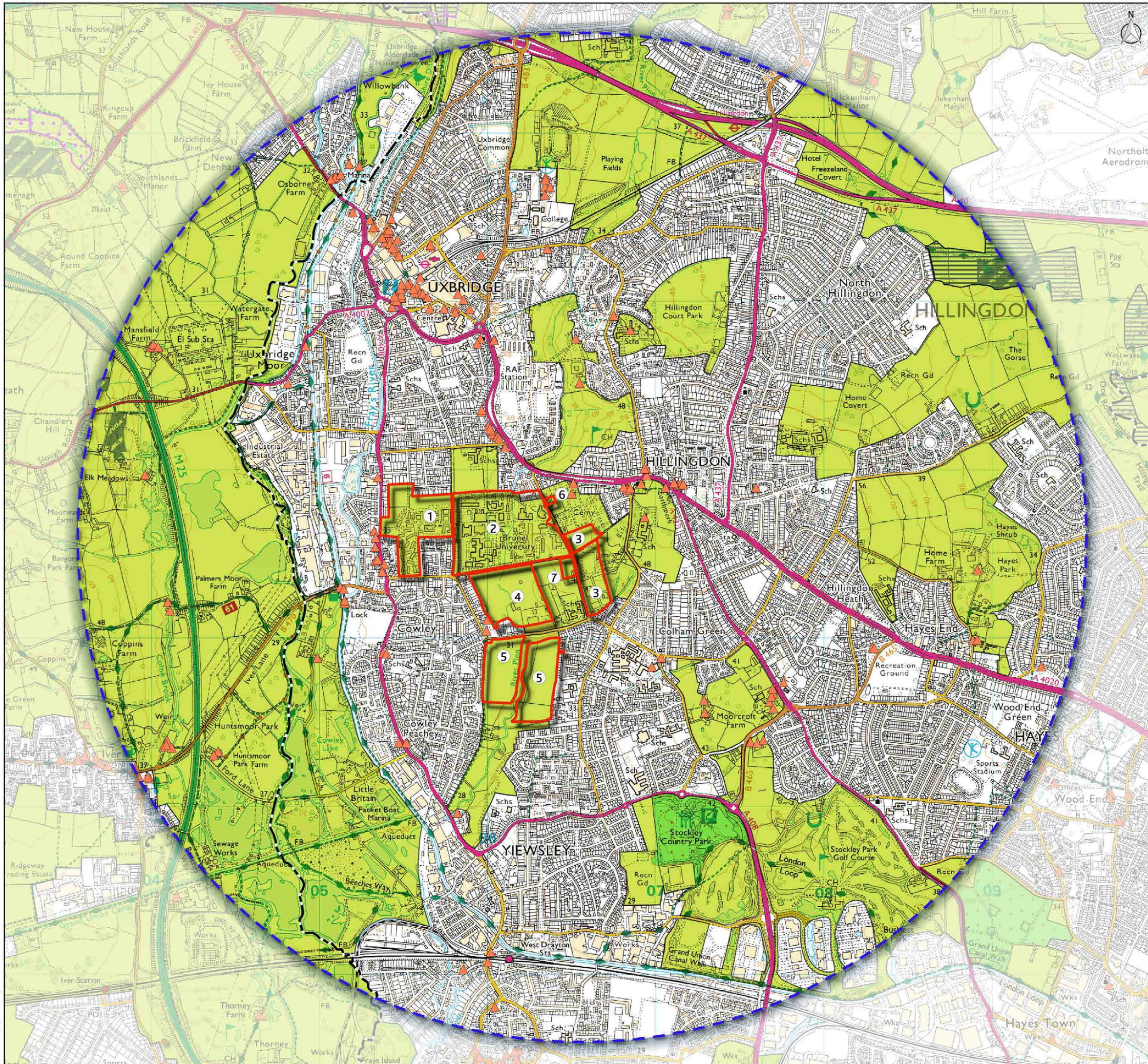
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Brunel University London Green Belt Assessment

Drawing Title
Green Belt Extents 2

Drawing Number
Figure 03

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LEGEND

- Land Area Locations
- Study Area (3km radius from site location)
- Administrative Boundary

NATIONAL DESIGNATIONS

- ▲ Listed Building
- Scheduled Ancient Monument
- Site of Special Scientific Interest
- Local Nature Reserve
- Ancient Woodland
- Country Parks
- Green Belt



NOTES:
 Natural Designations are derived from GIS Datasets compiled by Natural England and Historic England.

Project
 OX5376-3
 Brunel University London Green Belt Assessment

Drawing Title
 National Designations

Drawing Number
 Figure 04

Drawing Status	Revision	Client Brunel University London
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- LEGEND**
- Land Area Locations
 - Administrative Boundary
 - Study Area
- LOCAL POLICIES**
- ▲ Locally Listed Buildings
 - River and Canal Corridors
 - Conservation Areas
 - Area of Environmental Opportunity
 - Areas of Special Local Character
 - Local Centres
 - Town Centres
 - Metropolitan Open Land
 - Countryside Conservation Area
 - Local Nature Reserve
 - Area Forming Links in Green Chain
 - Nature Conservation Sites of Borough Grade II or Local Importance
 - Nature Conservation Sites of Metropolitan or Borough Grade I Importance
 - Grand Union Canal (also Nature Conservation Site of Metropolitan Importance)
 - Colne Valley Park (Area of Environmental Opportunity)

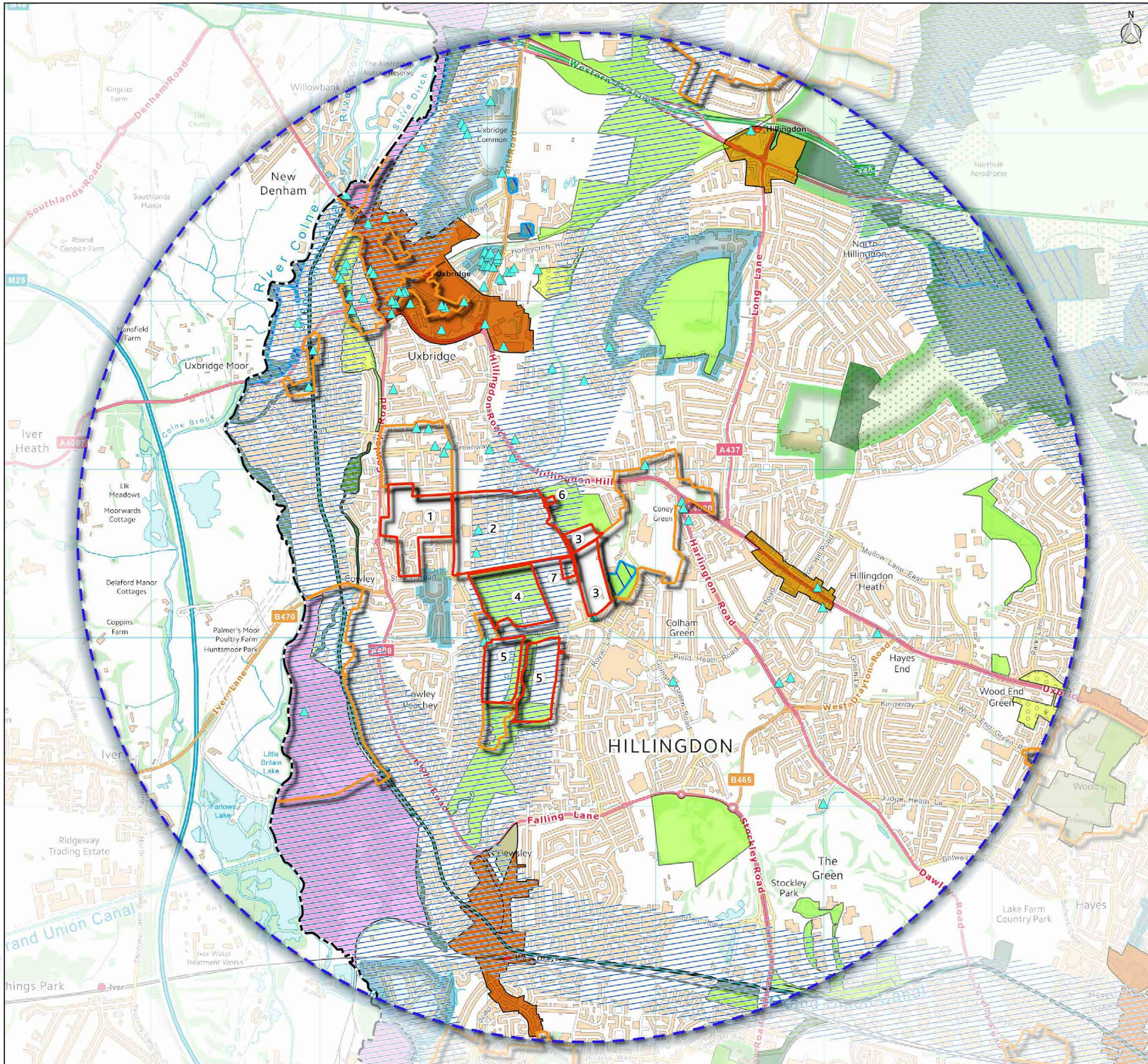


NOTES:

Policy Areas derived from: London Borough of Hillingdon Unitary Development Plan (adopted 1998) - Saved Policies; Hillingdon Local Plan: Part 1 - Strategic Policies (2012)

Project		OX5376-3
Brunel University London Green Belt Assessment		
Drawing Title		Local Plan Policies
Drawing Number		Figure 05
Drawing Status	Revision	Client
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Date	Scale	
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- LEGEND**
- Site Location
 - Administrative Boundary
 - Study Area
- DRAFT LOCAL POLICIES**
- Locally Listed Buildings
 - Conservation Areas
 - River and Canal Corridors
 - Area of Environmental Opportunity
 - Areas of Special Local Character
 - Local Centres
 - Town Centres
 - Metropolitan Open Land
 - Countryside Conservation Area
 - Local Nature Reserve
 - Area Forming Links in Green Chain
 - Nature Conservation Sites of Metropolitan or Borough Grade I Importance
 - Nature Conservation Sites of Borough Grade II or Local Importance
 - Grand Union Canal
 - Colne Valley Park

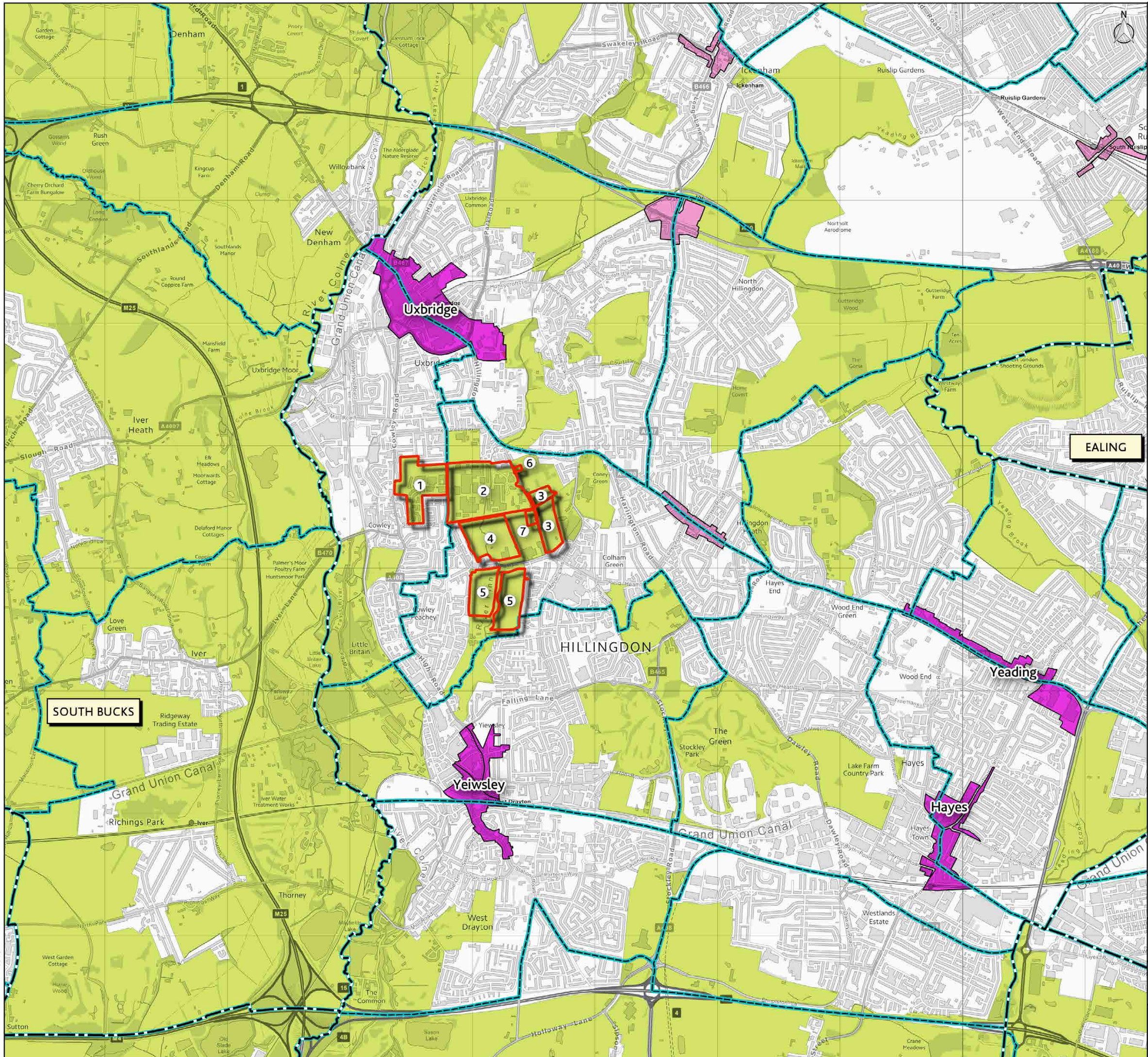


NOTES:

Policy Areas derived from:
 Hillingdon Local Plan: Part 1 - Strategic Policies (2012);
 Hillingdon Local Plan: Part 2
 (Revised Proposed Submission Version, October 2015)

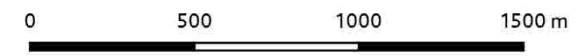
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Brunel University London Green Belt Assessment		
Drawing Title		Draft Local Policies
Drawing Number		Figure 06
Drawing Status	Revision	Client Brunel University London
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LEGEND

- Land Area Locations
- District/ Borough Boundary
- Ward Boundary
- Town Centres in Hillingdon
- Local Centres in Hillingdon
- Green Belt Extents



NOTES:
 Town Centres, Local Centres and Green Belt Extents are derived from the Hillingdon Local Plan Part 2: Policies Map - Atlas of Changes (Revised Proposed Submission Version, October 2015)

SOUTH BUCKS

EALING


HILLINGDON

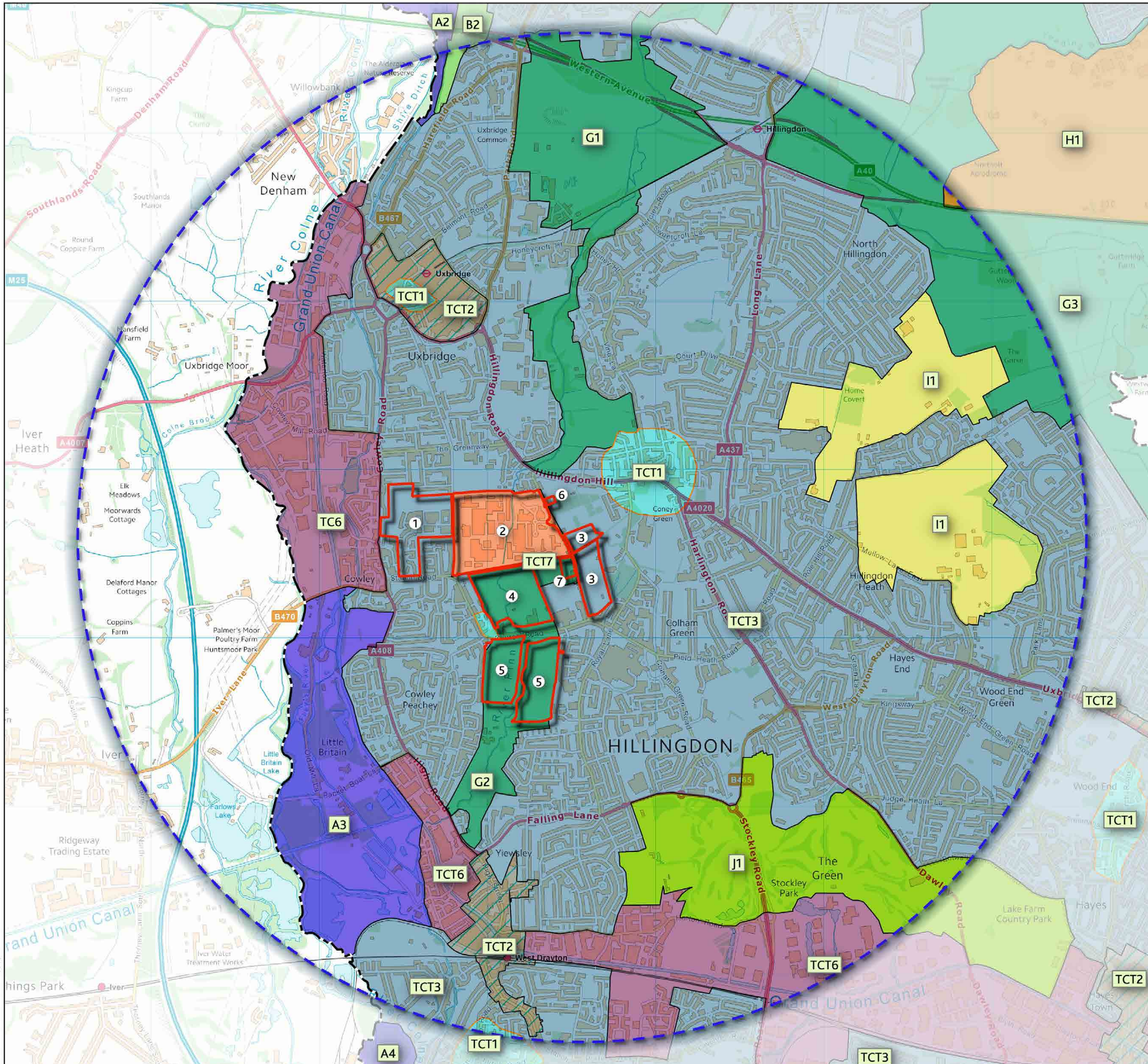
Yeiwsley

Hayes

Yeading

Uxbridge

Project		OX5376-3
Brunel University London Green Belt Assessment		
Drawing Title		Town and local centres in LB Hillingdon
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LEGEND

- Land Area Locations
- Study Area (3km radius from site location)
- Administrative Boundary

HILLINGDON LANDSCAPE CHARACTER ASSESSMENT

Townscape Character Types

- TCT1. Historic Core
- TCT2. Retail Centre
- TCT3. Inter-war Suburb/Metroland
- TCT6. Industrial and Commercial Canal Side
- TCT7. Institutional Development

Landscape Character Types

- A. Floodplain
- B. Open Valley Sides
- G. River Corridor
- H. Clay Plateau Aerodrome
- I. Encapsulated Farmland
- J. Gravel Terrace Recreation

Landscape Character Areas

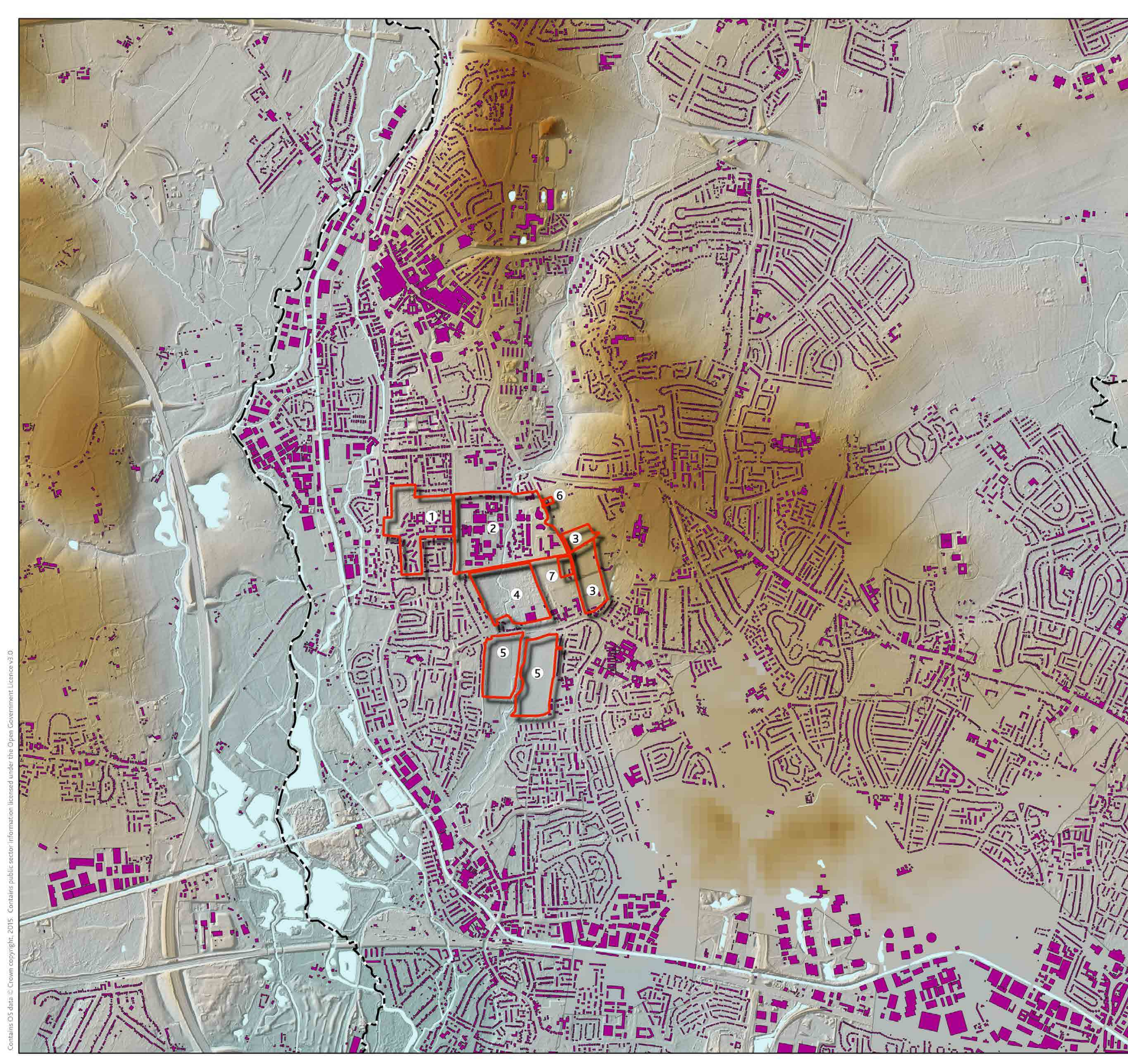
- A2. Mid Colne Floodplain - Broadwater Lake to Shire Ditch
- A3. Mid Colne Floodplain - Little Britain Lakes
- A4. Lower Colne Floodplain - Frays Island to Standwell Moor
- B2. Uxbridge Open Valley Sides
- G1. Upper Pinn River Corridor
- G2. Lower Pinn River Corridor
- G3. Yeading Brook River Corridor
- H1. Northholt Clay Plateau Aerodrome
- I1. Hayes Park Encapsulated Farmland
- J1. Stockley Gravel Terrace Recreation

0 500 1000 1500 m

NOTES:
 Landscape and Townscape Character Areas derived from Hillingdon Landscape Character Assessment, 2012.

Project		OX5376-3
Brunel University London Green Belt Assessment		
Drawing Title		Local Character Areas
Drawing Number		Figure 08
Drawing Status	Revision	Client
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LEGEND

- Land Area Locations
- Administrative Boundary
- Buildings
- Water Bodies

LOCAL TOPOGRAPHY

Height Above Ordnance Datum

- 0-5m
- 5-10m
- 10-15m
- 15-20m
- 20-25m
- 25-30m
- 30-35m
- 35-40m
- 40-45m
- 45-50m
- 50-55m
- 55-60m



Project
OX5376-3
Brunel University London Green Belt Assessment

Drawing Title
Urban Fabric and Local Topography

Drawing Number
Figure 09

Drawing Status DRAFT	Revision 00	Client Brunel University London
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3 Methodology

3.1.1 The study considers the seven land areas on the BUL Uxbridge Campus which are currently within the Green Belt.

3.1.2 The Green Belt study draws on current good practice in England.

- Assessment criteria are based on national planning policy and the performance of land areas against these criteria is assessed, ensuring that the justification of each score is clear and as free from value judgements as possible.
- No Green Belt purpose is considered more important than any other in the NPPF so no weighting has been applied in the method.
- The assessment is focussed on the purposes of Green Belt. While it is important to consider the wider benefits of Green Belt as countryside, these benefits are not an explicit policy objective of Green Belt designation so the relative value of the land areas as ecological or landscape assets is not considered.

3.2 Constraints

3.2.1 The presence of significant constraints have been mapped using GIS data and shown within each land area. Their presence is acknowledged in the assessments and reflected in the judgements so far as they are relevant to the Green Belt purposes.

4 Assessment Criteria

- 4.1.1 Table 1 sets out the five Green Belt purposes and the criteria used to assess the land areas against each purpose and the potential scores that can be assigned to each criteria along with notes on how the judgements associated with each criteria were made.
- 4.1.2 The minimum and maximum scores for any purpose are the same (between 0 and 4). All land areas score 4 for Purpose 5 (to assist in urban regeneration by encouraging the recycling of derelict and other urban land) as all Green Belt makes a strategic contribution to urban regeneration by restricting the land available for development.
- 4.1.3 Other studies have used criteria to assess the contribution of land areas to Purpose 3 of the Green Belt by examining the strength or otherwise of the natural or man-made features/boundaries that would prevent encroachment of the countryside within the Green Belt land area. However, given the fragmented nature of the Green Belt and the urban setting of the BUL land areas, it was considered that all seven areas had equally weak boundaries and played an equivalent role in preventing encroachment from urban development.

Table 1: Green Belt Study Criteria

NPPF Green Belt Purposes		Criteria	Score		Assessment Method Notes	
1	Check the unrestricted sprawl of large built up areas	a. Does the land area play a role in stopping the spread of urban areas into the countryside by preventing ribbon development and/or has the Green Belt in the land area already been compromised by ribbon development?	2	strong role (land area inhibits development along 2 or more sides of a road corridor so restricting the spread of urban areas into the countryside)	<p>Sprawl is the outward spread of urban areas into the neighbouring countryside in an irregular way i.e. the expansion of settlements into the neighbouring countryside</p> <p>Ribbon development is linear development along any route ways where direct access from a development to the road would be possible.</p>	
			1	Some role (land area inhibits development along one side of a road corridor and plays some role in restricting the spread of urban areas into the countryside)		
			0	No role		
		b. Is the land area free from development? Does the land area have a sense of openness?	2	Land area contains no development and a strong sense of openness		<p>Development means any built structure</p>
			1	Land area has limited development and relatively strong sense of openness		
			0	Land area contains development compromising sense of openness		
2	To prevent neighbouring towns merging into one another	Is the land area located within an existing settlement? If not what is the width of the gap between the settlements at the point that the land area is intersected?	4	Land area is less than 0.5km away from a neighbouring settlement and so play a strong role preventing settlements merging	<p>Merging is the joining of blurring of boundaries between two settlements.</p> <p>A straight line is measured at the narrowest point between settlements. The line must pass through the land area being assessed.</p>	
			2	Land area is between 0.5km and 2.5km away from a neighbouring settlement and so plays some role in preventing settlements merging.		
			0	Within an existing settlement or more than 2.5km away from a neighbouring settlement and so play no role is preventing settlements merging.		

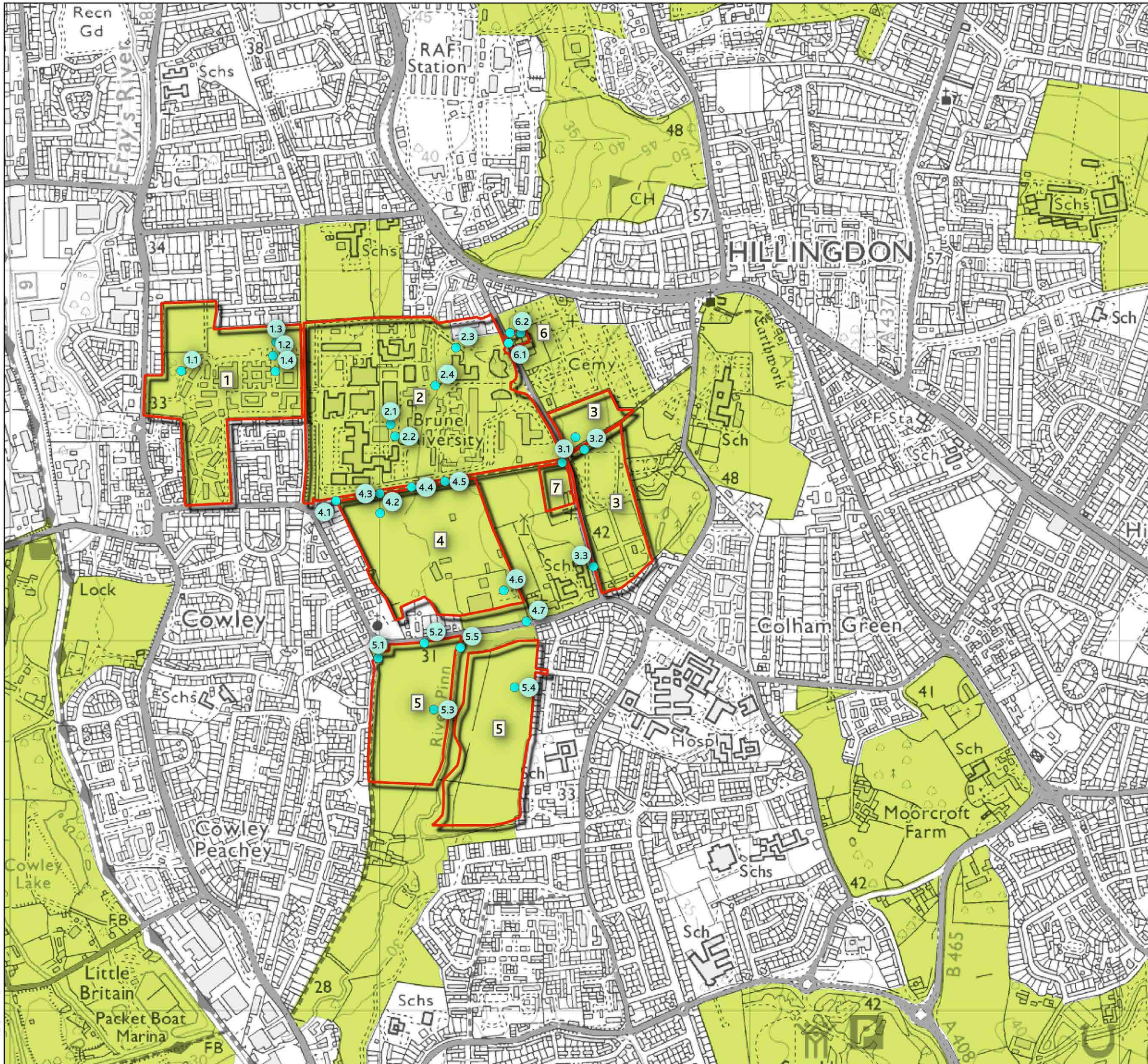
3	<p>To assist in safeguarding the countryside from encroachment</p>	<p>Does the land area have the characteristics of countryside and/or connect to land with the characteristics of countryside?</p> <p>Has the land area already been affected by encroachment of urbanised built development?</p>	<table border="1"> <tr> <td>4</td> <td>Land area contains the characteristics of countryside and has no urbanizing development and is open.</td> </tr> <tr> <td>2</td> <td>Land area contains the characteristics of countryside has limited urbanising development and is relatively open</td> </tr> <tr> <td>0</td> <td>Land area does not contain the characteristics and /or is not connected to land with the characteristics of countryside. Contains urban development that compromises openness.</td> </tr> </table>	4	Land area contains the characteristics of countryside and has no urbanizing development and is open.	2	Land area contains the characteristics of countryside has limited urbanising development and is relatively open	0	Land area does not contain the characteristics and /or is not connected to land with the characteristics of countryside. Contains urban development that compromises openness.	<p>Encroachment from urbanising influences is the intrusion/gradual advance of buildings and urbanised land beyond an established limit.</p> <p>Urbanising influences include features such as roads lined with street lighting and pavements, large areas of hardstanding, floodlit sports fields etc.</p> <p>Urbanising built development does not include development which is in keeping with the countryside e.g. agriculture or forestry related development, isolated dwellings, historic schools and churches.</p> <p>Countryside is land/scenery which is rural in character i.e. a relatively open, natural, semi-natural or farmed landscape with an absence of built development.</p>
4	Land area contains the characteristics of countryside and has no urbanizing development and is open.									
2	Land area contains the characteristics of countryside has limited urbanising development and is relatively open									
0	Land area does not contain the characteristics and /or is not connected to land with the characteristics of countryside. Contains urban development that compromises openness.									
4	<p>To preserve the setting and special character of historic towns</p>	<p>Is the land area partially or wholly within or adjacent to a Conservation Area (CA) <u>within a historic town</u>?</p> <p>Does the land area have good intervisibility with the historic core of an historic town?</p>	<table border="1"> <tr> <td>4</td> <td>If land area is partially or wholly within or adjacent to a Conservation Area (CA) within an historic town and has good intervisibility with the historic core of the town</td> </tr> <tr> <td>2</td> <td>Land area is partially or wholly within or adjacent to a Conservation Area (CA) within an historic town or has good intervisibility with the historic core of the town</td> </tr> <tr> <td>0</td> <td>The land area has none of these features.</td> </tr> </table>	4	If land area is partially or wholly within or adjacent to a Conservation Area (CA) within an historic town and has good intervisibility with the historic core of the town	2	Land area is partially or wholly within or adjacent to a Conservation Area (CA) within an historic town or has good intervisibility with the historic core of the town	0	The land area has none of these features.	<p>Site visits and topographic maps are used to inform judgements as to whether land areas have good intervisibility with the historic core of a historic town.</p>
4	If land area is partially or wholly within or adjacent to a Conservation Area (CA) within an historic town and has good intervisibility with the historic core of the town									
2	Land area is partially or wholly within or adjacent to a Conservation Area (CA) within an historic town or has good intervisibility with the historic core of the town									
0	The land area has none of these features.									
5	<p>To assist in the urban regeneration by encouraging the recycling of derelict and other urban land</p>	<p>It is difficult to assess whether one individual land area considered in isolation makes a more significant contribution than another to incentivising development on previously developed land. So it is considered that all land areas make an equally significant contribution to this purpose and so all land areas have been given the <u>same</u> score.</p>								

4.2 Overall Scores

4.2.1 The scores against the criteria were combined to generate a total score for each land area. The higher the score, the greater the land area's overall contribution to the Green Belt purposes. The scores for each land area are presented below.

4.3 Site Visits

4.3.1 The land areas were assessed through desk study using GIS mapping, OS maps and aerial images. All seven land areas were then visited to assess their performance against the purposes of the Green Belt. Views of the land areas were documented and viewpoint locations are listed in **OX3476-3 Figure 10 Viewpoint Locations**.



LEGEND

- Land Area Locations
- Green Belt Extents

VIEWPOINTS

- Viewpoint

Number	Label
1.1	Site 1 - Northwestern Bypass Path
1.2	Site 1 - Footpath to Northeastern Boundary
1.3	Site 1 - Northeast Boundary
1.4	Student Houses
2.1	Bannerman Centre
2.2	Howell Building and Tower D
2.3	Site 2 - Northeastern Road
2.4	Bridge over River Pinn in Site 2
3.1	Site 3 North - Inside
3.2	Site 3 South- Running Track
3.3	Site 3 South - Sports Park Entrance
4.1	Site 4 - Northwestern Entrance
4.2	Site 4 - Inside
4.3	Site 4 from the North / in front of Joseph Lowe Building
4.4	Nursery Lane / River Pinn Crossing
4.5	Bicentenary Gardens Entrance / Gate C
4.6	Garden Center Parking Lot
4.7	Church Road, Garden Center Entrance
5.1	Site 5 West from Northwest
5.2	Site 5 - View Towards Church Road
5.3	Site 5 West - Inside
5.4	Site 5 East - Inside
5.5	Celandine Route / Robbie Bell Bridge over River Pinn
6.1	Site 6 from Kingston Lane
6.2	Hillingdon & Uxbridge Cemetery North of Site 6
6.3	Site 6 - back
7.1	Site 7 Entrance



Project		OX5376-3
Brunel University London Green Belt Assessment		
Drawing Title		Viewpoint locations
Drawing Number		Figure 10
Drawing Status	Revision	Client Brunel University London
DRAFT	00	
Date	Scale	
Nov 15	1 : 10,000	
Drawn By	Checked By	
MG	KP	



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5 Findings Summary

5.1 Land Area 1

5.1.1 Land Area 1 comprises the western half of the BUL campus which lies to the west of Cleveland Road.

Green Belt Purpose 1 : To check the unrestricted sprawl of large built-up areas			
Issue No.	Issue	Score	Notes
1a	Urban Development Does the land area play a role in preventing the spread of urban areas? Does the land area stop ribbon development?	0	The land areas plays no role in preventing the spread of urban areas into the countryside. Firstly the land area is largely developed itself. Secondly it is surrounded on all sides by large areas of urban development. The Cowley Road to the west of the land parcel has residential development on both sides of the road in this area.
1b	Openness Is the land area free from development? Does the land area have a sense of openness?	1	This land area accommodates the majority of the University's student housing as well as some teaching blocks and research facilities. This existing development compromises the sense of openness of the land area. A smaller area to the north of the land parcel is made up of undeveloped land comprising rough unmanaged grassland crossed by informal paths. There is a relic pattern of overgrown field hedges. Areas of self-seeded woodland mark the northern and western boundaries of the land area with some small patches within the area create a sense of containment.
Green Belt Purpose 2 : To prevent neighbouring towns merging into one another			
2	Is the land area located within an existing settlement? If not what is the width of the gap between the settlements at the point that the land area is intersected?	0	The land areas cannot prevent neighbouring towns merging into one another as it is located within an urban area and dense urban development surrounds and contains it. The original settlements surrounding the BUL campus have coalesced over time leaving no gap between settlements The land area adjoins existing residential area of Uxbridge known as the Greenway to the north, to the south and west the land area adjoins the residential areas of Cowley and to the east is the existing university campus.

Green Belt Purpose 3 : To assist in safeguarding the countryside from encroachment			
3	<p>Does the land area have the characteristics of countryside and/or connect to land with the characteristics of countryside?</p> <p>Has the land area already been affected by encroachment of urbanised built development?</p>	0	<p>The land area does not contain the characteristics of the countryside but is located within a major urban conurbation. It contains features such as roads lined with street lighting and pavements, large areas of car parking and is surrounded on all sides by residential development. Only a small area to the north of the land area has degraded countryside characteristics of a formally farmed landscape.</p>
Green Belt Purpose 4 : To preserve the setting and special character of historic towns			
4	<p>Is the land area partially or wholly within or adjacent to a Conservation Area within a historic town?</p> <p>Does the land area have good intervisibility with the historic core of an historic town?</p>	0	<p>The land area is adjacent to the Greenway CA and has limited intervisibility with the CA. However The Greenway CA is not within a historic town but an area of middle to late Victorian housing on a rectangular grid street pattern to the south of the town centre of Uxbridge.</p>
Green Belt Purpose 5 : To assist in the urban regeneration by encouraging the recycling of derelict and other urban land			
5	<p>Does the land area incentivize development on derelict and other urban land within settlements</p>	4	<p>All land areas make a contribution to this purpose</p>
Total Score		5 / 20	



Viewpoint 1.1.



Viewpoint 1.2.



Viewpoint 1.3.



Viewpoint 1.4.

Notes:



project
OX5376-3
Brunel University London Green Belt Assessment

drawing title
Land Area 1

drawing number
Figure 11

drawing status DRAFT	revision 00	client Brunel University London
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date Nov 15	scale Not To Scale	
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5.2 Land Area 2

5.2.1 Land Area 2 comprises the central area BUL campus which lies to the east of Cleveland Road.

Green Belt Purpose 1 : To check the unrestricted sprawl of large built-up areas			
Issue No.	Issue	Score	Notes
1a	<p>Urban Development</p> <p>Does the land area play a role in preventing the spread of urban areas? Does the land area stop ribbon development?</p>	0	<p>The land areas plays no role in preventing the spread of urban areas into the countryside. As a fully developed urban site, the land area cannot be assessed for its role in preventing the spread of urban development.</p> <p>The land area is surrounded on three sides by large areas of urban development, to the west by the BUL campus, and to the north by Uxbridge High School and residential development. To the east of Kingston Lane is the Hillingdon and Uxbridge Cemetery and the BUL sports grounds.</p>
1b	<p>Openness</p> <p>Is the land area free from development? Does the land area have a sense of openness?</p>	0	<p>This land area is dominated by the university campus including teaching blocks and research facilities. The land area has no sense of openness.</p>
Green Belt Purpose 2 : To prevent neighbouring towns merging into one another			
2	<p>Is the land area located within an existing settlement? If not what is the width of the gap between the settlements at the point that the land area is intersected?</p>	0	<p>The land areas cannot prevent neighbouring towns merging into one another as it is located within an urban area and dense urban development surrounds and contains it.</p> <p>The original settlements surrounding the BUL campus have coalesced over time leaving no gap between settlements .The land area adjoins existing residential area of Uxbridge to the north, and residential areas of Cowley to the west and Hillingdon to the east.</p>
Green Belt Purpose 3 : To assist in safeguarding the countryside from encroachment			
3	<p>Does the land area have the characteristics of countryside and/or connect to land with the characteristics of countryside?</p> <p>Has the land area already been affected by encroachment of urbanised built development?</p>	0	<p>The land area does not contain the characteristics of the countryside but is a fully developed urban site. It contains features such large institutional buildings, roads lined with street lighting and pavements and large areas of car parking</p> <p>The land areas is not connected to land with the characteristics of countryside but is located within an urban area. It is surrounded on three sides by residential development and the BUL sports facilities and a cemetery to the east.</p> <p>The land area is connected to the south with the River Pinn river corridor.</p>

Green Belt Purpose 4 : To preserve the setting and special character of historic towns			
4	Is the land area partially or wholly within or adjacent to a Conservation Area within a historic town? Does the land area have good intervisibility with the historic core of an historic town?	0	The land area is not within or adjacent to a CA within a historic town.
Green Belt Purpose 5 : To assist in the urban regeneration by encouraging the recycling of derelict and other urban land			
5	Does the land area incentivize development on derelict and other urban land within settlements	4	All land areas make a contribution to this purpose
Total Score		4 / 20	



Viewpoint 2.1.



Viewpoint 2.2.

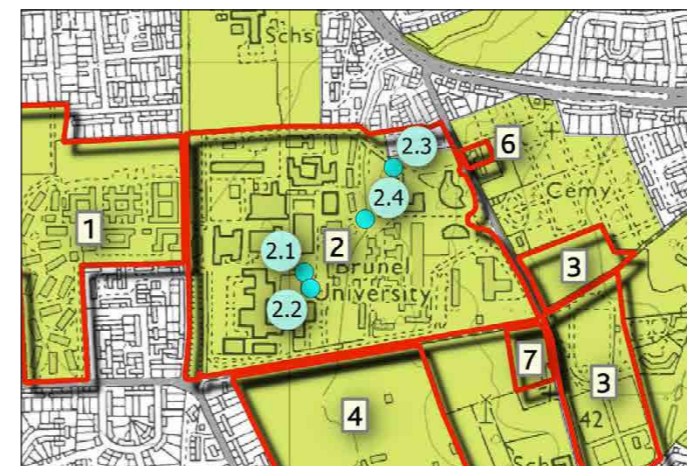


Viewpoint 2.3.



Viewpoint 2.4.

Notes:



project
OX5376-3
Brunel University London Green Belt Assessment

drawing title
Land Area 2

drawing number
Figure 12

drawing status DRAFT	revision 00	client Brunel University London
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date Nov 15	scale Not To Scale	
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5.3 Land Area 3

5.3.1 Land Area 3 is situated to the east of Kingston Lane and accommodates the BUL outdoor sports facilities.

Green Belt Purpose 1 : To check the unrestricted sprawl of large built-up areas			
Issue No.	Issue	Score	Notes
1a	<p>Urban Development</p> <p>Does the land area play a role in preventing the spread of urban areas?</p> <p>Does the land area stop ribbon development?</p>	0	<p>The land areas plays no role in preventing the spread of urban areas into the countryside.</p> <p>The land area is adjacent to the BUL campus and is contained to the south by residential areas of Hillingdon. However to the north and west of the land area, are open areas associated with Hillingdon and Uxbridge Cemetery and a small area of woodland, beyond which is Coney Green</p> <p>As a result the land area does not play a role in stopping the spread of urban areas into the countryside as it is an area surrounded by associated with a large urban conurbation.</p>
1b	<p>Openness</p> <p>Is the land area free from development?</p> <p>Does the land area have a sense of openness?</p>	1	<p>This land area is dominated by the university outdoor sports facilities, with all-weather sports pitches, a running track and associated facilities. There is a sense of openness although it is compromised by the high fencing, hedges, paved areas and overhead lighting.</p>
Green Belt Purpose 2 : To prevent neighbouring towns merging into one another			
2	<p>Is the land area located within an existing settlement?</p> <p>If not what is the width of the gap between the settlements at the point that the land area is intersected?</p>	0	<p>The land areas cannot prevent neighbouring towns merging into one another as it is located within an urban area and dense urban and peri-urban development surrounds and contains it.</p> <p>The original settlements surrounding the BUL campus have coalesced over time leaving no gap between settlements .The land area adjoins existing residential area of South Hillingdon to the south, To the north and east is the Hillingdon and Uxbridge Cemetery with Hillingdon Village beyond it. To west is the BUL campus.</p>

Green Belt Purpose 3 : To assist in safeguarding the countryside from encroachment			
3	<p>Does the land area have the characteristics of countryside and/or connect to land with the characteristics of countryside?</p> <p>Has the land area already been affected by encroachment of urbanised built development?</p>	1	<p>The land area does not contain the characteristics of the countryside but is fully developed as a sports ground. It contains features such as flood lit sports fields, all weather courts and large areas of car parking. However it does retain its openness.</p> <p>The land area is located within an urban area. It is surrounded on two sides by residential or institutional development and on the other two sides by a cemetery and a small area of land to the east where there is an area of isolated woodland which is designated as a Nature Conversation Site of Local Importance.</p>
Green Belt Purpose 4 : To preserve the setting and special character of historic towns			
4	<p>Is the land area partially or wholly within or adjacent to a Conservation Area within a historic town?</p> <p>Does the land area have good intervisibility with the historic core of an historic town?</p>	0	<p>The land area is located within 0.2 km of the Hillingdon Village CA but has <u>no intervisibility</u> with the historic core of the village.</p> <p>Under the proposed Local Plan Part 2 it is proposed to extend the CA to cover the Hillingdon and Uxbridge Cemetery which will mean that the CA is adjacent to Land Area 3. However, the land area will still play a limited role in preserving the setting of the CA.</p>
Green Belt Purpose 5 : To assist in the urban regeneration by encouraging the recycling of derelict and other urban land			
5	Does the land area incentivize development on derelict and other urban land within settlements	4	All land areas make a contribution to this purpose.
Total Score		6/ 20	



Viewpoint 3.1. - Looking northwest



Viewpoint 3.1. Looking northeast

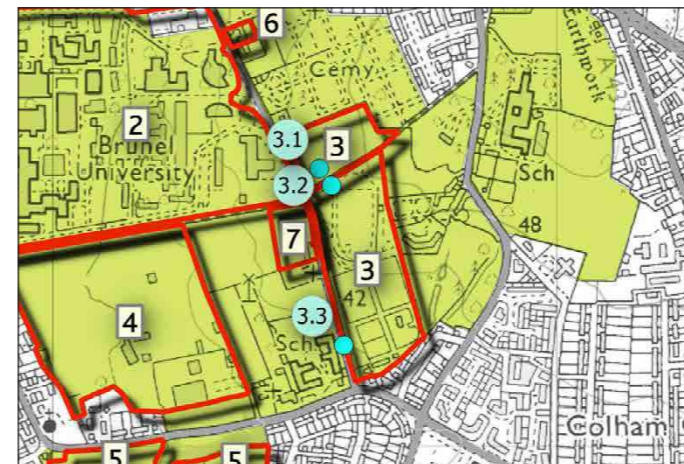


Viewpoint 3.2.



Viewpoint 3.3.

Notes:



project
OX5376-3
Brunel University London Green Belt Assessment

drawing title
Land Area 3

drawing number
Figure 13

drawing status DRAFT	revision 00	client Brunel University London
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date Nov 15	scale Not To Scale	
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5.4 Land Area 4

5.4.1 Land Area 4 is located to the south the BUL campus, south of Nursery Lane.

Green Belt Purpose 1 : To check the unrestricted sprawl of large built-up areas			
Issue No.	Issue	Score	Notes
1a	<p>Urban Development</p> <p>Does the land area play a role in preventing the spread of urban areas?</p> <p>Does the land area stop ribbon development?</p>	0	<p>The land area plays no role in preventing the spread of urban areas into the countryside as it is an area surrounded by a large urban conurbation.</p> <p>The land area is a low flat floodplain on either side of the small River Pinn, a tributary of the River Colne. The majority of the land area was formerly used as a market gardens. The land has been vacant for some time and is fenced off from public access due to the dangers posed by the remaining structures, asbestos pollution and disused underground services. The land area contains open areas of scrubby grassland to the west of the River Pinn but dense regenerated woodland to the east of the river. Part of the land area to the south contain a series of single storey buildings and associated car parking currently used as a garden centre.</p> <p>The land area is surrounded and contained by urban settlement. To the north is the BUL campus and to the west and south are residential areas along Church Road. To the east of the land area, are open areas associated with the Nursery Road allotments and the grounds associated with Pield Heath House School.</p> <p>The land area form part of LCA G2 Lower Pinn River Corridor in the Hillingdon Landscape Character Assessment (2012).</p>
1b	<p>Openness</p> <p>Is the land area free from development?</p> <p>Does the land area have a sense of openness?</p>	2	<p>This land area contains a small area of development to the south of the land area associated with the existing garden centre and ground level structures associated with its former use as market gardens.</p> <p>Although it is contained by urban development on three sides and enclosed by high hedgerows to the east. Despite this close proximity to urban development, the land area retains an open character.</p>

Green Belt Purpose 2 : To prevent neighbouring towns merging into one another			
2	<p>Is the land area located within an existing settlement?</p> <p>If not what is the width of the gap between the settlements at the point that the land area is intersected?</p>	0	<p>The land areas cannot prevent neighbouring towns merging into one another as it is located within an urban area and dense urban and peri-urban development surrounds and contains it.</p> <p>The original settlements surrounding the BUL campus have coalesced over time leaving no gap between settlements .This land area adjoins existing residential area of Hillingdon to the south and east and Cowley to the west,. The BUL campus lies to the north beyond which is residential areas associated with Uxbridge.</p>
Green Belt Purpose 3 : To assist in safeguarding the countryside from encroachment			
3	<p>Does the land area have the characteristics of countryside and/or connect to land with the characteristics of countryside?</p> <p>Has the land area already been affected by encroachment of urbanised built development?</p>	1	<p>The land area was previously the site of a commercial market garden. It contains features such as concrete blocks and disused services from its previous use as a commercial market garden. To the south are, commercial buildings and areas of car parking.</p> <p>Land Area 4 is located within the Pinn River Corridor and retain its openness in parts, particularly to the west of the River Pinn. Although it cannot be classified as countryside it does contain some semi-natural characteristics and it is proposed in the Draft Local Plan Part 2 to designate the land area as a Nature Conservation Site of Local Importance.</p> <p>The land area is located within an urban area. It is surrounded on three sides by residential, commercial or institutional development and on the other side by peri-urban development in the form of allotments. Any potential connection along the the River Pinn Corridor is separated by residential and institutional development along Church Road.</p>
Green Belt Purpose 4 : To preserve the setting and special character of historic towns			
4	<p>Is the land area partially or wholly within or adjacent to a Conservation Area within a historic town?</p> <p>Does the land area have good intervisibility with the historic core of an historic town?</p>	1	<p>The land area is located adjacent to the Cowley Church CA. There is some intervisibility with the historic core of this hamlet and the land area plays some part in the preserving the special character of the CA although it is softened by the intervening tree line and the wooded edge to the area.</p>
Green Belt Purpose 5 : To assist in the urban regeneration by encouraging the recycling of derelict and other urban land			
5	<p>Does the land area incentivize development on derelict and other urban land within settlements</p>	4	<p>All land areas make a contribution to this purpose</p>
Total Score		8/ 20	



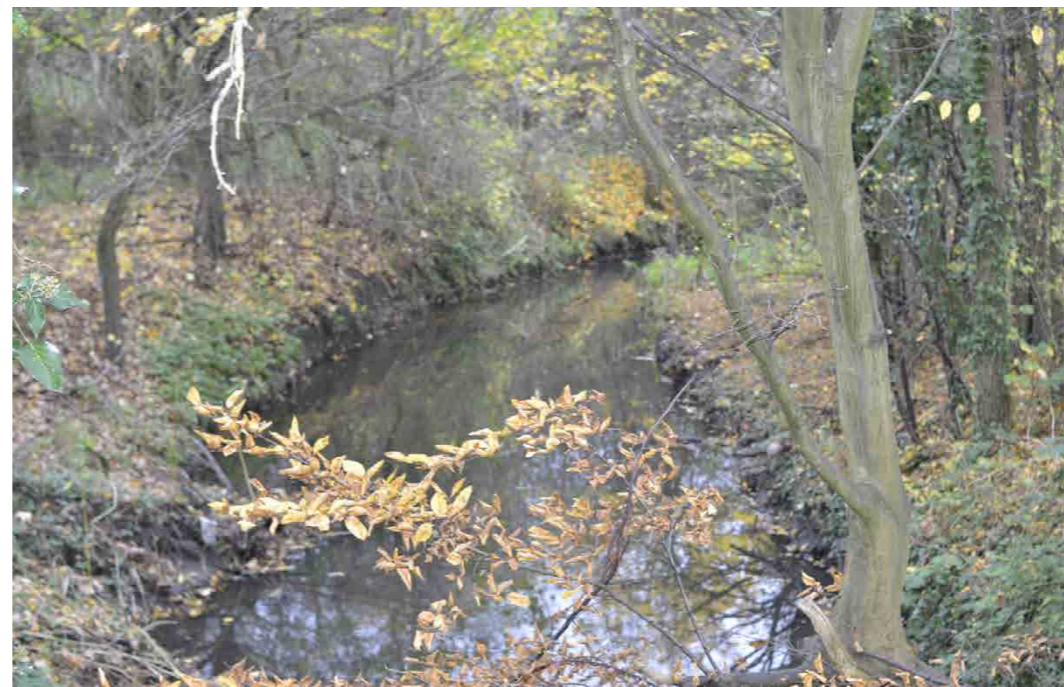
Viewpoint 4.1.



Viewpoint 4.2.

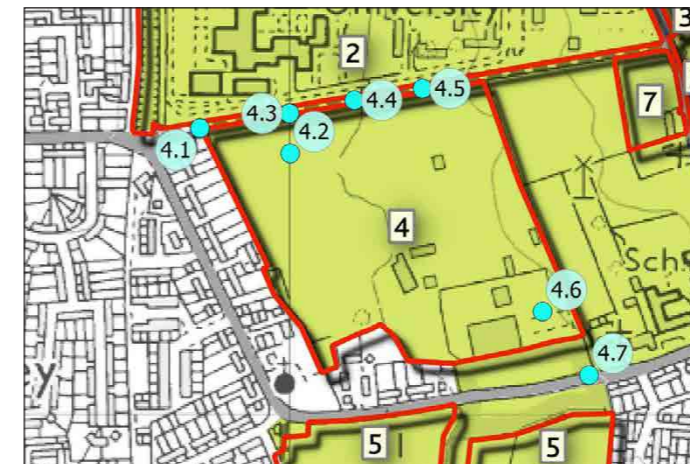


Viewpoint 4.3.



Viewpoint 4.4.

Notes:



project		OX5376-3
Brunel University London Green Belt Assessment		
drawing title		Land Area 4. - 1.
drawing number		Figure 14
drawing status	revision	client
DRAFT	00	Brunel University London
date	scale	
Nov 15	Not To Scale	
drawn	checked	GILLESPIES <small>1 St John's Square, London, EC1M 4BH P 0207 253 2929 F 0207 253 3300 E design.london@gillespies.co.uk</small>
MG	KP	



Viewpoint 4.5.



Viewpoint 4.6.



Viewpoint 4.7. Looking northwest



Viewpoint 4.7. Looking east

Notes:



project		OX5376-3
Brunel University London Green Belt Assessment		
drawing title		Land Area 4. - 2.
drawing number		Figure 15
drawing status	revision	client
DRAFT	00	Brunel University London
date	scale	
Nov 15	Not To Scale	
drawn	checked	GILLESPIES <small>1 St John's Square, London, EC1M 4BH P 0207 253 2929 F 0207 253 3300 E design.london@gillespies.co.uk</small>
MG	KP	

5.5 Land Area 5

5.5.1 Land Area 5 is located south of Church Road either side of the River Pinn.

Green Belt Purpose 1 : To check the unrestricted sprawl of large built-up areas			
Issue No.	Issue	Score	Notes
1a	<p>Urban Development</p> <p>Does the land area play a role in preventing the spread of urban areas? Does the land area stop ribbon development?</p>	0	<p>The land areas plays no role in preventing the spread of urban areas into the countryside as it is an area contained and surrounded by a large urban conurbation.</p> <p>The land area is a low flat floodplain bisected by the River Pinn (a tributary of the River Colne). This small river is enclosed by dense tree cover and is largely hidden within the wider landscape.</p> <p>Meadow grassland occupies the area to the west of the river which is crossed by local footpaths which provide informal access to the area. A marked local trail runs along the east bank of the River Pinn.</p> <p>East of the river, are extensive playing fields which are fenced and provide no public access.</p> <p>The land area form part of LCA G2 Lower Pinn River Corridor in the Hillingdon Landscape Character Assessment (May 2012).</p>
1b	<p>Openness</p> <p>Is the land area free from development? Does the land area have a sense of openness?</p>	2	<p>This land area contains no development although it is surrounded by urban settlement.</p> <p>Despite the close proximity of this dense urban development it has an open character with views across the fields.</p>
Green Belt Purpose 2 : To prevent neighbouring towns merging into one another			
2	<p>Is the land area located within an existing settlement? If not what is the width of the gap between the settlements at the point that the land area is intersected?</p>	0	<p>The land area is located within an urban area and dense urban development surrounds and contains it.</p> <p>The original settlements surrounding the BUL campus have coalesced over time leaving no gap between settlements .The land area adjoins existing residential area of Yiewsley to the south, Cowley to the west, Hillingdon to the east .Scattered residential development and a garden centre along Church Road separates this land area from Area 4 beyond which the taller buildings within the BUL campus are visible.</p>

Green Belt Purpose 3 : To assist in safeguarding the countryside from encroachment			
3	<p>Does the land area have the characteristics of countryside and/or connect to land with the characteristics of countryside?</p> <p>Has the land area already been affected by encroachment of urbanised built development?</p>	3	<p>To the east of the River Pinn, the land area is fully utilised as sports fields.</p> <p>The land area to the west of the River Pinn and along the river corridor contains natural landscape characteristics and it is designated as a Nature Conservation Site of Local Importance. There are long open views across the field.</p> <p>However the prominent settlement edge imparts a strong urban character to the land area and there is constant aural intrusion from the busy road network in the vicinity and flights from Heathrow.</p> <p>The land area is located within an urban area. It is surrounded on three sides by dense residential development and to the north by scattered properties along Church Road. Residential development is prominent along the edges of the land area and there are views to tall buildings such as Hillingdon Hospital although enclosure is provided by tree cover.</p>
Green Belt Purpose 4 : To preserve the setting and special character of historic towns			
4	<p>Is the land area partially or wholly within or adjacent to a Conservation Area within a historic town?</p> <p>Does the land area have good intervisibility with the historic core of an historic town?</p>	2	<p>The land area is located adjacent to the Cowley Church CA. Under the proposed Local Plan Part 2 it is proposed to extend the CA to cover the majority of the western half of the land area and the river corridor.</p> <p>There is some intervisibility with the historic core of this hamlet, particularly the church tower of St Laurence, although it is softened by the intervening tree line. A number of listed buildings sit on the north western edge of the land area including two manor lodges, the Bell House and the Church. The open land around the River Pinn plays some role in preserving the setting of the CA.</p>
Green Belt Purpose 5 : To assist in the urban regeneration by encouraging the recycling of derelict and other urban land			
5	<p>Does the land area incentivize development on derelict and other urban land within settlements</p>	4	<p>All land areas make a contribution to this purpose</p>
Total Score		11 / 20	



Viewpoint 5.1. Looking south



Viewpoint 5.1. Looking east

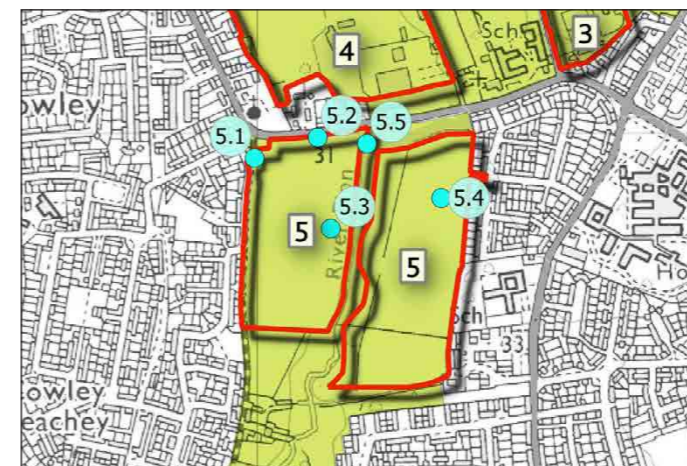


Viewpoint 5.2.



Viewpoint 5.3.

Notes:



project
OX5376-3
Brunel University London Green Belt Assessment

drawing title
Land Area 5. - 1.

drawing number
Figure 16

drawing status DRAFT	revision 00	client Brunel University London
date Nov 15	scale Not To Scale	
drawn MG	checked KP	GILLESPIES <small>1 St John's Square, London, EC1M 4JH P 0207 253 2929 F 0207 253 3300 E design.london@gillespies.co.uk</small>



Viewpoint 5.4. Looking north



Viewpoint 5.4. Looking southwest

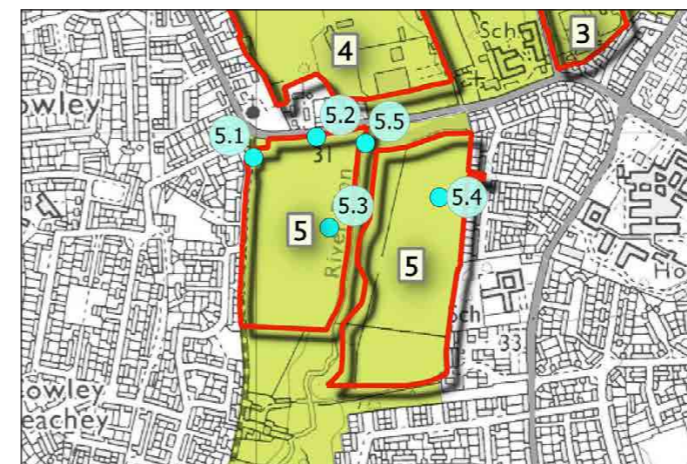


Viewpoint 5.4. Looking southeast



Viewpoint 5.5.

Notes:



project
OX5376-3
Brunel University London Green Belt Assessment

drawing title
Land Area 5. - 2.

drawing number
Figure 17

drawing status DRAFT	revision 00	client Brunel University London
date Nov 15	scale Not To Scale	
drawn MG	checked KP	GILLESPIES <small>St John's Square, London, EC1M 4BN P 0207 253 2929 F 0207 253 3300 E design.london@gillespies.co.uk</small>

5.6 Land Area 6

5.6.1 Land Area 6 is a small plot located on Kingstone Lane opposite the entrance to the BUL campus.

Green Belt Purpose 1 : To check the unrestricted sprawl of large built-up areas			
Issue No.	Issue	Score	Notes
1a	Urban Development Does the land area play a role in preventing the spread of urban areas? Does the land area stop ribbon development?	0	The land areas plays no role in preventing the spread of urban areas into the countryside as it is an area surrounded by a large urban conurbation.
1b	Openness Is the land area free from development? Does the land area have a sense of openness?	1	This small land area contains two houses and their gardens. It is not publically accessible and has a limited sense of openness.
Green Belt Purpose 2 : To prevent neighbouring towns merging into one another			
2	Is the land area located within an existing settlement? If not what is the width of the gap between the settlements at the point that the land area is intersected?	0	The land area is located within an urban area and dense urban development surrounds and contains it. The original settlements surrounding the BUL campus have coalesced over time leaving no gap between settlements .The land area adjoins existing ribbon development along Kingston Lane and is surrounded on three sides by the Hillingdon and Uxbridge Cemetery. Kingston Lane separates this land area from the BUL campus.
Green Belt Purpose 3 : To assist in safeguarding the countryside from encroachment			
3	Does the land area have the characteristics of countryside and/or connect to land with the characteristics of countryside? Has the land area already been affected by encroachment of urbanised built development?	0	The land area does not have the characteristics of countryside and is not connected to land with the characteristics of countryside. It is surrounded on three sides by the Hillingdon and Uxbridge Cemetery. Under the proposed Local Plan Part 2 it is proposed to extend the Nature Conservation Site of Local Importance to include the cemetery and the woodland within it which back onto the land area.

Green Belt Purpose 4 : To preserve the setting and special character of historic towns			
4	Is the land area partially or wholly within or adjacent to a Conservation Area within a historic town? Does the land area have good intervisibility with the historic core of an historic town?	0	The land area is not located within or adjacent to a CA.
Green Belt Purpose 5 : To assist in the urban regeneration by encouraging the recycling of derelict and other urban land			
5	Does the land area incentivize development on derelict and other urban land within settlements	4	All land areas make a contribution to this purpose
Total Score		5/ 20	



Viewpoint 6.1. Looking northwest



Viewpoint 6.1. Looking northeast



Viewpoint 6.2.



Viewpoint 6.3.

Notes:



project		OX5376-3
Brunel University London Green Belt Assessment		
drawing title		Land Area 6.
drawing number		Figure 18
drawing status	revision	client
DRAFT	00	Brunel University London
date	scale	
Nov 15	Not To Scale	
drawn	checked	GILLESPIES <small>1 St John's Square, London, EC1M 4DH P 0207 253 2929 F 0207 253 3300 E design.london@gillespies.co.uk</small>
MG	KP	

5.7 Land Area 7

5.7.1 Land Area 7 is located to the west of Kingston Lane on the south east corner of the BUL campus.

Green Belt Purpose 1 : To check the unrestricted sprawl of large built-up areas			
Issue No.	Issue	Score	Notes
1a	<p>Urban Development</p> <p>Does the land area play a role in preventing the spread of urban areas? Does the land area stop ribbon development?</p>	0	<p>The land areas plays no role in preventing the spread of urban areas into the countryside as it is an area surrounded by a large urban conurbation.</p> <p>The land area is a house and garden located on Kingston Lane.</p>
1b	<p>Openness</p> <p>Is the land area free from development? Does the land area have a sense of openness?</p>	1	<p>This land area consists of a private house and garden enclosed by high hedges on the edge of a busy road.</p> <p>The small garden has a sense of openness,</p>
Green Belt Purpose 2 : To prevent neighbouring towns merging into one another			
2	<p>Is the land area located within an existing settlement? If not what is the width of the gap between the settlements at the point that the land area is intersected?</p>	0	<p>The land area is located within an urban area and dense urban development surrounds and contains it.</p> <p>The original settlements surrounding the BUL campus have coalesced over time leaving no gap between settlements .The land area adjoins existing residential and institutional development along Kingston Lane and is opposite the BUL sports ground on the opposite side of Kingston Lane. Nursery Lane separates this land area from the BUL campus to the north. Nursery Allotments lie to the west of the land area.</p>
Green Belt Purpose 3 : To assist in safeguarding the countryside from encroachment			
3	<p>Does the land area have the characteristics of countryside and/or connect to land with the characteristics of countryside? Has the land area already been affected by encroachment of urbanised built development?</p>	0	<p>The land area does not have the characteristics of countryside and is not connected to land with the characteristics of countryside.</p>

Green Belt Purpose 4 : To preserve the setting and special character of historic towns			
4	Is the land area partially or wholly within or adjacent to a Conservation Area within a historic town? Does the land area have good intervisibility with the historic core of an historic town?	0	The land area is not located within or adjacent to a CA.
Green Belt Purpose 5 : To assist in the urban regeneration by encouraging the recycling of derelict and other urban land			
5	Does the land area incentivize development on derelict and other urban land within settlements	4	All land areas make a contribution to this purpose
Total Score		5/ 20	

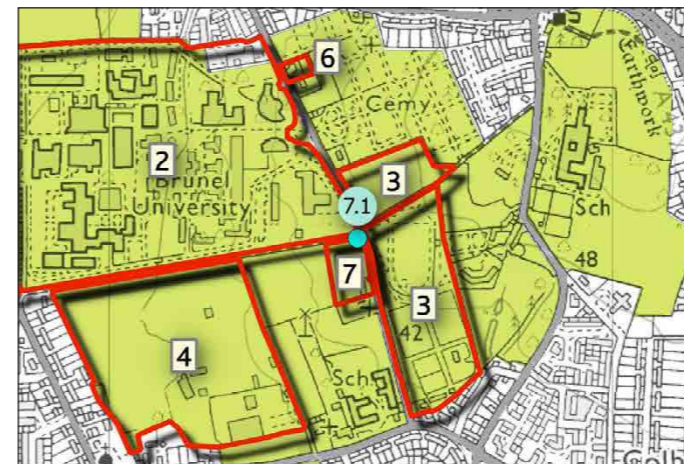


Viewpoint 7.1.



Viewpoint 7.1.

Notes:



project		OX5376-3
Brunel University London Green Belt Assessment		
drawing title		Land Area 7.
drawing number		Figure 19
drawing status	revision	client
DRAFT	00	Brunel University London
date	scale	
Nov 15	Not To Scale	
drawn	checked	GILLESPIES <small>1 St John's Square, London, EC1M 4BH P 0207 253 2929 F 0207 253 3300 E design.london@gillespies.co.uk</small>
MG	KP	

6 Conclusion

- 6.1.1 A significant proportion of LBH comprises countryside and open space. The Green Belt covers much of the northern third of the borough and is semi-rural in character (**OX5376-3 Figure 02 Green Belt Extents 1**). The Colne Valley corridor which defines the western edge to the borough is also designated as Green Belt. This area links with the extensive areas of Green Belt in South Buckinghamshire including the Colne Valley Regional Park which is located either side of the M25 corridor. The Colne Valley Regional Park is the first real countryside to the west of London and hosts a mosaic of farmland, woodland, rivers and canals.
- 6.1.2 Elsewhere in the borough, including the area around the BUL campus, the Green Belt land is heavily fragmented. The BUL land areas assessed in this study are all contained and surrounded by extensive areas of urban development. They are not contiguous with the countryside and as such can play no role in Purpose 1 of the Green Belt by checking the spread of large built up areas into the countryside. Land Areas 1 and 2 (the BUL Campus) are already heavily developed and so their sense of openness is compromised. The remaining open land areas are small landscape remnants with little or no development and so still retain some sense of openness. However, their close proximity to dense urban development and the prominent settlement edge imparts a strong urban character to these land areas.
- 6.1.3 The London Borough of Hillingdon has evolved from a collection of villages which have grown and coalesced over time. The definition between these places is no longer geographically clear, even if each place retains its own identity (see **OX5376-3 Figure 07 Local and Town Centres**). Waves of development over the last two centuries, along transport corridors (industrial development along the Grand Union Canal in the late 18th century followed by extensive interwar suburban development along the Metropolitan and Piccadilly tube lines and along the Uxbridge Road corridor between London and Oxford) have transformed the area into an suburban borough which is an integral part of the wider conurbation of London. In the 2012 *Hillingdon Landscape Character Assessment* the townscape character type (TCT) surrounding all seven land areas is classified as TCT 3 Suburb/Metroland (see **OX5376-3 Figure 08 Landscape and Townscape Character Areas**). As classified in the 2011 DEFRA Rural Urban Classification study, the area is within a Major Conurbation (see **OX5376-3 Figure 03 Green Belt Extents 2**) which sits on the western edge of greater London. Due to the historic coalescence of the original Hillingdon villages through

suburban development and their position within the wider London conurbation, all seven of the BUL land areas cannot perform Purpose 2 of the Green Belt which is to prevent neighbouring towns merging with one another.

- 6.1.4 None of the BUL land areas are connected to land that can be characterised as countryside. The nearest open countryside to the BUL campus is the Colne Valley Park to the west or the area of Green Belt to the north of the Borough. Land Areas 1 and 2 contain extensive institutional development and Land Area 3 is fully developed as the university sports ground. Both Land Area 4 and 5 are located within the Pinn River Corridor and although they cannot be classified as countryside, they both contain semi-natural characteristics. However, Land Area 4 contains a commercial development to the south and other urbanising features from its previous use as a commercial market garden. Land Area 5 is the only land area that is publically accessible and the PRoW along the river is promoted as the Celandine Route. However it cannot be described as a rural landscape as it is surrounded and contained by dense urban development (see **OX5376-3 Figure 09** Urban Fabric and Topography). As a result none of the land areas fully assist in Purpose 3 of the Green Belt which is to assist in safeguarding the countryside from encroachment.
- 6.1.5 Three of the BUL land areas make some contribution to purpose 4 of the Green Belt, to preserve the setting and special character of historic towns. Land Area 1 is adjacent to the Greenway CA, although this does not form part of a town centre and there is limited intervisibility with the CA. Under the proposed Local Plan Part 2 it is proposed to extend the Hillingdon Village CA to cover the Hillingdon and Uxbridge Cemetery which will mean that the CA is adjacent to Land Area 3. However, there is no intervisibility with the historic core of the Hillingdon village. Land Area 4 is located adjacent to and has some intervisibility with the historic hamlet of Cowley Church CA.
- 6.1.6 As described above it is difficult to assess whether one individual land area considered in isolation makes a more significant contribution than another to incentivising development on previously developed land. So it is considered that all the BUL land areas make an equally significant contribution to Purpose 5 of the Green Belt.

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Appendix H

Transport Feasibility Report

REPORT N^o 70029013

**BRUNEL UNIVERSITY /
HILLINGDON HOSPITAL**
TRANSPORT FEASIBILITY REPORT

JANUARY 2017




**BRUNEL UNIVERSITY /
HILLINGDON HOSPITAL**
TRANSPORT FEASIBILITY REPORT
Brunel University

Project no: 70029013
Date: January 2017

WSP | Parsons Brinckerhoff

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APPENDICES

A P P E N D I X A 2004 MASTERPLAN

A P P E N D I X B GIS POSTCODE ANALYSIS

A P P E N D I X C PTAL – POINTS OF INTEREST

A P P E N D I X D MANUAL PTAL CALCULATIONS
A P P E N D I X E PERSONAL INJURAY ACCIDENT DATA
A P P E N D I X F TRAFFIC FLOW DIAGRAMS
A P P E N D I X G RESIDENTIAL TRIP GENERATION

1 INTRODUCTION

1.1 APPOINTMENT

1.1.1 WSP UK | Parsons Brinckerhoff has been appointed by Brunel University (BU) to provide transport consultancy services and to prepare a Transport Feasibility Report (TFR) to support BU's representations to the emerging Hillingdon Local Plan that promote a review of the Green Belt designations.

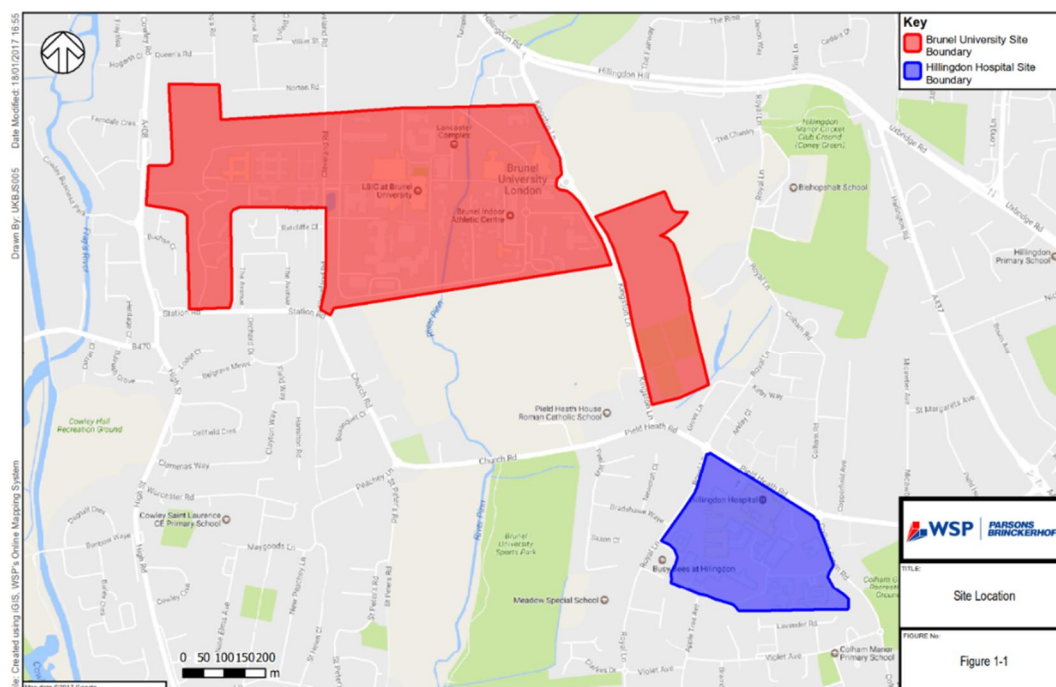
1.1.2 Ove Arup and Partners (Arup) has been commissioned by the Hillingdon Hospitals NHS Foundation Trust ("the Trust") to undertake a feasibility study relating to the relocation of Hillingdon Hospital (HH) to a site within the BU Masterplan Area (site 4), approximately 500m to the north-west of the existing hospital location.

1.1.3 This feasibility study draws together the studies undertaken for BU and the Trust to present a joint transport report in support of the Supplementary Representations to the London Borough of Hillingdon (LBH) Local Plan. BU and HH seek:

- To allocate sites 1-7 of the BU campus for higher education, research and healthcare development, including a Green Belt boundary review that removes sites 1, 2, 3 (northern part), 4, 6 and 7 from the Green Belt.
- To allocate the existing HH site for healthcare and/or residential development.

1.1.4 The site location of BU and HH are shown below in **Figure 1-1**.

Figure 1-1: Site Location

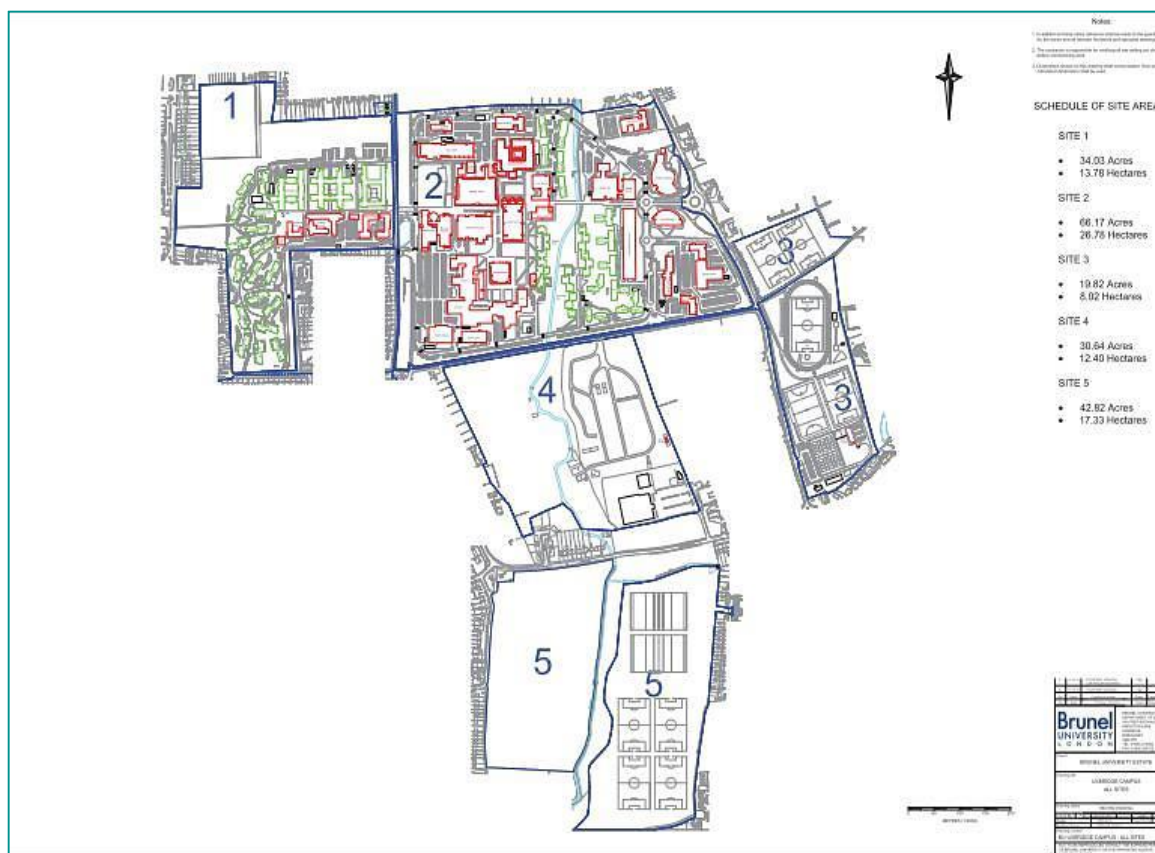


1.2 EXISTING SITES AND PLANNING HISTORY

BRUNEL UNIVERSITY

- 1.2.1 GVA Property and Planning Consultants undertook an “Assessment of Development Need” on behalf of BU in January 2014. Their report outlines how much additional floorspace is required to support BU’s expansion plans and provides a robust case for Site 4 to be suitable for development.
- 1.2.2 BU operates from a 78 hectare campus located approximately 1km to the south of Uxbridge town centre, within the administrative area of the London Borough of Hillingdon (LBH). The campus is divided into 7 ‘sub-sites’. Sites 1 to 5 are illustrated in **Figure 1-2**.

Figure 1-2: Brunel University Campus (Sites 1-5)



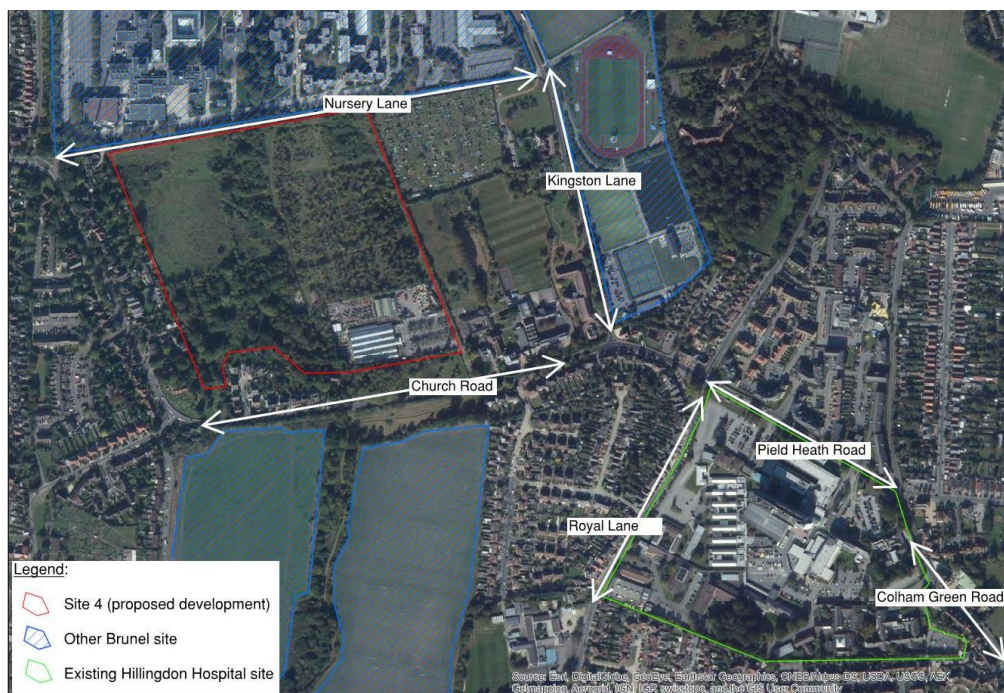
- 1.2.3 Sites 1 and 2 lie either side of Cleveland Road and accommodate the majority of the University’s built accommodation. This comprises an intensely developed mix of academic/teaching space, specialist research facilities and student housing (halls of residences) across a site area of around 40 hectares.
- 1.2.4 Site 3 lies to the east of Kingston Lane and Site 5 lies to the south of Church Road. These accommodate the majority of the University’s outdoor sports facilities, which include extensive areas of playing fields (site 4 extend to approximately 25 hectares).

- 1.2.5 Site 4 extends to approximately 12.4 hectares and is located immediately to the south of Site 2. Part of the site (approximately 1.6 hectares) accommodates a series of single storey buildings and associated car parking currently used as a garden centre (trading as “Hillingdon Garden Centre). The remainder of the site is unused. The land has been vacant for an extended period of time and is fenced off (there is no public access).
- 1.2.6 This report summarises the key transport related issues relevant to Sites 1-7 at BU in Hillingdon. As part of the evidence, a high level assessment of transport impacts of both existing development as well as that proposed has been undertaken.
- 1.2.7 BU is a successful education / research institution in the UK and a local economic driver. The University wishes to capitalise on this success and is preparing for a further period of growth. It has a strategic growth plan for the next 5 years which focuses on the significant growth of its research capability (which includes post-graduate study), alongside modest growth of undergraduate education. It has furthermore worked up headline details for longer term growth (next 10-15 years) for estates / planning purposes which continues this expansion trend.
- 1.2.8 In 1990, the University prepared a Masterplan for the Uxbridge campus to cover development requirements up to 2000. This was granted outline planning consent in 1992.
- 1.2.9 The University proceeded to prepare a further Masterplan for Site 1 and 2 in the early 2000s, to guide development over the following 10-15 years. This was granted outline planning consent in 2004.
- 1.2.10 The 2004 Masterplan has now been partially implemented. The table enclosed at **Appendix A** provides an overview of the elements that have been implemented and confirms the elements which remain to be built-out. All of the approved student accommodation (69,840sq.m) has been implemented, however a balance of 20,546sq.m (43%) of the academic floorspace remains to be implemented.
- 1.2.11 An application was submitted in March 2012 to extend the period in which reserved matters application can be submitted.
- 1.2.12 GVA recently submitted representations to LBH in respect to the consultation on their draft local Plan ‘Part 2’. Relating to BU, the representations seek the following:
- The allocation of BU’s Uxbridge campus (Sites 1-7) for higher education / research uses, to include a Green Belt boundary review that removes the Green Belt designation that currently applies to this land. This is in order to account for the University’s significant growth plans (development need); and
 - Delete a proposed designation of Site 4 (of the University’s Uxbridge campus) as a Nature Conservation Site of Metropolitan or Borough Grade 1 Importance (as this would further constrain the University’s ability to develop Site 4).

HILLINGDON HOSPITAL

- 1.2.13 HH is the only acute hospital in Hillingdon, with Accident and Emergency, inpatients, day surgery, and outpatient clinics. HH employs over 3,000 staff and delivers healthcare to the residents of LBH, and increasingly to those living in the surrounding areas of Ealing, Harrow, Buckinghamshire and Hertfordshire, giving a total catchment population of over 35,000 people. In the 2015/16 financial year, HH received approximately 270,000 outpatient visits, had 54,000 inpatients and 60,000 attendances at the Accident and Emergency department. **Figure 1-3** shows the HH site in relation to the proposed site and the rest of the BU campus.

Figure 1-3: Existing Hospital Site



1.2.14

Recent planning applications made by HH are listed below:

- **2015 (HH):** Extension to the Paediatric Building to provide four bedrooms with associated support facilities and car parking spaces (ref. 4058/APP/2015/1691).
- **2015 (HH):** The Trust submitted a planning application on the 1st November 2015 (ref. 4058/APP/2015/4041) to provide an additional 48 car parking spaces, which has since been approved;
- **2014 (HH):** Erection of a temporary decked car park for a period of 5 years, together with 16 additional surface spaces and associated landscaping and enabling works (ref. 4058/APP/2014/2373);
- **2010 (HH):** Application for an extension to the life of the existing planning permission for a new 85,000sq.m hospital (ref. 4058/APP/2010/133). The original permission was for the phased redevelopment of the campus, involving the demolition of the majority of the buildings, reconfiguration of car parking and access arrangements, and landscaping. The application was considered to be misaligned with the London Plan and was withdrawn; and

1.2.15

GVA recently submitted representations to LBH in respect to the consultation on their draft local Plan 'Part 2'. Relating to HH, the representations seek the following:

- The allocation of the existing HH site for healthcare and/or residential development.

1.3

REPORT PURPOSE

1.3.1

The main purpose of this TFR is to provide a robust transport evidence and to:

- Test / confirm the ability of the highway / transport network to support the quantum in principle and form of development proposed (at Sites 1-7 of the Uxbridge campus);
- To confirm that satisfactory access arrangements can be achieved to Sites 1, 2 and 4 to support the scale / form of development; and

- To forecast residential trip generation levels for the proposed units at the HH site.

1.3.2

A robust evidence base will enable an assessment of the transport impacts of both existing development as well as that proposed, and inform sustainable approaches to transport at a plan-making level.

1.3.3

Key issues considered in developing the transport evidence base:

- assess the existing situation and likely generation of trips over time by all modes and the impact on the locality;
- assess the opportunities to support a pattern of development that, where reasonable to do so, facilitates the use of sustainable modes of transport;
- highlight and promote opportunities to reduce the need for travel where appropriate;
- identify opportunities to prioritise the use of alternative modes in both existing and new development locations if appropriate;
- consider the cumulative impacts of existing and proposed development on transport networks;
- assess the quality and capacity of transport infrastructure and its ability to meet forecast demands; and
- identify the short, medium and long-term transport proposals across all modes; and

1.3.4

The study will form part of the evidence base for the Council's emerging Local Plan Part 2 for BU and HH, as well as informing the assessment of current and future planning applications.

1.4

ASSUMPTIONS

1.4.1

This report is based on the following assumptions and qualifications set out below:

- Parking on site will be restrained for both staff and students;
- There will be no increase in car parking spaces within the proposed extended University campus;
- A proportion of the existing car parking spaces from Site 1 and 2 will be relocated to Site 4;
- There will be significant mode shift from single occupancy car driver trips (staff and student) to other sustainable modes of transport;
- No vehicular trips are taken into account from Site 1 (student accommodation) to Site 2 and Site 4;
- HH will be relocated from its current site to Site 4;
- New student accommodation is located on Site 1 adjacent to the existing student accommodation; and
- Between approximately 457 and 881 residential units will be located at the existing HH site.

1.5

REPORT STRUCTURE

1.5.1

This TFR is structured as follows:

- Section 2 – Policy Context;
- Section 3 – Existing Sites;
- Section 4 – Existing Transport & Highway Conditions;

- Section 5 – Proposed Development;
- Section 6 – Trip Attraction;
- Section 7 – Proposed Access Strategy;
- Section 8 – Public Transport Strategy;
- Section 9 – Residential Trip Generation; and
- Section 10 – Summary and Conclusion.

2

POLICY CONTEXT

2.1 NATIONAL POLICY

NATIONAL PLANNING POLICY FRAMEWORK (MARCH 2014)

2.1.1 The National Planning Policy Framework (NPPF) was adopted in March 2012. The NPPF replaced existing national planning policy guidance and statements, including PPG13 and PPS3, with a single more concise document. The NPPF aims to enable local people and their accountable councils to produce their own distinctive local and neighbourhood plans, which reflect the needs and priorities of their communities.

2.1.2 The NPPF sets out that those developments which generate significant movement should be located where the need to travel will be minimised and the use of sustainable transport modes can be maximised. Developments should be located and designed where practical to (Paragraph 35):

- “Accommodate the efficient delivery of goods and supplies;
- Give priority to pedestrian and cycle movements, and have access to high quality public transport facilities;
- Create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians; and avoid street clutter;
- Incorporate facilities for charging plug-in and other ultra-low emission vehicles; and
- Consider the needs of people with disabilities by all modes of transport.”

2.2 REGIONAL POLICY

THE LONDON PLAN ‘THE SPATIAL DEVELOPMENT STRATEGY FOR LONDON CONSOLIDATED WITH ALTERATIONS SINCE 2011’ (APRIL 2016)

2.2.1 The London Plan aims to ensure that London’s transport is easy, safe and convenient for everyone, and encourages cycling, walking and use of electric vehicles. The document states that London should be a city where it is easy, safe and convenient for everyone to access jobs, opportunities and facilities with an efficient and effective transport system which actively encourages more walking and cycling.

2.2.2 The London Plan recognises that transport plays a fundamental role in addressing the whole range of this spatial planning, environmental, economic and social policy priorities. It is critical to the efficient functioning and quality of life of London and its inhabitants, having major effects on places, especially around interchanges and in town centres and on the environment, both within the city itself and more widely.

2.2.3 Policy 6.1 Strategic Approach stresses the importance of closer integration of transport and development and hopes to achieve this by inter alia:

- Encouraging patterns of development that reduce the need to travel, especially by car;
- Supporting development that generates high levels of trips only at locations with high levels of public transport accessibility, either currently or via committed, funded improvements;
- Supporting measures that encourage shifts to more sustainable modes and appropriate demand management;

- Promoting greater use of low carbon technology so that CO2 and other contributors to global warming are reduced; and
- Promoting walking by ensuring an improved urban realm.

2.2.4 **Table 2-1** below summarises adopted cycling parking standards.

Table 2-1: Cycle Parking Standards

USE CLASS	LONDON PLAN (MARCH 2015) MINIMUM CYCLE PARKING STANDARDS	
	Long-stay	Short-stay
C2 STUDENT ACCOMMODATION	1 SPACE PER 2 BEDS	1 SPACE PER 40 BEDS
D2 SPORTS	1 SPACE PER 8 STAFF	1 SPACE PER 100SQ.M
C2 HOSPITALS	1 SPACE PER 5 STAFF	1 SPACE PER 30 STAFF
C3 RESIDENTIAL	1 SPACE PER STUDIO AND 1 BEDROOM UNIT 2 SPACES PER ALL OTHER DWELLINGS	1 SPACE PER 40 UNITS

2.3 LOCAL POLICY

LOCAL PLAN PART 1 – DEVELOPMENT MANAGEMENT POLICIES: SEPTEMBER 2014

- 2.3.1 LBH's Local Plan Part 1 was adopted in November 2012 (previously the Core Strategy). The key issues within the document are education/ economic development and the green belt.
- 2.3.2 The Local Plan states that policies within Hillingdon will ensure that a high standards of teaching can continue to be provided in these establishments over the period of the Local Plan and that LBH 'will continue its collaborative working arrangements with these institutions during the preparation of the Local Plan and during subsequent monitoring and reviews.'
- 2.3.3 Strategic Objective 21 identifies the area around HH and BU as a key location in which to improve public transport services, particularly between the north and south of the Borough.
- 2.3.4 Site 4 is identified by the Local Plan as a 'Green Chain' which are habitats linked by natural and man-made corridors such as public footpaths, rivers, streams and tree lined streets which all contribute to the green network within the borough.
- 2.3.5 This document refers to the Hillingdon Biking Borough Scoping Report 2010 which sets out the vision for increasing levels of cycling in the borough. Hillingdon is expected to achieve the Mayoral target of 400% increase in cycling by 2026 or sooner.
- 2.3.6 BU leads the Uxbridge Travel Plan Partnership which involves all significant transport generators in the area including HH, The Chimes, RAF Uxbridge, the Council and other Partners.

LOCAL PLAN PART 2 – DEVELOPMENT MANAGEMENT POLICIES: SEPTEMBER 2014

2.3.7

LBH's Local Plan Part 2 was adopted in September 2014 and its purpose is to provide detailed policies to ensure sustainable growth in the borough. Chapter 8 focuses on policies related to all aspect of the transport network.

2.3.8

Policy DMT1: Managing Transport Impacts

- Development proposals will be required to meet the transport needs of the development and address its transport impacts in a sustainable manner. In order for developments to be acceptable they are required to:
 - be accessible by public transport, walking and cycling either from the catchment area that it is likely to draw its employees, customers or visitors from and/or the services and facilities necessary to support the development;
 - maximise safe, convenient and inclusive accessibility to, and from within developments for pedestrians, cyclists and public transport users;
 - provide equal access for all people, including inclusive access for disabled people;
 - adequately address delivery, servicing and drop-off requirements; and
 - have no significant adverse transport impacts on the local and wider environment.
- Development proposals will be required to undertake a satisfactory Transport Assessment and Travel Plan (TP) if they meet or exceed the thresholds set out in Table 8-1 and any subsequent update to these thresholds. All major developments that fall below these thresholds will be required to produce a satisfactory Transport Statement and Local Level TP. All these plans should demonstrate how any potential impacts will be mitigated and how such measures will be implemented.

2.3.9

Policy DMT2: Highways Impacts

- Development proposals must be compatible with the safe and efficient movement of the highway and therefore must ensure that:
 - and efficient vehicular access to the highway network is provided to the Council's standards;
 - they do not contribute to the deterioration of air quality, noise or local amenity or safety of all road users and residents;
 - safe, secure and convenient access and facilities for cyclists and pedestrian are satisfactorily accommodated in the design of highway and traffic management schemes;
 - impacts on local amenity and congestion are minimised by routing through traffic by the most direct means to the strategic road network, avoiding local distributor and access roads; and
 - there are suitable mitigation measures to address any traffic impacts in terms of capacity and functions of existing and committed roads, including along roads or through junctions which are at capacity.

2.3.10

Policy DMT4: Public Transport

- The Council will support and promote the enhancement of public transport facilities, including at key interchanges that address the needs of the Borough. The Council may require

developers to mitigate transport impacts from development proposal by improving local public transport facilities and services, which may include:

- improvements to address inclusive access;
 - ensuring that bus stops are conveniently located for passengers;
 - Implementation of bus priority and bus stop accessibility measures;
 - providing for bus route requirements and associated road layouts;
 - improvements to the network of services; and
 - improvements to infrastructure to support cycling.
- Public transport measures may be required to be included in the highways layout design where identified in a transport assessment, TP or integral to the acceptability of the proposal.

2.3.11

Policy DMT5: Pedestrians and cyclists

- Development proposals will be required to ensure that safe, direct and inclusive access for pedestrians and cyclists is provided on the site connecting it to the wider network, including:
 - The provision of a high quality and safe public realm or interface with the public realm, which facilitates convenient and direct access to the site for pedestrian and cyclists;
 - The provision of well signposted, attractive pedestrian and cycle routes separated from vehicular traffic where possible; and
 - The provision of cycle parking and changing facilities in accordance with Table 2.1 or, in agreement with Council.
- Development proposals located next to or along the Blue Ribbon network will be required to enhance and facilitate inclusive, safe and secure pedestrian and cycle access to the network. Development proposals, by virtue of their design, will be required to complement and enhance local amenity and include passive surveillance to the network.

2.3.12

Policy DMT6: Vehicle Parking

- Development proposals must comply with the parking standards outlined in below in order to facilitate sustainable development and address issues relating to congestion and amenity. Council may agree to vary these requirements when:
 - The variance would not lead to a deleterious impact on street parking provision, congestion or local amenity; and/or
 - A transport appraisal and TP has been approved and parking provision is in accordance with its recommendations.
- All car parks provided for new development will be required to contain conveniently located reserved spaces for wheelchair users and those with restricted mobility in accordance with the Council's Accessible Hillingdon SPD.

2.3.13

The parking standards apply to new buildings, extensions and changes of use for service vehicles, car, motorcycle and bicycle parking. These are summarised below in [Table 2-2](#).

Table 2-2: Maximum Parking Requirements

CAR AND OTHER VEHICLE PARKING	BICYCLE PARKING
Student Halls of Residence	
On an individual basis using a transport assessment and TP	1 space per student
Further Education Establishment	
On an individual basis using a transport assessment and where applicable school TP / TP	1 per 10 staff or students
Where relevant, provision should be made for coach/ bus access and parking	
Hospitals	
Car parking on an individual basis using a transport assessment and TP.	1 space per 5 staff, 1 space per 10 visitors
Additional provision to be made for emergency vehicle parking, loading and unloading.	
Flats	
3-4 or more bedrooms – 2 spaces per unit	1 per studio, 1 or 2 bed unit
1-2 bedrooms – 1.5 – 1 spaces per unit	2 per 3 or more bed unit
Studio – 1 space per 2 units	
(a) Proposals must also accommodate visitors car parking on-site additional to the above	
(b) Car parks must be allocated to dwellings	

2.3.14

In addition to car and bicycle parking spaces, designated blue badge parking bays are required. These are summarised below in [Table 2-3](#).

Table 2-3: Designated Blue Badge Recommended Parking Requirements

BUILDING TYPE	PROVISION FROM THE OUTSET		FUTURE PROVISION
	Number of spaces for each employee who is a disabled motorist	Number of spaces for visiting disabled motorists	Number of enlarged standard spaces
Workplaces	One space	5% of the total capacity	A further 5% of the total capacity
Sports Facilities	Determined according to the usage of the sports facility		

2.3.15

Developments must ensure than 1 in 5 spaces (both active and passive) provide an electrical charging point to encourage the uptake of electric vehicles.

ITEMS TO BE FUNDED BY S106 CONTRIBUTIONS

2.3.16

Transportation Measures: needed to make specific development proposals acceptable in planning terms. Site specific matters can include (but are not limited to) highways crossovers to access the site and local road junctions, deceleration and turning lanes, measures to facilitate pedestrian and cyclist access, lighting and street furniture needed to mitigate the impact of a particular development.

THE HILLINGDON (SPEED LIMIT) ORDER 2014

2.3.17

Under Section 90 of the Highways Act 1980 five pairs of speed cushions will be installed along Church Road, Cowley and Pield Heath Road, Hillingdon. The proposed speed cushions are intended to enhance road safety without affecting emergency services and improving the safety of pedestrians.

RAF UXBRIDGE SUPPLEMENTARY PLANNING DOCUMENT (JANUARY 2009)

2.3.18

This document sets out the council's proposals for how RAF Uxbridge site should be redeveloped in a way that revitalises the local area and provides benefits for residents from across the borough.

- The transport specific issues include consideration of the need to maintain amenity values and pedestrian and cycle accessibility in the design of the internal main connector roads.

TRANSPORT FOR LONDON PRESS RELEASE (DECEMBER 2012)

2.3.19

The TfL press release provides details on the £4,200,000 allocated investment for Hillingdon to advance in transport projects that will benefit the local community. The 2013/14 funding package will finance a range of transport projects in Hillingdon as a result of the Mayor's Transport Policy. This includes £120,000 for bus stop accessibility improvements within Hillingdon, such as raising kerb height, relocating the bus flag and bus shelter, and footway and carriageway resurfacing to ensure bus stops are easy to use and accessible to all.

LONDON BOROUGH OF HILLINGDON STRATEGIC INFRASTRUCTURE PLAN (MARCH 2013)

2.3.20

The Strategic Infrastructure Plan (SIP) has been prepared as part of the evidence base for the Local Plan in the response to the National Planning Policy Statement (NPPF). This plan in particular, it looks at the key items of infrastructure required to deliver the Local Plan Part 1, Transport and Connectivity & Education.

2.3.21

The key transport and public transport infrastructure proposals identified in SIP are as follows:

- The Highways Agency is proposing to implement a programme of 'Hard Shoulder Running' to address congestion on the M4, as part of the nationwide 'managed Motorways' scheme.
- Transport for London (TfL) is not proposing any major schemes in the borough; however a programme of maintenance works and junction improvements will take place.
- The Council will also implement a programme of highway maintenance and improvements. These will be implemented through a number of programmes and capital streams, including Local Implementation Plan (LIP) funding.
- **Improved public transport interchanges** at Hayes, West Drayton, Heathrow Airport, West Ruislip and Uxbridge;
- **Fastbus** – Proposals are being promoted with TfL to improve north/south public transport links in the borough.
- **Crossrail** – The government's proposals for Crossrail are expected to be implemented from 2015 onwards, with the Crossrail route expected to become operational from 2017. The total cost of the project is around £15bn with approximately £300m coming from the Mayor CIL and a further £300m coming from s106 contributions.
- **Improved Underground Links** – The Council is working with TfL to improve Underground links to and from Uxbridge, particularly upgrades to the Metropolitan Line.
- **HS2** – The Government has given in principle approval for the construction of a high speed rail link (known as High Speed 2), which will provide fast rail access to and from London and the north of England. Public Consultation took place between 28th February and 29th July 2011.

EDUCATION AND LEARNING – HIGHER EDUCATION

2.3.22

The key Education and Learning Infrastructure proposals identified in the SIP are as follows:

- A significant amount of new development has been delivered at Brunel in recent years, through the University's development Masterplan, which covers the period up to 2014. It is understood that the University will bring forward a new Masterplan, covering the period up to 2021.

HEALTHCARE – ACUTE CARE

2.3.23

The key Healthcare Infrastructure proposals identified in the SIP are as follows:

- It is understood that a Masterplan has been developed by Hillingdon Hospital Trust for the phased redevelopment of the HH site. This will accommodate expected housing growth.

3

EXISTING SITES

3.1 INTRODUCTION

- 3.1.1 This section describes the existing University and Hospital in terms of their location, use, size, planning history, travel patterns, vehicular, pedestrian and cycle access arrangements, car and cycle parking provision, servicing arrangements, and pick-up / drop-off arrangements. This section also provides an overview of the existing TPs for both the Hospital and the University.

BRUNEL UNIVERSITY

3.2 SITE LOCATION AND DESCRIPTION

- 3.2.1 The University is 78 hectares in size located to the south of Uxbridge town centre. The campus is divided into 7 'sub-sites'. Sites 1 and 2 are positioned on either side of Cleveland Road and comprises of academic / teaching space, specialist research facilities and student housing across a site of 40 hectares.

- 3.2.2 The existing built up parts of Sites 1 and 2 are estimated to have the physical capacity to support 65,402sq.m of net additional floorspace.

3.3 PLANNING HISTORY

- 3.3.1 Outline Planning Permission (OPP) (ref: 532/APP/2002/2237) was granted at the University on 19th April 2004 which included;

“erection of 48,064 m² of new academic floor space and 69,840sq.m of new student residential accommodation, ancillary floor space and infrastructure, provision of 645 additional car parking spaces, improved access from Kingston Lane, new access from Cowley Road, highway improvements to Cleveland Road, improved pedestrian and cycle routes, landscaping and environmental improvements (involving demolition of 18,600sq.m of existing floor space).”

- 3.3.2 To date, the majority of triggered obligations of the S106 agreement as part of the OPP have been met. This includes a number of highway works and further traffic surveys that confirmed that no further highway works were required to support the development. The recent completion of the Eastern Gateway Building has triggered the financial contribution of £200,000 from the University to be spent by the council solely on bus improvements serving the development. The University are to hold discussions with TfL and LBH to agree how the finances can be used to improve public transport most effectively.

- 3.3.3 The previous application sought approval for a new planning consent (to replace OPP 532/APP/2002/2237) which allows applications for the approval of reserved matters to be submitted to the Local Planning Authority before the expiration of 13 years from the date of the original OPP (i.e. no later than 19th April 2017).

3.4 EXISTING FLOORSPACE

- 3.4.1 BU currently operates from a 78 hectare campus. The existing floorspace is shown in **Table 3-1** below.

Table 3-1: Existing Floorspace

TYPE OF FLOORSPACE	EXISTING FLOORSPACE GIA
Academic and Research	125,120sq.m
Student Residential	108,731sq.m
Total	233,851sq.m

3.5 EXISTING STUDENT AND STAFF NUMBERS

3.5.1 The existing student numbers at BU shown in **Table 3-2** below.

Table 3-2: Existing Student Numbers

TYPE OF STUDENTS	EXISTING STUDENTS (FULL TIME EQUIVALENT)
Undergraduate and Undergraduate Students	10,124
Total	13,860

3.5.2 The existing staff numbers are shown in **Table 3-3** below.

Table 3-3: Existing Staff Numbers

TYPE OF STAFF	
Academic and Non-Academic Staff	2,450
Total	2,450

3.6 EXISTING TRAVEL PATTERNS

3.6.1 As part of Brunel's on-going monitoring of student and staff travel patterns, student and staff surveys were carried out in 2010 and 2013/14. The results of the 2010 surveys are summarised overleaf in **Table 3-4**.

Table 3-4: Travel Survey Results 2010

METHOD OF TRAVEL	STUDENTS	STAFF
Walk	30%	3%
Cycle	4%	4%
Bus	21%	3%
Train	6%	1%
Tube	18%	3%
Car Driver	17%	65%
Car Share	3%	6%
Other	1%	0%
No Answer	-	15%
Total	100%	100%

3.6.2 The 2010 TP surveys show that 17% of students and 65% of staff drove to the University. The surveys also show that 79% of students and 14% of staff travelled to the university by public transport, cycling or walking. Up to 15% of staff did not supply an answer in this travel survey and therefore further trips could be made by single occupancy car drivers.

3.6.3 An additional student and staff travel survey was conducted in 2013/14 which displayed more up-to-date travel information for students at BU. These results are detailed in **Table 3-5** below.

Table 3-5: Travel Survey Results 2013/14

METHOD OF TRAVEL	STUDENTS	STAFF
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Walk	33.3%	9.0%
Cycle	6.8%	4.5%
Bus	18.4%	9.8%
Train	6.0%	1.9%
Tube	19.2%	8.3%
Car Driver	12.0%	53.3%
Car Share	1.7%	9.4%
Motorcycle	0.4%	1.3%
Other	2.2%	2.5%
Total	100%	100%

3.6.4 The 2013/14 survey shows the percentage of students and staff driving to University has decreased by 5% and 12% respectively since 2010. In addition, the 2013/14 survey shows that the percentage of students and staff travelling to the University by public transport, cycling and walking has increased by 5% and 20% respectively.

3.6.5 A green travel day was organised by WestTrans in-between 2008-2013 to promote sustainable travel through an exhibition in the Student Union area, by providing a number of activities and sustainable travel related promotional materials to those that would attend. One of the main aims of the day was to focus on cycling in an interactive way. This particular day may have contributed to the increase in cycling activity.

3.6.6 There are approximately 4,500 students currently living on campus and approximately 9,500 students living off campus.

3.6.7 The core and primary arrival times for students and staff are 0815-09:00, and the student influx times fluctuate in the morning between 08:30-10:00. The core and primary departure times for students and staff are 16:30-17:30. Therefore the majority of students and staff will arrive and depart during peak hours.

STUDENT AND STAFF POSTCODE INFORMATION

3.6.8 Postcode data of term time students and staff at BU has been collected, analysed and presented in a number of GIS maps, detailed in **Appendix B**. The following key statistics can be extracted from the postcode data:

- 36% of the students currently live on campus;
- 50% of students live in UB8 (which covers all of the University including Uxbridge and Hayes);
- 98% of students live in the South East;
- 13% of staff live in UB8; and
- 90% of staff live in the South East.

- 3.6.9 On this basis it is evident that staff commute further than students, and the majority of staff live outside LB Hillingdon, with a large cluster in Oxford.
- 3.6.10 More than 60% of term time students live within LB Hillingdon, and an additional 38% live within the south east outside of the borough. It is apparent that staff commute further to the West, whereas students have a larger concentration to the East and across London.
- 3.6.11 As 36% of the students live on campus and 50% of the students live in UB8 it is evident that a large majority of the students at the University are not entitled to a parking space, and they can travel more sustainably.
- 3.6.12 Only 13% of the staff live in UB8 and therefore a significant number of staff may require car parking spaces as they travel further than students. However as 90% live in the South East, the commuting distance does not mean that public transport trips to the University are inaccessible, and therefore less staff are able to travel more sustainably without a car.

HILLINGDON

- 3.6.13 For context, the 2011 Census has been interrogated for the wards and census output areas that cover the site. Data for Method of Travel to Work, Car Ownership, and Distance Travelled to Work is summarised to provide baseline data on the local travel characteristics within the surrounding area.
- 3.6.14 The 2011 Workplace Travel to Work Census Data for workplace area E33032157 is show in **Table 3-6** below.

Table 3-6: E33032157 Method of Travel to Work (Workplace Population)

METHOD OF TRAVEL	%
Underground	8%
Train	3%
Bus	11%
Taxi	0%
Motorcycle	1%
Car Driver	53%
Car Passenger	3%
Bicycle	4%
Walk	17%
Total	100%

- 3.6.15 The data above highlights the higher percentage of single occupancy car drivers within the output area. However, 43% of those in the area travel by more sustainable modes of transport. The distance travelled to work has also been exported, and is presented in **Table 3-7** below.

Table 3-7: Hillingdon Output Area 015 Distance of Travel to Work

DISTANCE OF TRAVEL	%
Less than 2km	12%
2km to less than 5km	21%
5km to less than 10km	24%
10km to less than 20km	20%
20km to less than 30km	8%
30km to less than 40km	4%
40km to less than 60km	2%
60km and over	4%

Work mainly at or at home	3%
No fixed place	2%
Total	100%

3.6.16 The table above shows the highest percentage of people travel between 5km and 10km to get to work. 2km is equivalent to a 25 minute walk which is a realistic walking distance for people travelling to and from BU. Therefore at least 12% of the people within the output area could walk to the site.

3.6.17 A 20 minute cycle ride is equivalent to 5km and therefore a further 21% could cycle to work. In total 33% could walk or cycle to work. Once the public transport trips are taken into account at least 50% of those working or studying at the University could travel by a more sustainable mode of transport.

3.6.18 The car ownership in the area has also been investigated in **Table 3-8** below for the Brunel ward within Hillingdon.

Table 3-8: Brunel Ward Car Ownership

NO CARS PER HOUSEHOLD	%
No cars in household	26%
1 car in household	44%
2 cars in household	23%
3 cars in household	5%
4 or more cars in household	2%

3.6.19 Almost half of the households within the output area have at least one car. However, 26% do not have a car at all. Therefore it can be assumed that 26% of households use more sustainable forms of transport. This reinforces the point that additional staff and students within the immediate area could use alternative forms of transport.

3.6.20 The London Travel Demand Survey shows Londoner's trips by borough of origin, trips per day and shares by main mode, across an average day from 2011/12 to 2013/14. **Table 3-9** below displays the percentage of trips by main mode of transport in Hillingdon.

Table 3-9: Hillingdon London Travel Demand Survey

MODE OF TRANSPORT	%
Underground	6%
Rail	1%
Bus	11%
Taxi	1%
Car/ Motorcycle	56%
Cycle	1%
Walk	24%
Total	100%

3.6.21 The LTDS data demonstrates that 57% of the population within Hillingdon travel by car, taxi motorcycle, and 43% travel by more sustainable forms of transport.

3.7 EXISTING CAR AND CYCLE PARKING PROVISION

CAR PARKING

3.7.1 As the University are committed to reducing carbon emissions, students and staff are encouraged to use alternative modes of travel where possible as stated in the existing University TP (see section 5.11). In light of this, parking on the campus and in the local area is very restricted. There are currently 1,740 permits for staff and 2,092 for students.

3.7.2 As of September 2014 with the exception of blue badge holders there are no longer facilities for resident students to keep a vehicle on campus. Those who do park on campus without a permit are at risk of receiving a penalty charge.

3.7.3 A car parking survey was undertaken in July 2011 demonstrate that at the end of academic year 2010/11 there were 2,088 car parking spaces on Sites 1 and 2 of the Uxbridge campus. The breakdown of parking spaces on Sites 1 and 2 of the Uxbridge campus is set out in [Table 3-10](#). These figures have been taken from a car parking survey which was undertaken in July 2011.

Table 3-10: Brunel University Parking

PARKING TYPE	SITE 1	SITE 2	SITE 3
Staff/ Visitor	199	811	49
Student	140	478	
Pay and Display	0		
Reserved	3	59	0
Coach Bays	0	7	4
Car Club	2	4	0
Tenants	0	86	0
Disabled	46	75	4
Charging Bays	2	0	0
Total	392	1,520	57
Sub Total		1,969	

3.7.4 The majority of parking spaces are allocated to staff and visitors (52%), followed by students (31%).

3.7.5 The majority of parking on Sites 1 and 2 is dedicated for staff and students and is controlled by way of permits. A small number of pay-and-display parking is available primarily for visitors to the University.

3.7.6 For students to be eligible for a permit they must live more than 2 miles from the campus and be fully enrolled. Students resident on campus are not entitled to a permit unless they hold a valid registered disabled badge, or if they are a sports scholar.

3.7.7 At the time of the original consent, the outline planning permission allowed for the provision of 645 additional car parking spaces over and above the 1,953 spaces that existed in 2004 (equating to a total of 2,598 spaces).

3.7.8 However, the planning permission was subject to a condition which required the level of car parking to be reduced through time, as per the details set out in [Table 3-11](#).

Table 3-11: Outline Planning Consent Parking Conditions

YEAR	PARKING SPACES AT BEGINNING OF YEAR	SPACES TO BE REMOVED	MAX SPACES AT END OF YEAR
2008/09	2,598	100	2,498
2009/10	2,498	100	2,398
2010/11	2,398	100	2,298
2011/12	2,298	100	2,198
2012/13	2,198	100	2,098

- 3.7.9 The University have gradually reduced the number of car parking spaces on Sites 1 and 2 in line with the S106 agreement. The 2015 car parking survey demonstrates that at the end of academic year 2014/15 there were 1,969 car parking spaces on the site. This is lower than the maximum number of spaces allowed at this point in time. However, the S106 states that up to 2,088 car parking spaces are permitted at the University.

3.8 EXISTING SERVICING ARRANGEMENTS

SITE 1

- 3.8.1 The majority of servicing associated with Site 1 (predominantly student accommodation) is undertaken via the existing access points provided from Station Road and Cleveland Road.

SITE 2

- 3.8.2 The majority of servicing associated with Site 2 (main University) is undertaken via the existing access point from Kingston Lane.

SITE 4

- 3.8.3 It is considered that the only servicing that is currently undertaken on Site 4 is associated with Hillingdon Garden Centre, which is via the existing access point from Church Road.

3.9 EXISTING PICK-UP / DROP-OFF ARRANGEMENTS

- 3.9.1 At present, designated pick-up / drop-off points are provided internally within Site 2, which are accessible from Kingston Lane.
- 3.9.2 Any pick-up's / drop-off's associated with Site 1 are undertaken internally within the site, with access provided from Station Road and Cleveland Road.

3.10 EXISTING UNIVERSITY TRAVEL PLAN

- 3.10.1 The most up to date TP for BU was produced in March 2011. The TP encourages students, staff and visitors to access the University by a range of transport modes. A number of targets and measures were implemented to decrease the dependency on the car, and improve the use of public transport, cycling and walking when travelling to the University.
- 3.10.2 These measures include a Bicycle User Group for staff and students, a Walking User Group, and a car share database, securing discounts for cyclists and powered two wheelers, as well as a variety of other promotions for existing travel modes.

3.11

EXISTING STUDENT AND STAFF INCENTIVES

3.11.1

There are a number of incentives offered to existing staff and students of BU in order to encourage them to travel more sustainably. These include:

- Employee and student interest free season ticket loan;
- Employee interest free cycle loan;
- Student oyster photo card;
- Recycle-a-bike – a workshop project based in Uxbridge that recycles and refurbishes donated or discarded bikes. They also run cycle maintenance courses and undertake repairs and servicing, and have an organised cycle ride every Saturday; and
- Car club – staff can become a member of Hertz and students in halls of residence who are not permitted to keep cars on campus can benefit from the scheme.

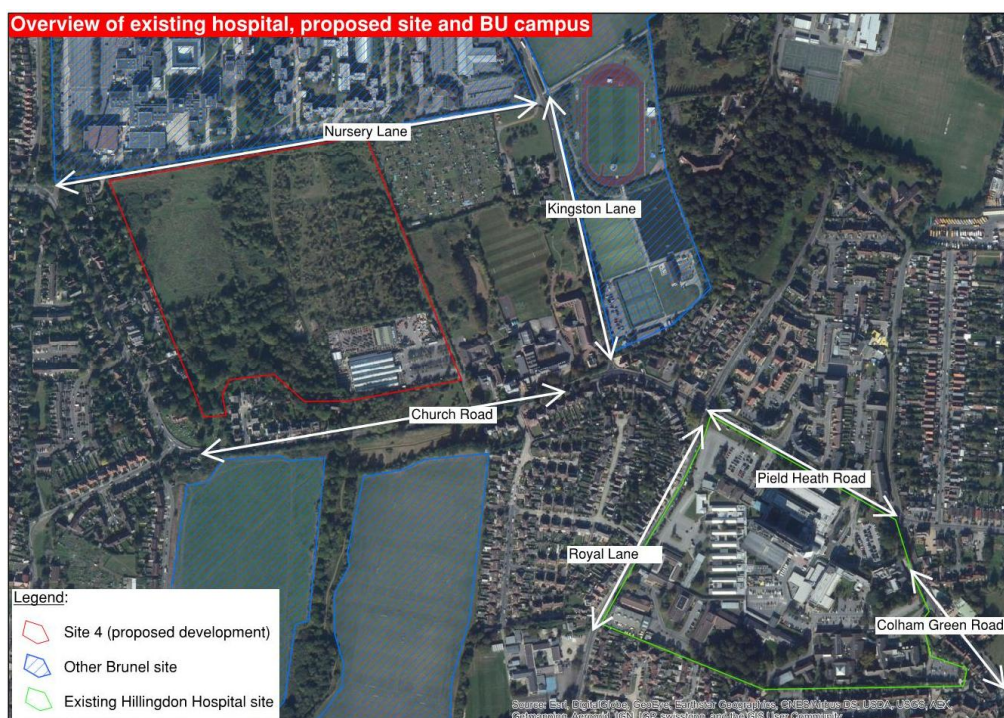
HILLINGDON HOSPITAL

3.12 SITE LOCATION AND DESCRIPTION

3.12.1 HH is located in the Brunel ward of the LBH. The existing site is bound by Royal Lane to the west, Field Heath Road to the north and Colham Green Road to the east. To the south, the hospital campus shares a boundary with a residential neighbourhood.

3.12.2 **Figure 3-1** illustrates the hospital location in relation to the proposed site and the rest of the BU campus.

Figure 3-1: Existing Hospital Site



3.13 PLANNING HISTORY

3.13.1 The following are a selection of recent planning applications made by BU/HH:

- **2015 (HH):** Extension to the Paediatric Building to provide four bedrooms with associated support facilities and car parking spaces (ref. 4058/APP/2015/1691).
- **2015 (HH):** The Trust submitted a planning application on the 1st November 2015 (ref. 4058/APP/2015/4041) to provide an additional 48 car parking spaces, which has since been approved;
- **2014 (HH):** Erection of a temporary decked car park for a period of 5 years, together with 16 additional surface spaces and associated landscaping and enabling works (ref. 4058/APP/2014/2373);
- **2010 (HH):** Application for an extension to the life of the existing planning permission for a new 85,000sq.m hospital (ref. 4058/APP/2010/133). The original permission was for the phased redevelopment of the campus, involving the demolition of the majority of the buildings, reconfiguration of car parking and access arrangements, and landscaping. The application was considered to be misaligned with the London Plan and was withdrawn; and

- **2004 (BU; OPP):** The original application was for the “erection of 48,064 m² of new academic floor space and 69,840sq.m of new student residential accommodation, ancillary floor space and infrastructure, provision of 645 additional car parking spaces, improved access from Kingston Lane, new access from Cowley Road, highway improvements to Cleveland Road, improved pedestrian and cycle routes, landscaping and environmental improvements (involving demolition of 18,600sq.m of existing floor space).” The student accommodation has been built out and extant permissions remain for additional academic buildings.

3.13.2 The recent planning history of HH is a clear indication of its intent to expand to meet demand. In addition to the longer-term strategy of redeveloping the entire hospital on the existing site, numerous other applications, such as expansion of parking provision and extensions to existing buildings, are proof of a short-term requirement for capacity.

3.14 EXISTING CAPACITY

3.14.1 The floor space of the existing hospital is c. 52,000sq.m with units ranging from single storey buildings to a 9 storey tower block.

3.15 EXISTING PATIENT AND STAFF NUMBERS

3.15.1 The hospital has 493 beds, categorised as a mix of inpatient, day care, maternity and paediatric uses: 998 full-time and 358 part-time staff work at the hospital, with an average of 700 staff on site at any one time.

3.15.2 The hospital sees approximately 384,000 patients per year: 60,000 emergency patients, 54,000 in-patients and 270,000 out-patients.

3.16 EXISTING CAR AND CYCLE PARKING PROVISION

3.16.1 A total of 890 formal parking spaces are provided on site. The Transport Assessment (TA) produced for the 2010 planning application ([4058/APP/2010/133](#)) noted the following:

- On-site, an additional 150 cars park at undesignated locations such as access roads and grass verges, meaning that on-site demand is approximately 1,040 spaces;
- A survey of surrounding area observed 140 cars parked on-street, 75% of which were estimated to belong to staff or visitors to the hospital. This provision consists of a mix of permit holder and pay-and-display parking; and
- The TA concluded that there was a total demand for 1,145 spaces at peak times.

3.17 EXISTING HOSPITAL TRAVEL PLAN

3.17.1 The most recent Travel Plan produced for the Trust was developed by i-Trace in March 2007. The Plan related to both the Hillingdon and Mount Vernon Hospitals, therefore some of measures suggested in this Plan are not relevant to HH.

3.17.2 The Travel Plan refers to Staff Travel surveys conducted as a key source of information on travel patterns relating to HH.

3.17.3 The main objectives outlined in the Travel Plan are presented below:

- To promote cycling to staff living within close proximity of the site including providing information on the website so that staff and visitors are directed to an appropriate access and know where to park their bicycles;
- To promote car sharing to staff at both sites;

- To reduce parking congestion on site and overspill on to the neighbouring roads;
- To promote alternatives to the car to employees which in turn will reduce their travelling costs;
- To promote walking to staff living within close proximity to both sites; and
- To promote healthier lifestyles.

3.17.4

The Travel outlined a number of targets as re-produced in **Table 3-12**.

Table 3-12: 2007 Travel Plan Mode Share Targets

	MODE	BASELINE (2008)	TARGET (2013)
1	Car (single occupancy)	61%	50%
2	Cycling	3%	6%
3	Walking	13%	14%
4	Public transport	12%	15%
5	Car share	9%	13%

3.17.5

As a means of comparison, **Table 3-13** shows the mode split for daily commutes to the local area (Hillingdon 017 MSOA) as per the 2011 UK Census. This data is relevant to employees only.

Table 3-13: 2011 mode share in Hillingdon 017

MODE	MODE SHARE
Car (single occupancy)	61%
Cycling	2%
Walking	12%
Public transport	20%
Car share	4%

3.17.6

The major differences between the 2007 and 2011 surveys are in the share of trips taken by public transport (Underground, train, bus) and multiple-occupancy private vehicles, with the other modes remaining broadly the same. The reduction in the number of trips by multiple-occupancy vehicle is, for all intents and purposes, mitigated by the significant increase in public transport trips. In this case, these are likely trips by local bus.

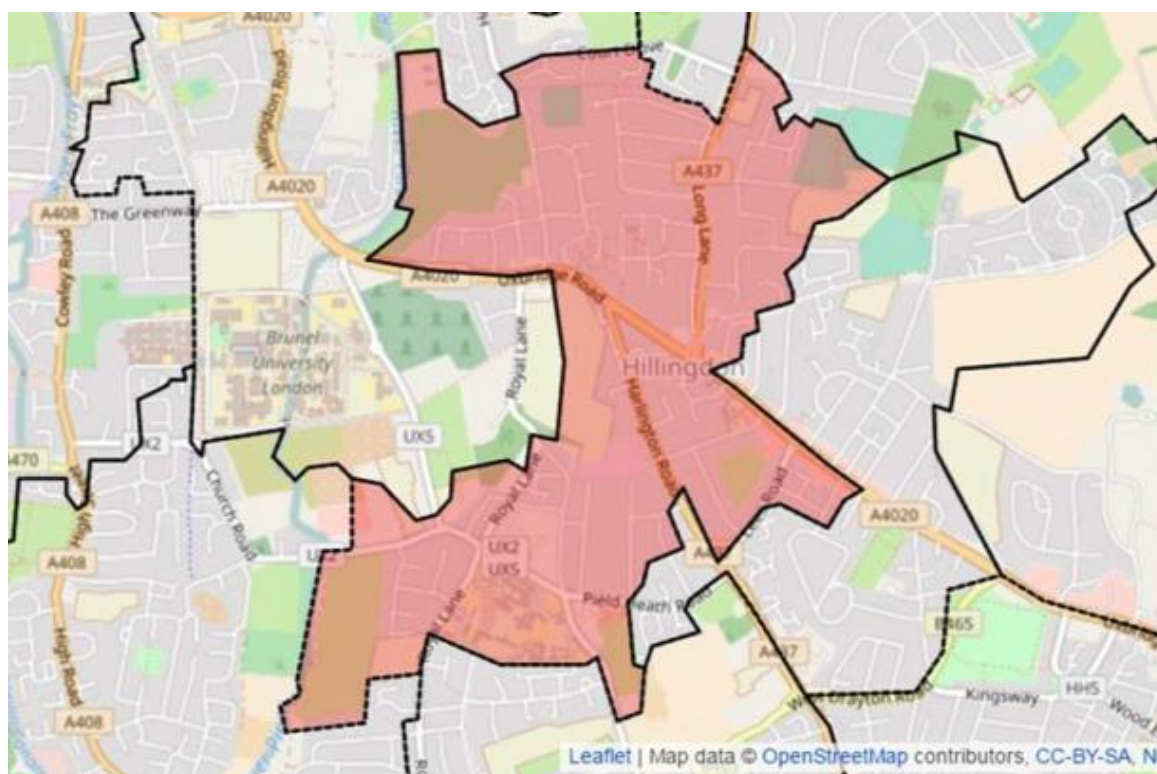
3.18

EXISTING TRAVEL PATTERNS

Travel to work data from the 2011 Census has been analysed to supplement the travel plan surveys and understand the travel habits staff at HH. Commuter trips to the local middle level super output area (MSOA) where the existing hospital is located (Hillingdon 017) were mapped.

Figure 3-2 shows the MSOA within which the Hospital is situated.

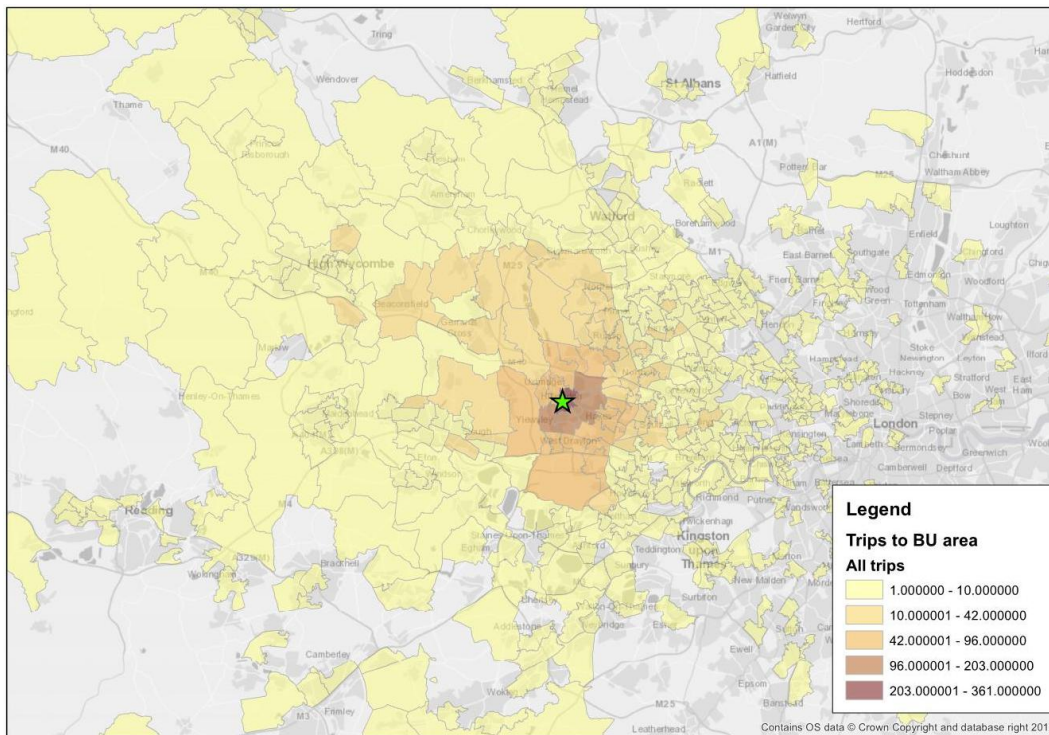
Figure 3-2: Local MSOA map



3.18.1

Figure 3-3 is an overview of where commuters to the chosen MSOA ordinarily reside. Other trips are said to be made from other areas of England, but the majority originate from the coloured areas in this map. As would likely be expected, most of these trips are relatively short, and are between Hillington 017 and other areas of LB Hillington, south-west Hertfordshire and east Buckinghamshire.

Figure 3-3: Hillington 017 - All Commuter Trips



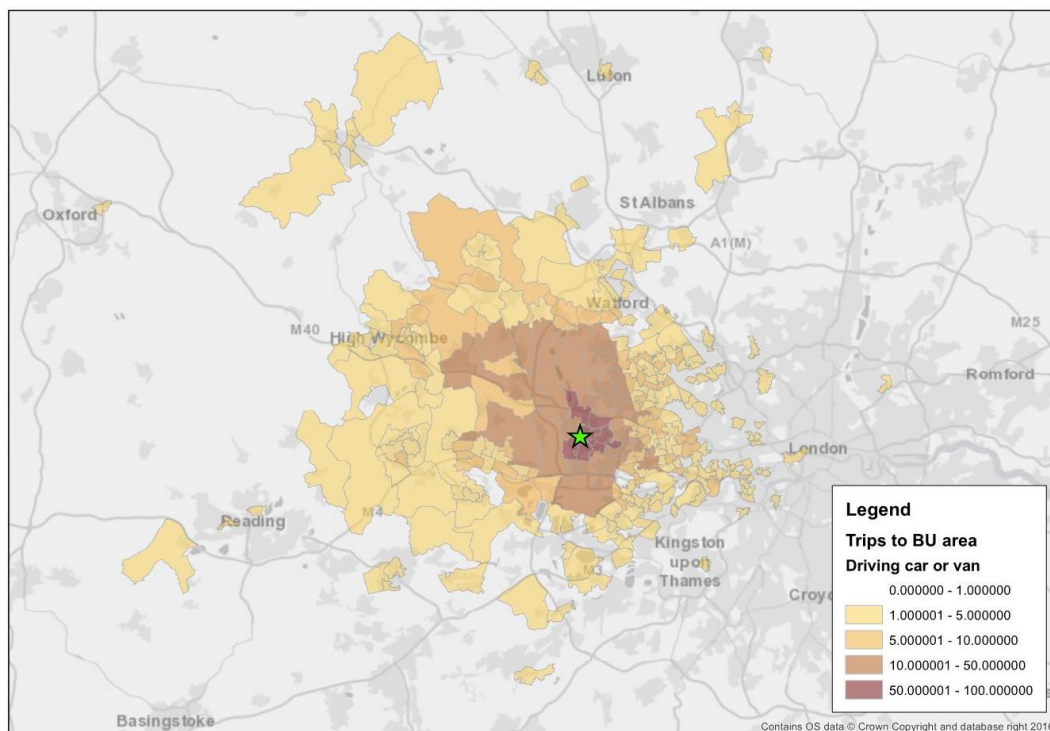
3.18.2

Figure 3-4 disaggregates the data to private car (single occupancy) trips only. The catchment for these trips is broadly the same as that of **Figure 3-3** is an overview of where commuters to the chosen MSOA ordinarily reside. Other trips are said to be made from other areas of England, but the majority originate from the coloured areas in this map. As would likely be expected, most of these trips are relatively short, and are between Hillingdon 017 and other areas of LB Hillingdon, south-west Hertfordshire and east Buckinghamshire.

3.18.3

as would be expected (single occupancy private car is the main mode of commute to the area).

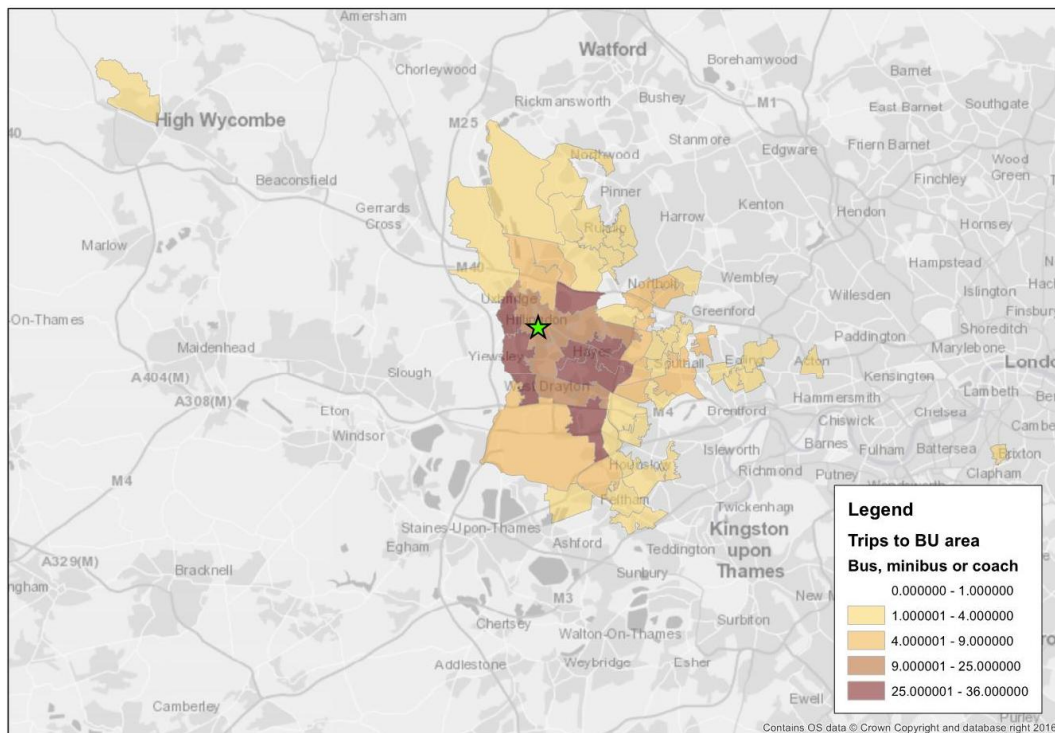
Figure 3-4: Hillingdon 017 - Private Car (Single Occupancy) Commuter Trips



3.18.4

Figure 3-5 disaggregates the data to bus trips only. The catchment for journeys to work by bus is more localised (generally north-south between south-west Hertfordshire and the London Borough of Richmond). Trips to/from areas such as High Wycombe represent those on longer distance inter-city services.

Figure 3-5: Hillingdon 017 - Bus Commuter Trips



3.18.5

These figures show that whilst commuter trips to HH are drawn from a large catchment area, there are a number of trips by private car from the local area which have the potential to be made by more sustainable modes.

4

EXISTING TRANSPORT & HIGHWAY CONDITIONS

4.1 INTRODUCTION

4.1.1 This section reviews the existing transport conditions in the vicinity of the BU and HH sites. More specifically, this chapter provides a description of the site location, a review of the existing walking, cycling and public transport facilities and a description of the existing highway network in the vicinity of the sites.

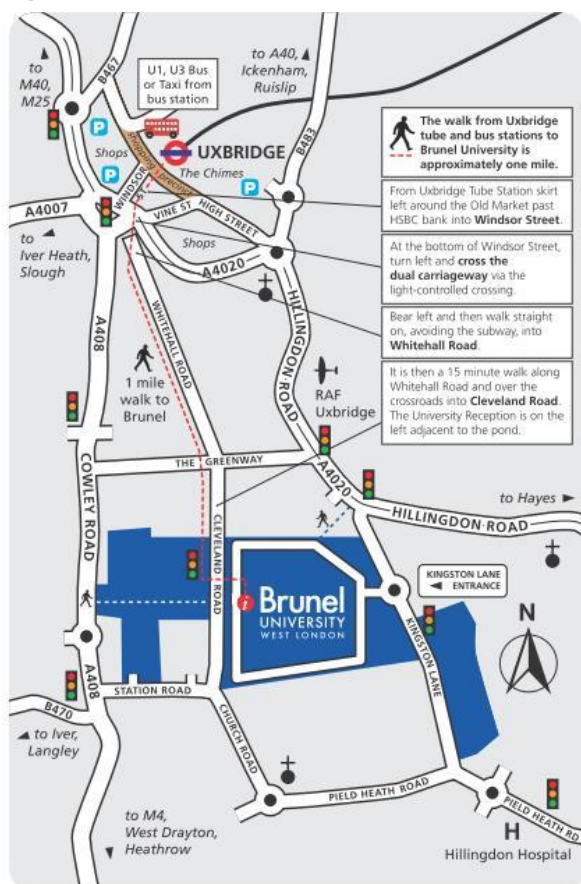
BRUNEL UNIVERSITY

4.2 PEDESTRIAN ACCESSIBILITY

4.2.1 BU is approximately a 20 minute walk from Uxbridge town centre and Uxbridge London Underground station.

4.2.2 Most areas of BU are connected to the central concourse via a number of footpaths. The footpaths are generally of good condition, lit and are mostly overlooked by CCTV. **Figure 4-1** below illustrates the pedestrian routes and entrances to BU.

Figure 4-1: Pedestrian Routes



4.2.3 The principal east-west pedestrian route through the campus is the only route with a continuous dedicated footway; other east-west routes require pedestrians to use the roadway and/or parking areas. A number of ramps are provided for wheelchair accessibility around the main centre square at the lecture building.

4.2.4 There are a number of pedestrian crossings in close proximity to the site as detailed in **Table 4-1** below.

Table 4-1: Pedestrian Access Points

ZONE	ACCESS TO ZONES	ACCESS TO BUS ROUTES	ACCESS TO POINTS OF INTEREST
A	B, C, D	U3, U5, 222	Cleveland Road, Cowley Road, Station Road
B	C, E	U3	Cleveland Road
C	A, B, D, E, F	U3	Cleveland Road
D	A, C, F	U3, 222, U5	Cleveland Road
E	B, C, F, G	A10, U1, U4, U7	Kingston Lane, Sports Park
F	C, D, E, G	-	-
G	E, F	U1, U4, U7	Kingston Lane, Sports Park

4.2.5 Zone A provides access to bus services U3, U5 and 222, as well as Cleveland Road, Cowley Road and Station Road. Zones B and C provide access to bus service U3 and Cleveland Road. Zone D provides access to bus services U3, 222, U5 and Cleveland Road. Zone E provides access to A10, U1, U4 and U7 bus services, as well as Kingston Lane for the University sports park. Zone F doesn't provide access to any bus services or points or interest, and Zone G provides access to U1, U4 and U7 bus services, as well as the University sports park on Kingston Lane.

4.2.6 The pedestrian network in the vicinity of the site ensures good accessibility on foot to surrounding local facilities and public transport. The isochrones shown on **Figure 4-2** overleaf shows the 5, 10, 15, 20, 25 and 30 minute walking catchment areas from the site assuming a walk speed of 4.8km/hr.

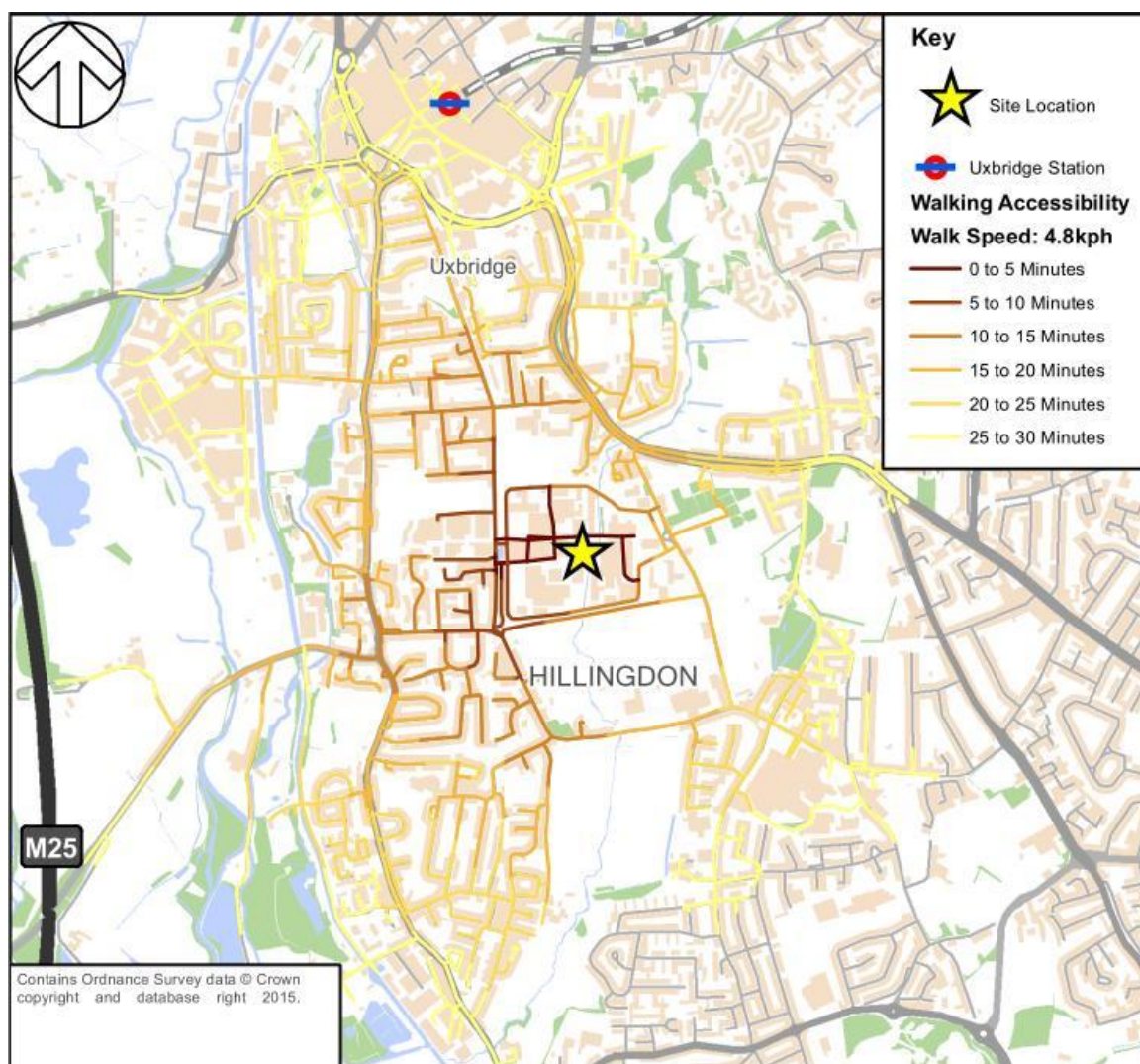
4.2.7 All the surrounding footways are in good condition and have street lighting and all major junctions in the area have pedestrian features such as dropped kerbs and tactile paving. A PERS audit will be completed during the planning application which will detail the quality of each link, crossing, route, public transport waiting area, interchange space and public space.



Cleveland Road

- 4.2.8 It is recognised that the most important pedestrian desire lines from the development are those which provide connections to public transport services within the surrounding area.
- 4.2.9 PPG13, which has now been superseded by NPPF, noted in paragraph 75 that walking is the most important mode of travel at the local level and offers the greatest potential to replace short car trips, particularly under 2km (2km is equivalent to a 25 minute walk). This statement remains relevant and has been accepted for many years. A walking distance of 2km is likely to be realistic for people travelling to and from the site.
- 4.2.10 Existing walking isochrones for the immediate vicinity of the site and across the University grounds as a whole are shown below in **Figure 4-2**.

Figure 4-2: Walking Accessibility



NURSERY LANE

- 4.2.11 Nursery Lane is a pedestrian only route between Station Road and Kingston Lane. This route provides easy access into BU grounds.

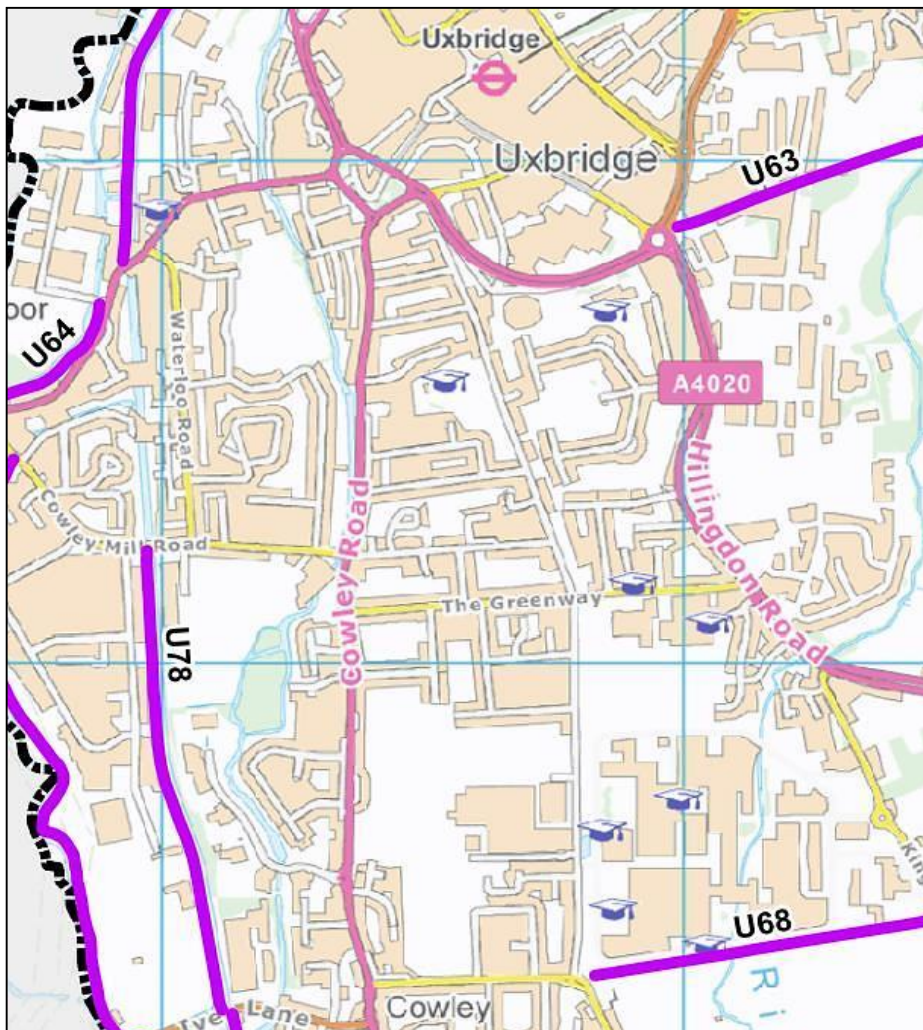


Nursery Lane

4.2.12

The public footpaths accessible from the site are shown overlaid in **Figure 4-3**.

Figure 4-3: Public Footpaths



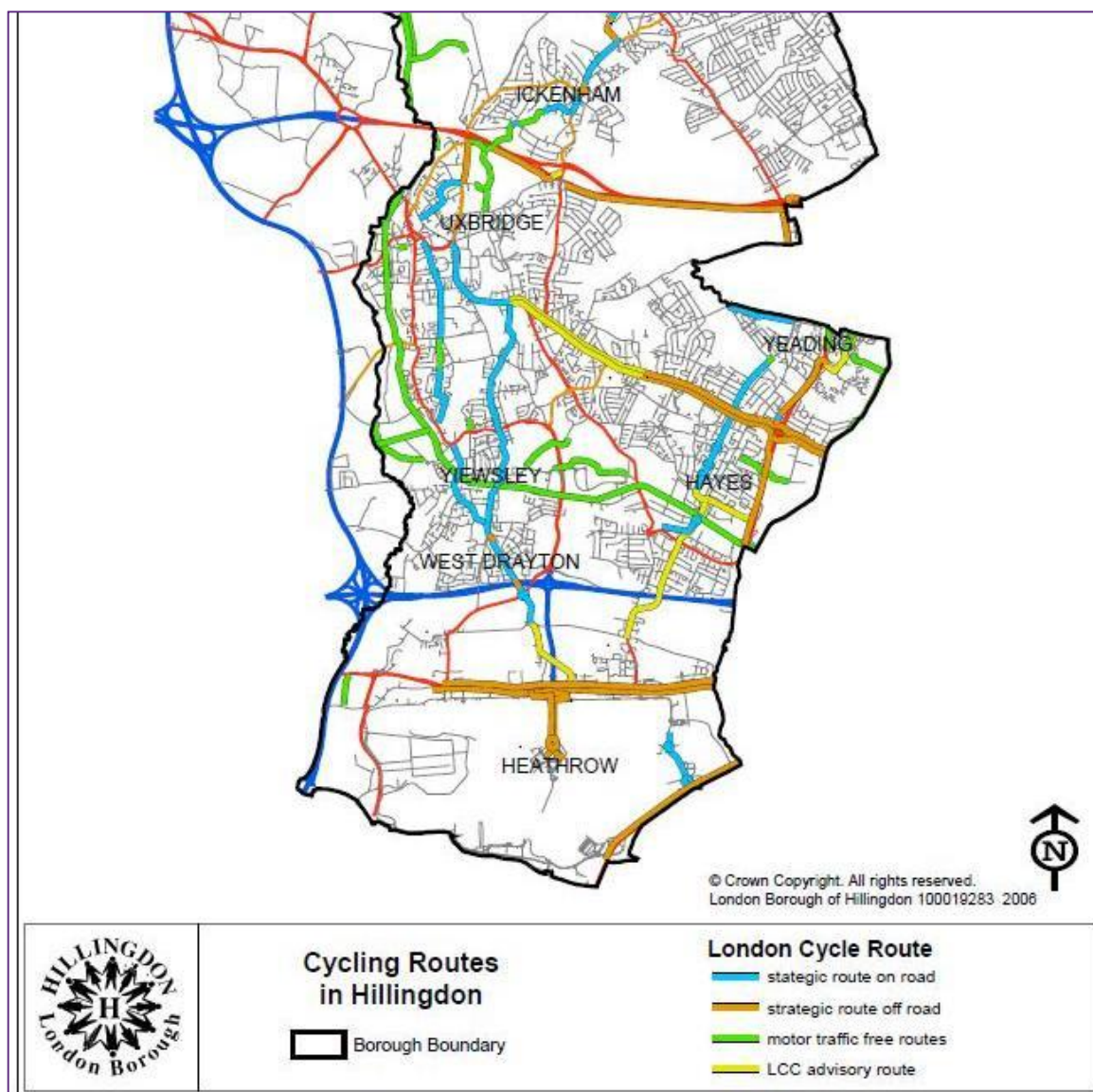
4.2.13 The nearest public footpaths are situated south of the University between Station Road and Kingston Road, and north of the University next to Uxbridge Town Centre leading onto Vine Lane.

4.3 CYCLE ACCESSIBILITY

4.3.1 Cycling is a popular and common mode of transport within London, providing a low cost, efficient means of travel. Improvements and upgrades to London's cycle network mean that extensive routes are now in place offering cyclists greater priority along the majority of London's main roads.

4.3.2 The locally designated cycle routes are shown overleaf in **Figure 4-4**.

Figure 4-4: Cycle Routes



4.3.3 There are a number of motor traffic free routes within close proximity to the site, stretching from Uxbridge to Yiewsley and Hayes. A 0-30 minute cycle catchment isochrones map is also included in **Figure 4-5** overleaf, demonstrating that it is possible to cycle throughout LBH and further afield.

Figure 4-5: Cycle Isochrones



4.3.4 The site benefits from being located close to a large number of cycle routes. These consist of routes that occupy both busy and quieter roads, as well as providing connections to the wider cycling network within London. The London Cycle Guides, produced by TfL, provide localised cycling routes in the greater London area. The Local Cycle Guide 6 provides information and routes for Uxbridge and its surrounding area.

4.3.5 An extensive network of cycling routes is available in close proximity to the site. Uxbridge Road is part of the London Cycle Network route 39. This road heads south and southwest towards Southall and Hayes.

4.3.6 Cycle route 89 provides access to Heathrow and Yiewsley and route 39 provides access to Southall. Both of these routes can be accessed from The Greenway from Cleveland Road as shown overleaf.



Cycle Routes

4.3.7 Heading north of the University, cyclists are able to connect onto the Sustrans Local Route up to Uxbridge which connects onto Sustrans National Route which continues into Denham Country Park, Harefield and Rickmansworth. South of the University the Sustrans Local Route provides access to West Drayton and Heathrow. Sustrans National Route is also accessed to the West of Uxbridge which continues into Slough and Windsor.

4.4 PEDESTRIAN AND CYCLE ACCESSIBILITY – SITES 1, 2 AND 4

PEDESTRIAN AND CYCLE ACCESS

4.4.1 The following paragraphs and figures provide further detail of the existing pedestrian and cycle access points to the university, concentrating on Sites 1 and 2 (which are developed) and Site 4 (which could be developed in the near future).

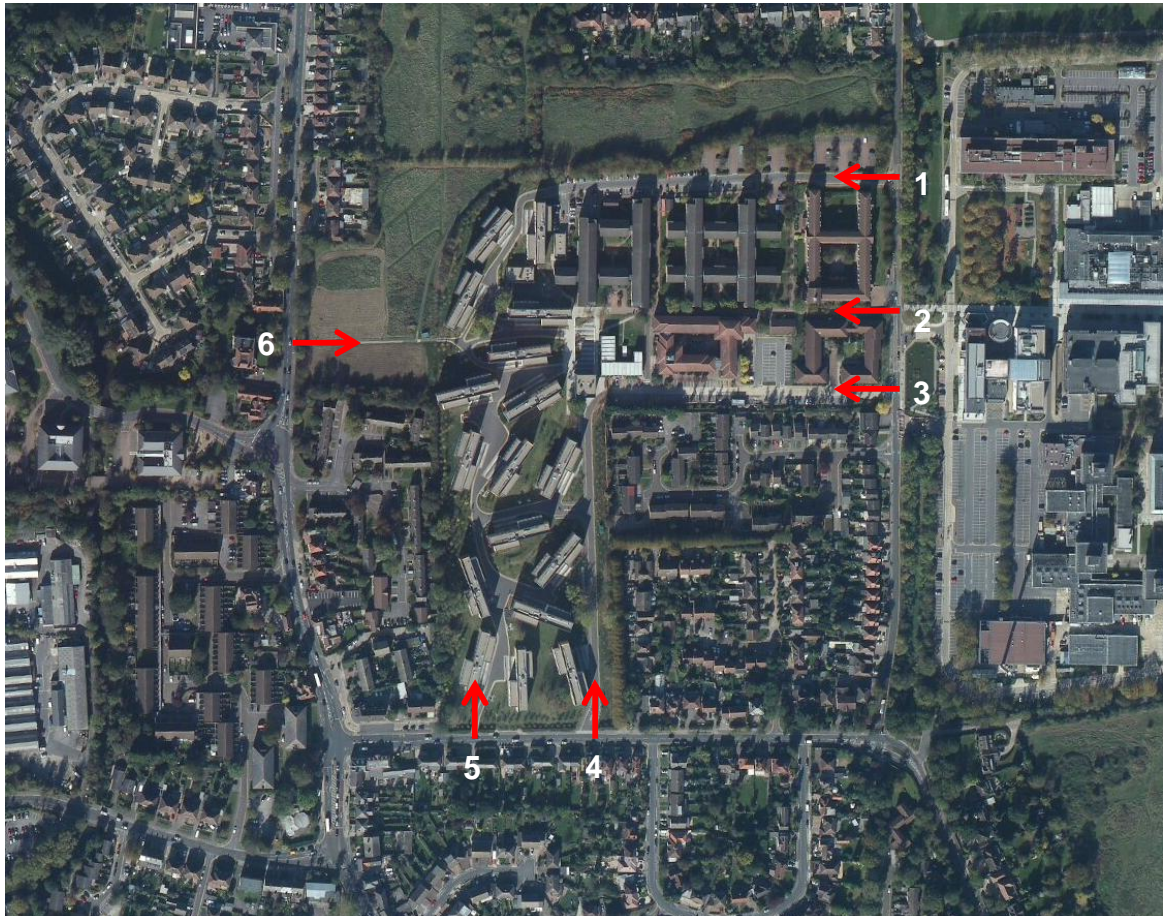
Site 1

4.4.2 As shown on **Figure 4-6**, pedestrian and cycle access to Site 1 is currently provided via:

- Topping Lane to the east, which includes a designated footway on its southern side;
- A main pedestrian / cycle walkway, which runs in an east to west direction through the centre of Sites 1 and 2 (crossing Cleveland Road);
- West Spur Road to the east, which includes a designated footway on its northern side;

- Station Road to the south, via the existing two-way priority junction, which includes footways on its western side;
- Station Road to the south via the existing 'emergency' only access point, which is constructed of shared-surface materials; and
- A designated pedestrian / cycle route, which crosses Cowley Road to the east and links to the main University campus.

Figure 4-6: Site 1 – Pedestrian and Cycle Access Points



Site 4

- 4.4.3 Nursery Lane, which skirts the northern boundary of the site, is designated as a public footpath.
- 4.4.4 No designated pedestrian / cycle access points are currently provided to Hillingdon Garden Centre.

4.5 PUBLIC TRANSPORT NETWORK

BUS ACCESSIBILITY

4.5.1 There are a number of London bus routes operating around BU, providing access to a number of key destinations including Uxbridge tube station, Uxbridge town centre and West Drayton railway station. Furthermore, bus service A10 runs between Uxbridge and Heathrow Airport with a journey time of approximately 20 minutes. The bus services provide a comprehensive network, serving all main roads around the site and key access points.

4.5.2 **Table 4-2** below provides a summary of London bus services in the vicinity of BU.

Table 4-2: Local London Bus Services

ROUTE	ROUTE SUMMARY	FREQUENCY (PER HOUR)	
		Mon – Sat	Sunday
222	Hounslow – West Drayton – Cowley - Uxbridge	7	3
427	Acton – Ealing – Hillingdon Road – Uxbridge	7	6
607	Uxbridge – Southall – Acton – White City	6	5
A10	Heathrow – Hillingdon Road – Uxbridge	4	2
U1	Ruislip – Uxbridge – Kingston Lane – West Drayton	4	2
U2	Uxbridge – Hillingdon Hospital – Kingston Lane	6	3
U3	Heathrow – West Drayton – Cleveland Road – Uxbridge	5	3
U4	Prologis Park – Hayes and Harlington – Brunel University – Uxbridge	7	7
U5	Hayes and Harlington – Stockley – West Drayton – Uxbridge	5	3
U7	Hayes – Hillingdon Hospital – Kingston Lane - Uxbridge	2	2
N207	Uxbridge – Southall – Ealing – Shepherd’s Bush - Holborn	(2 per hour between 00:00 – 05:00)	(2 per hour between 00:00-05:00)
Total		53	36

4.5.3 **Table 4-2** indicates there are ten London bus routes in the vicinity of BU providing approximately 53 services per hour in either direction. The night bus provides two services per hour between midnight and 5am every night of the week towards either Holborn or Uxbridge.

4.5.4 Bus services from outside of London, such as to/from Slough, also operate to Uxbridge town centre.

LONDON UNDERGROUND

4.5.5 Uxbridge station is approximately a 20 minute walk north of BU and can be accessed via all of the bus services listed in **Table 4-2**.

4.5.6 Uxbridge Station provides access to Metropolitan and Piccadilly Lines. There are frequent services throughout the day and a summary of these services is provided in **Table 4-3** below.

Table 4-3: LUL Services from Uxbridge

LINE	ROUTE DESCRIPTION	PEAK HOUR FREQUENCY
Piccadilly	Uxbridge – Cockfosters	8
Metropolitan	Uxbridge – Aldgate	10

NATIONAL RAIL

4.5.7 West Drayton is the nearest mainline railway station in the region of 2.5km from BU. West Drayton provides services to London Paddington and Bristol (via Reading) to the west.

4.5.8 Furthermore, West Ruislip station is around a 20 minute bus journey from the site. West Ruislip provides mainline services to London Marylebone and the Midlands. **Table 4-4** provides a summary of services from West Drayton and West Ruislip railway stations respectively.

Table 4-4: Rail Services

LINE	ROUTE DESCRIPTION	PEAK HOUR FREQUENCY
West Drayton	Oxford (via Reading)	1
	Reading (via Maidenhead)	2
	London Paddington	4
	Banbury	1
West Ruislip	High Wycombe	1
	London Marylebone	2
	Aylesbury	1

PUBLIC TRANSPORT ACCESSIBILITY LEVEL (PTAL)

4.5.9 The Public Transport Accessibility Level (PTAL) methodology has been adopted by the GLA and TfL as a means of quantifying and comparing accessibility by public transport for a given site. The methodology is based on a walk speed of 4.8km/h and considers rail stations within a 12 minute walk (960m) of the site and bus stops within eight minutes' walk (640m). A full PTAL assessment has been undertaken for the site, contained in **Appendix C**, which takes into account the time taken to access the public transport network and includes:

- The walk time to various public transport services
- The average waiting time for each service; and
- The reliability of each service.

4.5.10 An Equivalent Doorstep Frequency (EDF) is calculated for each of the public transport services accessible from the site based on the criteria described above. These individual EDF values are then weighted to provide an accessibility index (AI) value for each service accessible from the site. The sum of the AI's for each mode are then aggregated to provide a single measure of accessibility. The Total AI value is then compared against the PTAL bands given below in **Table 4-5**.

Table 4-5: PTAL Bandings

PTAL SCORE	RANGE OF INDEX (AI)	DESCRIPTION
1a	0.01 – 2.50	Very Poor
1b	2.51 – 5.00	Very Poor
2	5.01 – 10.00	Poor
3	10.01 – 15.00	Moderate
4	15.01 – 20.00	Good
5	20.01 – 25.00	Very Good
6a	25.01 – 40.00	Excellent
6b	>40.01	Excellent

4.5.11 The exact location of the point of interest can have a considerable bearing on the PTAL score, as the distance to local transport services and the nature of the local walk network will vary from point to point. **Table 4-6** below highlights the PTAL for different points of interest around the BU site based on the TfL PTAL web-based calculator. Full details of the assessment are provided within **Appendix C**.

Table 4-6: PTAL Points – Brunel University

POINT OF INTEREST	DESCRIPTION	EASTING, NORTHING	PTAL RATING
Cleveland Road (S)	Centre of Campus	505795, 182613	1b
Cleveland Road (N)	Northern site boundary	505792, 182906	2
Kingston Lane	Eastern site boundary	506398, 182670	2
Cowley Road	Western site boundary	505326, 182476	1b
Station Road	Southern site boundary	505714, 182364	2

4.5.12 The assessment concludes that the BU site benefits from a 'very poor' to 'poor' accessibility, although it is noted that this is derived from a methodology which depends on access to Underground and rail services to a significant extent. The eastern extent of the site (Kingston Lane) is measured to have the best accessibility due to its proximity to the range of bus services on Hillingdon Road.

4.5.13 However, as is common with GIS based tools, there can be pedestrian only connections that are missed judged from the calculations. A Manual PTAL calculation has therefore been undertaken and is shown in **Table 4-7** below. Full details of the assessments are provided within **Appendix D**.

Table 4-7: Manual PTAL Calculations

POINT OF INTEREST	OVERALL ACCESSIBILITY INDEX	PTAL RATING
Cleveland Road (S)	9.45	2
Cleveland Road (N)	9.58	2
Kingston Lane	11.96	3
Cowley Road	9.07	2
Station Road	10.17	3

4.5.14 The manual calculations include Nursery Lane which runs to the south of the University campus, between Station Road and Kingston Lane. Cleveland Road, Cowley Road and Station Road points of interest all have higher PTAL ratings as a result of this calculation.

4.6 HIGHWAY NETWORK

4.6.1 The campus is bounded by Cowley Road to the east, Kingston Lane to the west, Station Road to the south and The Greenway to the north. Cleveland Road intersects the site in a north-south direction between Station Road and The Greenway.

COWLEY ROAD

4.6.2 Cowley Road runs from Uxbridge town centre to West Drayton and provides access onto the M40, north of the site, and M4, south of the site. Cowley Road is single carriageway road which is subject to 30mph limit. Directly opposite the University there is a signalised pedestrian crossing. This is the crossing point which many students and staff would use when gaining access to the site via a pedestrian path.

4.6.3 Cowley Road is a key bus route and therefore provides partial double carriageway for bus stops nearby the site. Towards Uxbridge Town Centre Cowley Road is a single carriageway which accommodates two-way traffic. There are a number of resident only parking bays to the north of Cowley Road.



Cowley Road

Cleveland Road

4.6.4

Cleveland Road runs from The Greenway to Station Road through the centre of BU. Cleveland Road is single carriageway with pavement provided on only one side of the road, apart from the pedestrian crossings located in the centre of the University. Cleveland Road provides cyclist and pedestrian access to the University, but not vehicle access.

4.6.5

As part of the planning conditions for the original consent (planning condition 56), the Cleveland Road access to the University campus (Site 2) was closed to vehicular traffic (excluding emergency vehicles) on Monday 10th September 2007. Entry is now via Kingston Lane only.



Cleveland Road

4.6.6

Cleveland Road is subject to a 20mph road limit. Only one pedestrian crossing is provided on Cleveland Road within the centre of the University. Speed cushions are provided at the southern exit on the approach to Station Road priority junction.

THE GREENWAY

4.6.7

The Greenway runs from Cowley Road to the A4020, Hillingdon Road and is subject to a 20mph road limit. A zebra crossing is provided on the approach to Cleveland Road providing students and staff with safe pedestrian access to BU. A speed cushion is situated near the priority junction to The Greenway when the road reaches 20mph limit.



The Greenway

KINGSTON LANE

4.6.8

Kingston Lane runs from the A4020, Hillingdon Road and Pield Heath Road and is subject to 30mph road limit. Kingston Lane provides the main vehicular access into the University via a three arm roundabout. Kingston Lane is a key bus route and provides access to HH on Pield Heath Road to the south and Hillingdon Golf Course to the north. Kingston Lane is single carriageway and provides only one side of the pavement up until the bus layover next to BU Sports Park.



Kingston Lane

STATION ROAD

4.6.9

Station Road is a single carriageway road which runs from the A408, High Street onto Church Street. Station Road is subject to 30mph speed limit and has a speed cushion before the priority junction onto Cleveland Road.

4.6.10

A pedestrian crossing is situated before the signalised junction onto the A408, High Street. There are no further crossing points and therefore staff and students accessing the University by the pedestrian entrances along Station Road, will need to cross at the signalised junction.



Station Road

4.6.11

The surrounding residential rounds are located within parking zone U5, which is for permit holders only, Monday – Friday 09:00-17:00. These roads include:

- Queen's Road;
- King's Road;
- Elthorne Road;
- Villier Street;
- Northon Road;
- Ferndale Crescent;
- Stirling Close;
- Spencer Close;
- Ratcliffe Close;
- Turnpike Lane;
- Frayslea;
- Orchard Waye;
- Merryfields;
- Cornfield Close; and
- Alexander Road.

4.7 VEHICULAR ACCESS – SITES 1, 2 AND 4

4.7.1 The following paragraphs and figures provide further detail of the existing vehicular access points to the university, concentrating on Sites 1 and 2 (which are developed) and Site 4 (which could be developed in the near future).

4.7.2 ANPR the main car park captures data for ingress and egress of vehicles. This provides automatic access for staff and students who are registered for authorised entry and have an ID card with proximity access control. There is an intercom with verbal access to security for vehicles which are not registered, or for contractors and visitors to the University.

Site 1

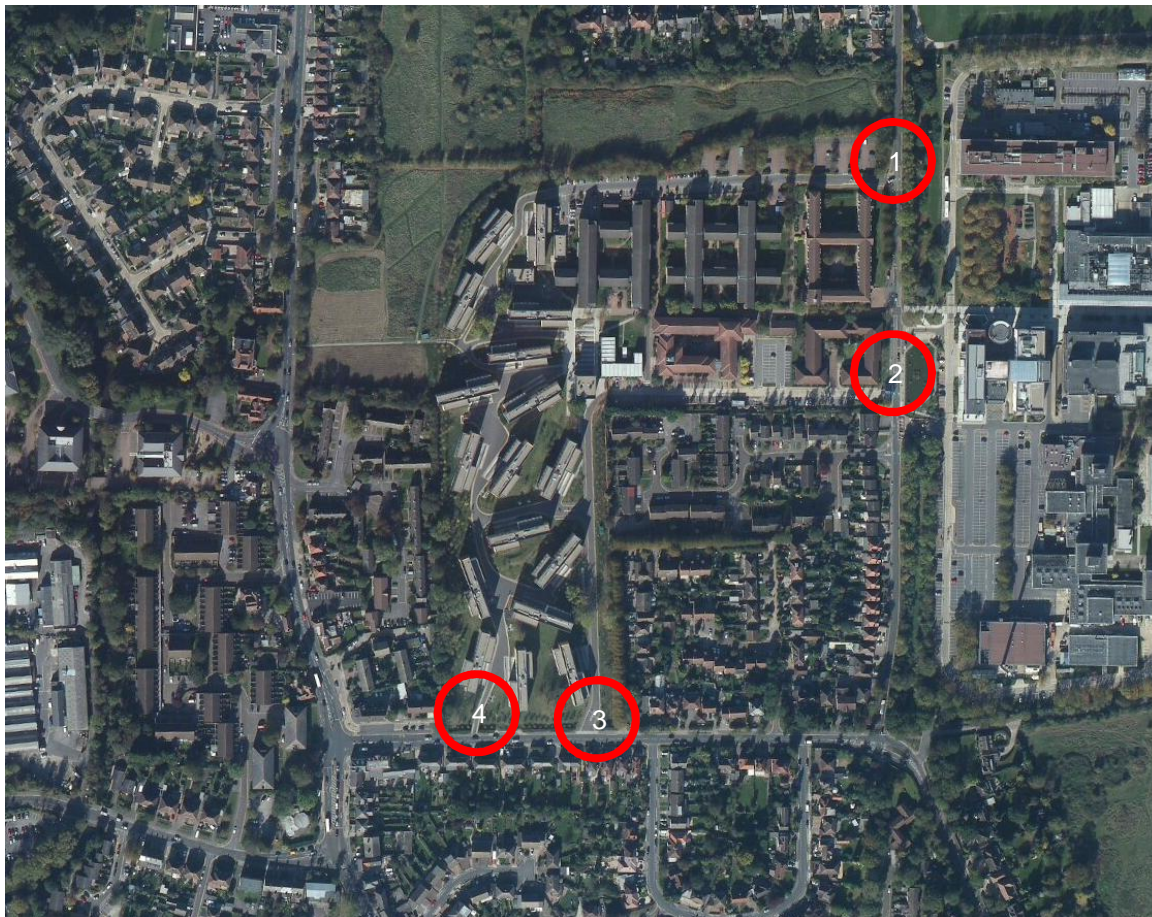
4.7.3 Vehicular access to Site 1 is currently provided via:

- West Spur Road, which forms a priority junction with Cleveland Road to the east. West Spur Road is controlled via a barrier system;
- Topping Lane, which forms a priority junction with Cleveland Road to the east. Topping Lane is controlled via a barrier system;
- A two-way priority access point from Station Road (approximately 50 metres to the west of the emergency access point), which is controlled via a barrier system; and
- A one-way 'emergency only' priority access point from Station Road to the south, which is controlled via droppable bollards.

4.7.4

The existing vehicular access arrangements for Site 1, as detailed above, are illustrated in **Figure 4-7**.

Figure 4-7: Site 1 – Vehicular Access Points



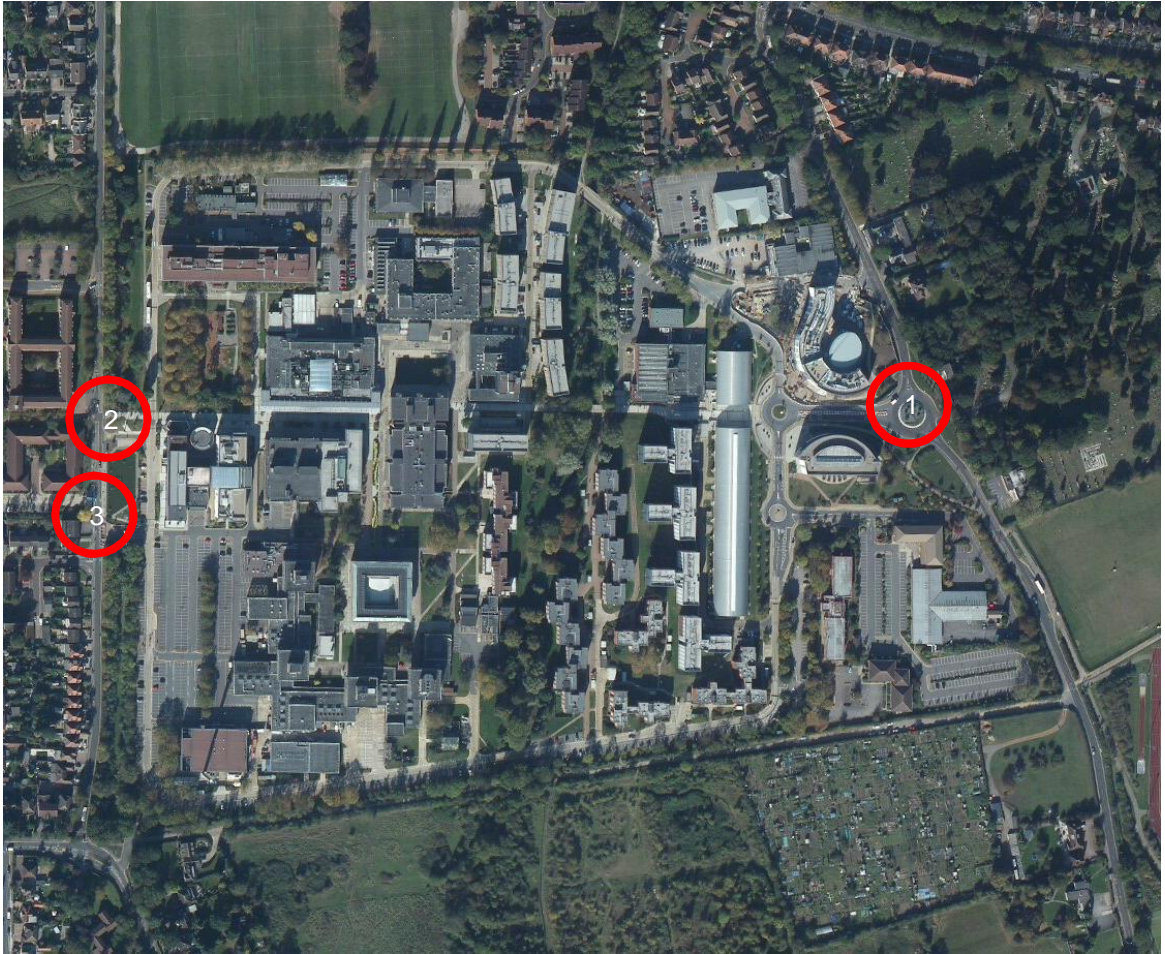
Site 2

4.7.5

As illustrated on **Figure 4-8**, Vehicular access to Site 2 is currently provided via:

- A four-arm roundabout located to the west, which links BU, Kingston Lane and Hillingdon and Uxbridge Cemetery;
- A two-way priority access point from Cleveland Road to the east, which is currently closed off; and
- A one-way 'emergency only' priority access point from Cleveland Road to the east.

Figure 4-8: Site 2 – Vehicular Access Points



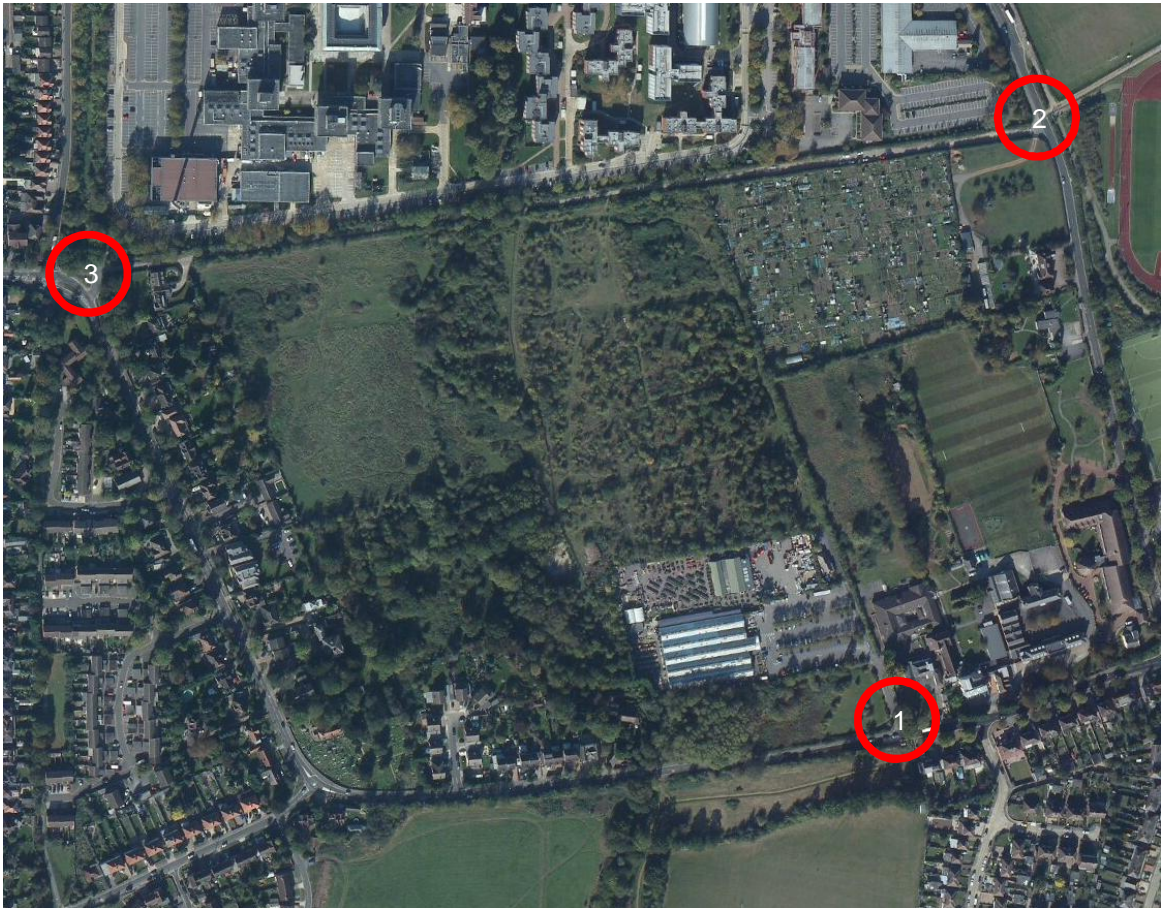
Site 4

4.7.6

With the exception of Hillingdon Garden Centre, Site 4 is currently unused. As illustrated on **Figure 4-9**, at present vehicular access is provided via:

- A two-way priority access point to Hillingdon Garden Centre from Church Road to the south; and; and
- Nursery Lane to the north, which links Kingston Lane and Church Road. Nursery Lane is a single lane track which provides access to residential dwellings at the north-western boundary of the site and an allotments area to the east of the site. Nursery Lane is designated as a public footpath.

Figure 4-9: Site 4 – Vehicular Access Points



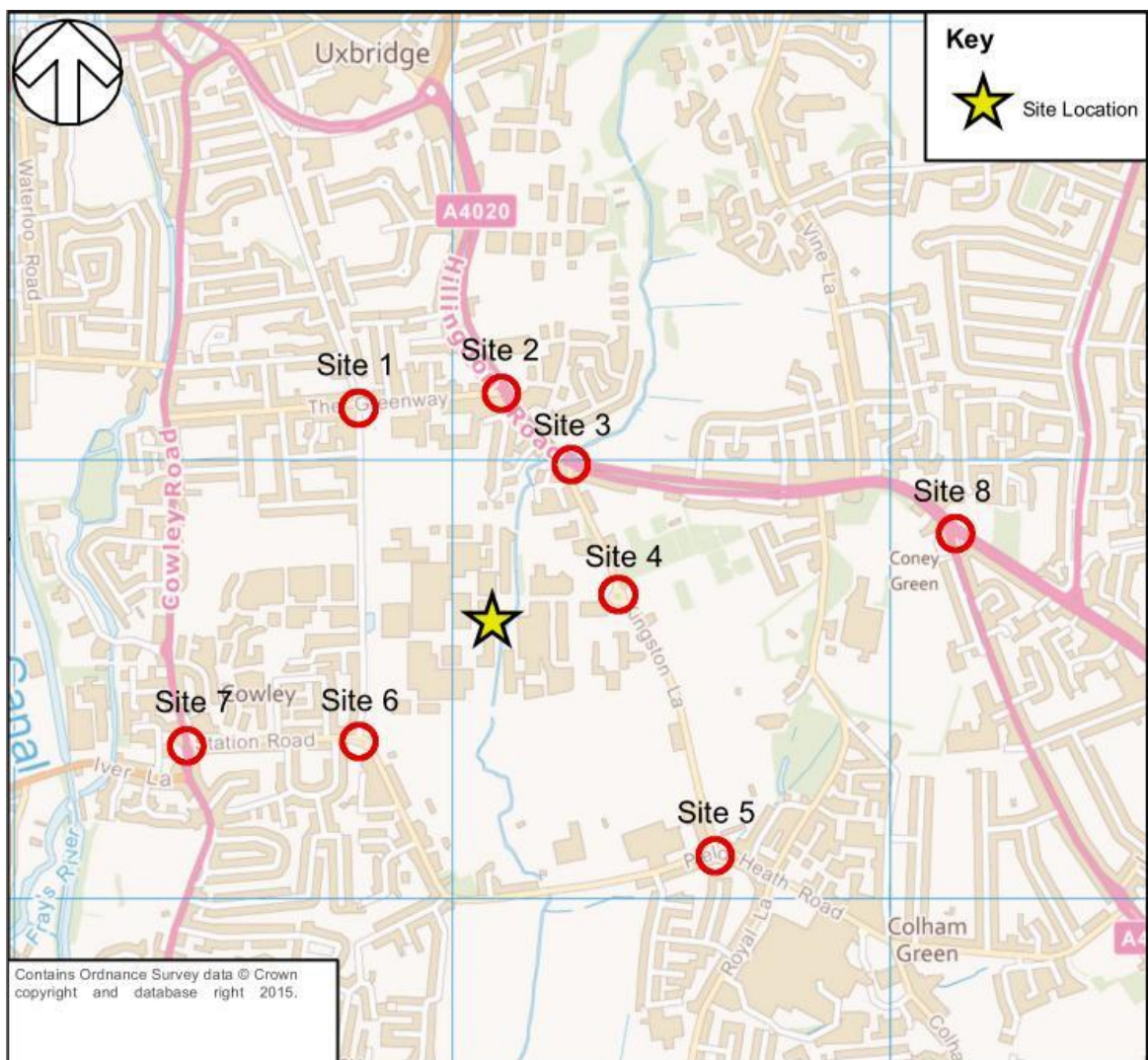
4.8 CAR CLUBS

4.8.1 BU currently operates a car club with Hertz Connect to provide hire cars on campus which can be booked at very attractive rates. Full details can be found at <http://www.hertzdemand.com>.

4.9 TRAFFIC FLOWS

4.9.1 Turning movement counts were carried out on Thursday 12th February 2015 by an independent survey company to identify the existing traffic conditions on the local network. The locations of the surveys are shown in **Figure 4-10** below. Traffic flow diagrams, which illustrate the 2015 base traffic flows on local highway network, are included at **Appendix F**.

Figure 4-10: Surveyed Junctions



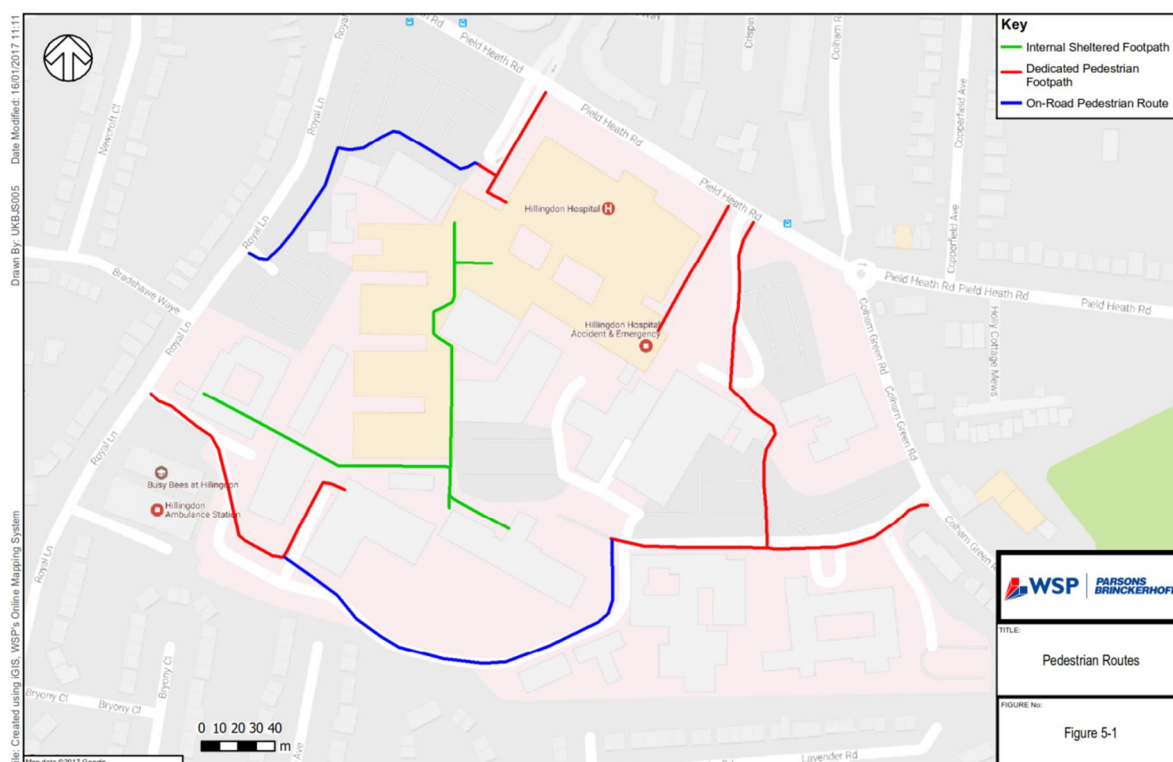
HILLINGDON HOSPITAL

4.10 PEDESTRIAN ACCESSIBILITY

4.10.1 HH is approximately 30 minutes' walk from Uxbridge town centre and Uxbridge London Underground station.

4.10.2 Most areas of HH are connected to the main tower building via a number of footpaths. The footpaths are generally of good condition, lit and are mostly overlooked by CCTV. **Figure 4-11** below illustrates the pedestrian routes and entrances to HH.

Figure 4-11: Pedestrian Routes



4.10.3 As illustrated, there are a number of pedestrian routes through the site. The internal sheltered footpath is accessed via specific hospital buildings, and leads to various zones across the site through an indoor corridor. Routes with continuous dedicated footways lead from the site access points to key building entrances such as Accident and Emergency, Outpatients, Endoscopy and the Main Entrance. Other routes require pedestrians to use the roadway and/or parking areas. Dropped kerbs and a number of ramps are provided for wheelchair accessibility around the site.

4.10.4 There are a number of pedestrian access points to the development as detailed in **Table 4-8** below.

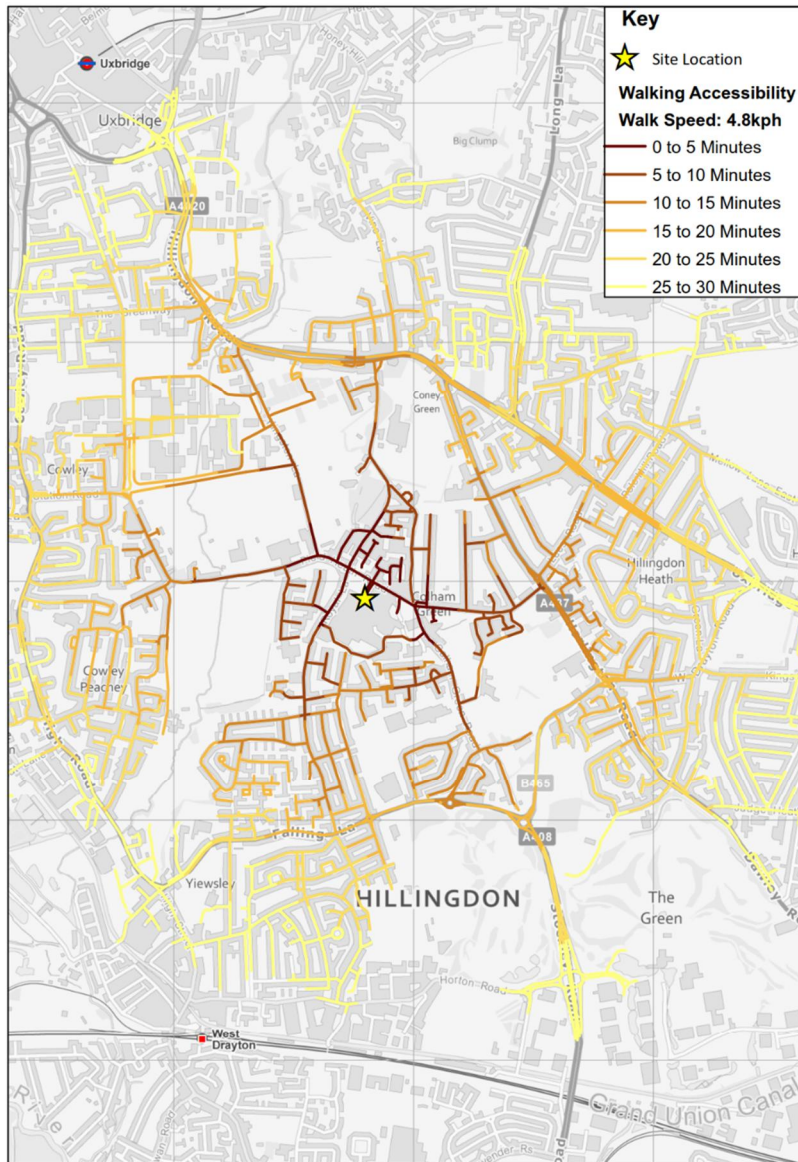
Table 4-8: Pedestrian Access Points

ACCESS POINT	ACCESS TO HOSPITAL ZONES	ACCESS TO BUS ROUTES
Royal Lane	Children's Nursery, Elderly Day Hospital	N/A – access buses from Pield Heath Road
Pield Heath Road (W)	Main Entrance and Tower Block	U1, U2, U3, U4, U5, U7

Field Heath Road (E)	Accident and Emergency, Outpatients and Maternity	U1, U2, U3, U4, U5, U7
Colham Green Road	Central and North West London (CNWL) Foundation	U1, U3, U5

- 4.10.5 The pedestrian network in the vicinity of the site ensures good accessibility on foot to surrounding local facilities and public transport. The isochrones shown on **Figure 5-2** overleaf shows the 5, 10, 15, 20, 25 and 30 minute walking catchment areas from the site assuming a walk speed of 4.8km/hr.
- 4.10.6 All the surrounding footways are in good condition and have street lighting and all major junctions in the area have pedestrian features such as dropped kerbs and tactile paving. A PERS audit will be completed during the planning application which will detail the quality of each link, crossing, route, public transport waiting area, interchange space and public space.
- 4.10.7 It is recognised that the most important pedestrian desire lines from the development are those which provide connections to public transport services within the surrounding area.
- 4.10.8 PPG13, which has now been superseded by NPPF, noted in paragraph 75 that walking is the most important mode of travel at the local level and offers the greatest potential to replace short car trips, particularly under 2km (2km is equivalent to a 25 minute walk). This statement remains relevant and has been accepted for many years. A walking distance of 2km is likely to be realistic for people travelling to and from the site.
- 4.10.9 Existing walking isochrones for the immediate vicinity of the site and across the Hospital grounds as a whole are shown below in **Figure 4-12**.

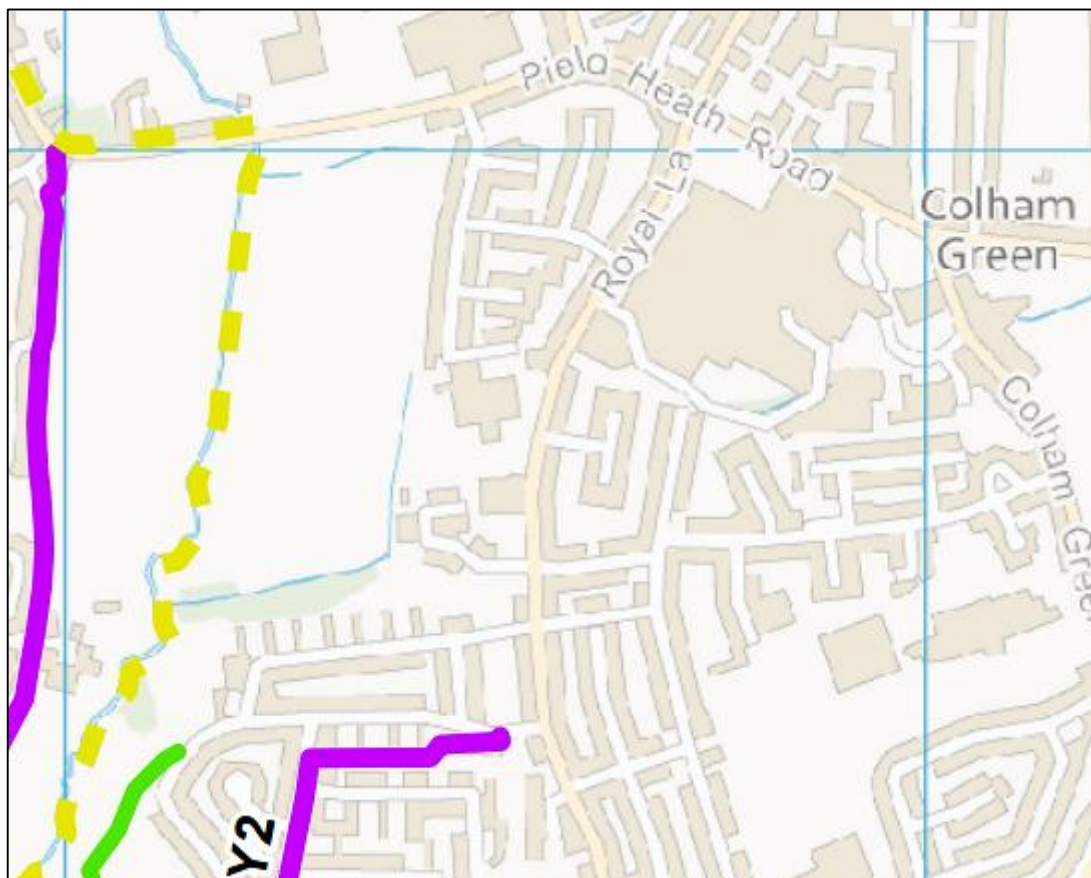
Figure 4-12: Walking Accessibility



4.10.10

The public footpaths accessible from the site are shown overleaf in [Figure 4-13](#).

Figure 4-13: Public Footpaths

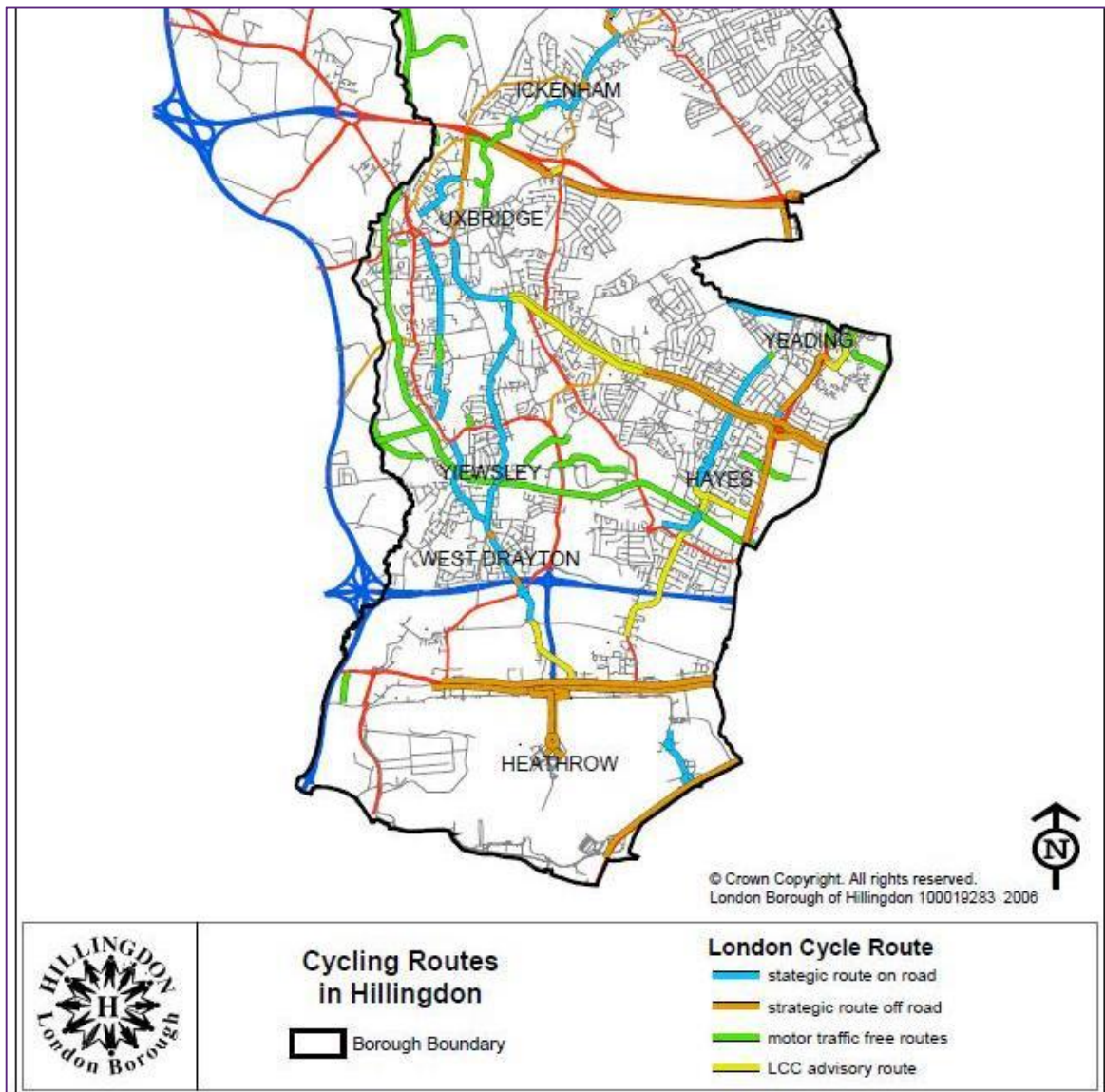


- 4.10.11 The nearest public footpaths are situated west of the Hospital along the Celandine Route, accessed from Peel Way and Church Road. This path leads down to Yiewsley in the south and as far as Pinner in the north.

4.11 CYCLE ACCESSIBILITY

- 4.11.1 Cycling is a popular and common mode of transport within London, providing a low cost, efficient means of travel. Improvements and upgrades to London's cycle network mean that extensive routes are now in place offering cyclists greater priority along the majority of London's main roads.
- 4.11.2 The locally designated cycle routes are shown overleaf in [Figure 4-14](#).

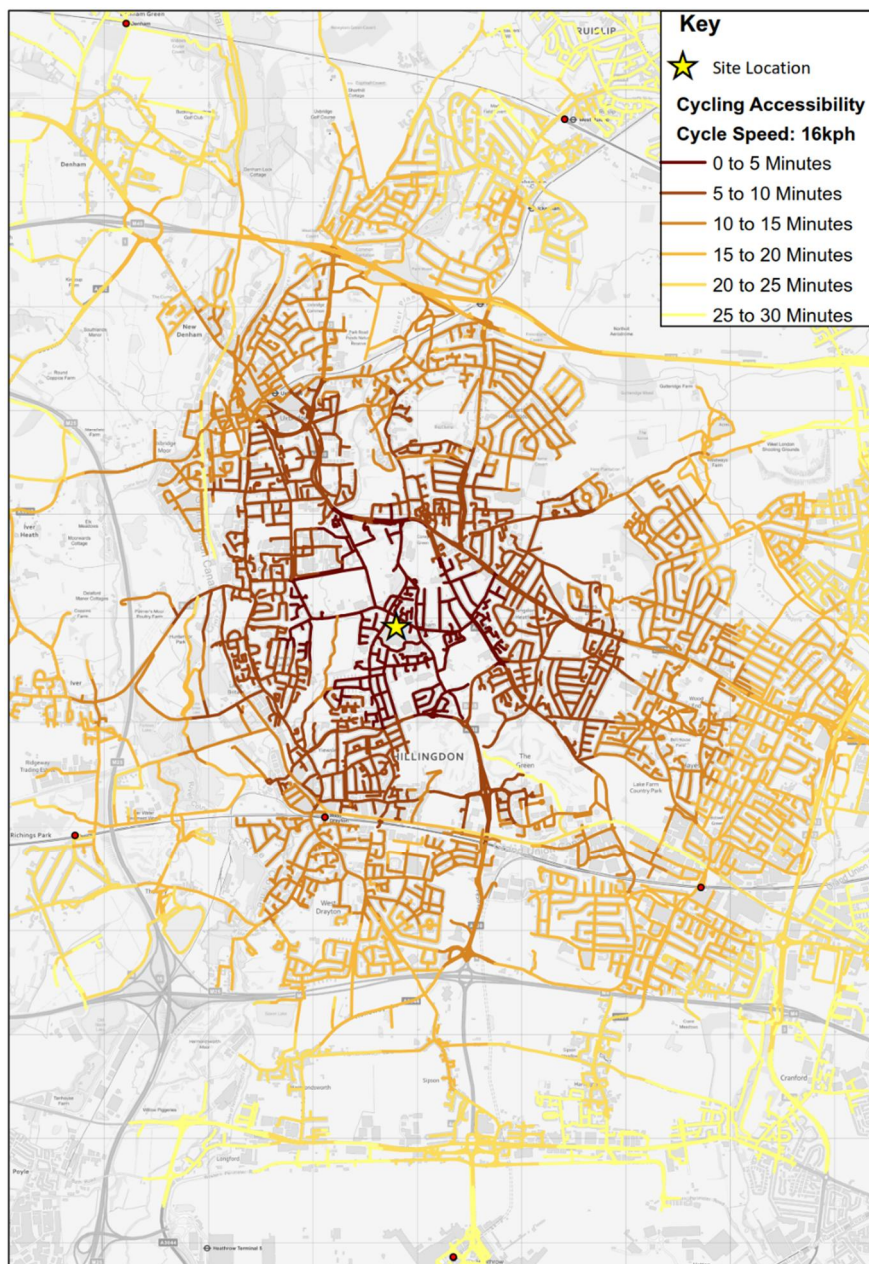
Figure 4-14: Cycle Routes



4.11.3

There are a number of motor traffic free routes within close proximity to the site, stretching from Uxbridge to Yiewsley and Hayes. A 0-30 minute cycle catchment isochrones map is also included in [Figure 4-15](#) overleaf, demonstrating that it is possible to cycle throughout LBH and further afield.

Figure 4-15: Cycle Isochrones



4.11.4 The site benefits from being located close to a large number of cycle routes. These consist of routes that occupy both busy and quieter roads, as well as providing connections to the wider cycling network within London. The London Cycle Guides, produced by TfL, provide localised cycling routes in the greater London area. The Local Cycle Guide 6 provides information and routes for Uxbridge and its surrounding area.

4.11.5 An extensive network of cycling routes is available in close proximity to the site. Uxbridge Road is part of the London Cycle Network route 39. This road heads south and southeast towards Southall and Hayes. The Celandine Route provides links to Yiewsley, and just west of this, along Peachey Lane, Cycle route 89 provides access to Heathrow.

- 4.11.6 Though not marked, Sustrans Local Network runs adjacent to the west of the site along Royal Lane. Additionally, cycle route access is provided from Colham Road to Field Heath Road and Colham Green Road at the site's north-eastern boundary.
- 4.11.7 Secure cycle parking is provided at various locations around the site, as shown overleaf.



Cycle Facilities

4.12 PEDESTRIAN AND CYCLE ACCESSIBILITY

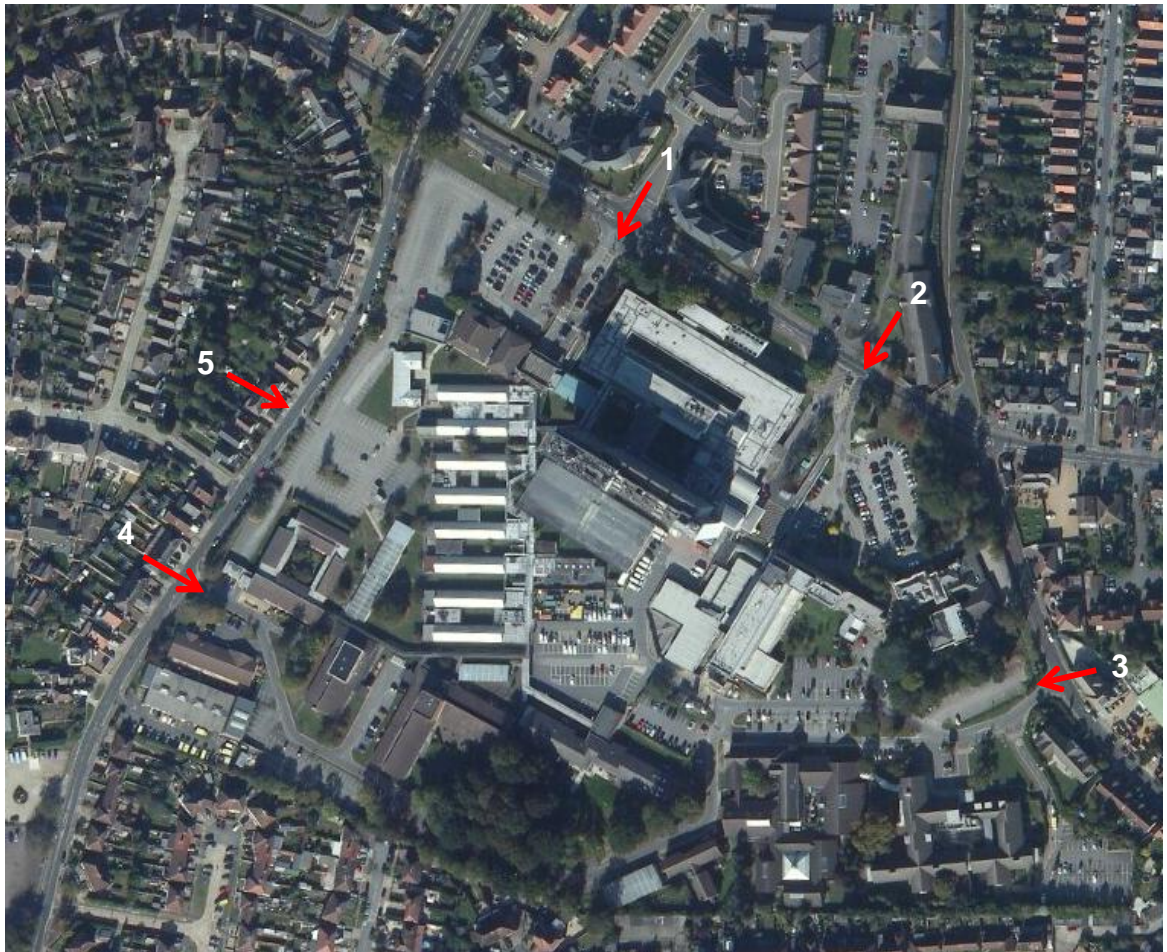
PEDESTRIAN AND CYCLE ACCESS

4.12.1 The following paragraphs and figures provide further detail of the existing pedestrian and cycle access points to the Hospital.

4.12.2 As shown on **Figure 4-16**, pedestrian and cycle access to the Hospital is currently provided via:

- Pield Heath Road to the north, as part of a signalised junction with Crispin Way. Pield Heath Road includes a designated footway on both sides;
- Further east along Pield Heath Road, via a priority junction, with a zebra crossing situated to the west of the site access;
- Colham Green Road to the east, via a priority junction. Colham Green Road includes a designated footway on both sides;
- Royal Lane to the west, south of Bradshawe Waye, via a priority junction. Royal Lane includes a designated footway on both sides; and
- Numerous informal access points along Royal Lane to the west, providing access to the car park.

Figure 4-16: Hillingdon Hospital – Pedestrian and Cycle Access Points



4.13 PUBLIC TRANSPORT NETWORK

BUS ACCESSIBILITY

4.13.1 There are a number of London bus routes operating around HH, providing access to a number of key destinations including Uxbridge Underground station, Uxbridge Town Centre and West Drayton railway station. Furthermore, bus service A10 runs between Uxbridge and Heathrow Airport with a journey time of approximately 20 minutes. The bus services provide a comprehensive network, serving all main roads around the site and key access points as shown in **Figure 4-16**.

4.13.2 **Table 4-9** below provides a summary of London bus services in the vicinity of HH.

Table 4-9: Local London Bus Services

ROUTE	ROUTE SUMMARY	FREQUENCY (PER HOUR)	
		Mon – Sat	Sunday
427	Acton – Ealing – Hillingdon Road – Uxbridge	7	6
A10	Heathrow – Hillingdon Road – Uxbridge	4	2
U1	Ruislip – Uxbridge – Kingston Lane – West Drayton	4	2
U2	Uxbridge – Hillingdon Hospital – Kingston Lane	6	3
U3	Heathrow – West Drayton – Cleveland Road – Uxbridge	5	3
U4	Prologis Park – Hayes and Harlington – Brunel University – Uxbridge	7	7
U5	Hayes and Harlington – Stockley – West Drayton – Uxbridge	5	3
U7	Hayes – Hillingdon Hospital – Kingston Lane – Uxbridge	2	2
Total		40	28

4.13.3 **Table 4-9** indicates there are 8 London bus routes in the vicinity of HH providing approximately 40 services per hour in either direction. Bus services from outside of London, such as to/from Slough, also operate to Uxbridge town centre.

LONDON UNDERGROUND

4.13.4 Uxbridge station is approximately a 30 minute walk north of HH and can be accessed via all of the bus services listed in **Table 4-9**.

4.13.5 Uxbridge Station provides access to Metropolitan and Piccadilly Lines. There are frequent services throughout the day and a summary of these services is provided in **Table 4-10**.

Table 4-10: LUL Services from Uxbridge

LINE	ROUTE DESCRIPTION	PEAK HOUR FREQUENCY
Piccadilly	Uxbridge – Cockfosters	8
Metropolitan	Uxbridge – Aldgate	10

NATIONAL RAIL

4.13.6 West Drayton is the nearest mainline railway station in the region of 2km from HH. West Drayton provides services to London Paddington and Bristol (via Reading) to the west.

4.13.7 Furthermore, West Ruislip station is around a 20 minute bus journey from the site. West Ruislip provides mainline services to London Marylebone and the Midlands. **Table 4-11** provides a summary of services from West Drayton and West Ruislip railway stations respectively.

Table 4-11: Rail Services

LINE	ROUTE DESCRIPTION	PEAK HOUR FREQUENCY
West Drayton	Oxford (via Reading)	1
	Reading (via Maidenhead)	2
	London Paddington	4
	Banbury	1
West Ruislip	High Wycombe	1
	London Marylebone	2
	Aylesbury	1

PUBLIC TRANSPORT ACCESSIBILITY LEVEL (PTAL)

4.13.8 The Public Transport Accessibility Level (PTAL) methodology has been adopted by the GLA and TfL as a means of quantifying and comparing accessibility by public transport for a given site. The methodology is based on a walk speed of 4.8km/h and considers rail stations within a 12 minute walk (960m) of the site and bus stops within eight minutes' walk (640m). A full PTAL assessment has been undertaken for the site, contained in **Appendix C**, which takes into account the time taken to access the public transport network and includes:

- The walk time to various public transport services
- The average waiting time for each service; and
- The reliability of each service.

4.13.9 An Equivalent Doorstep Frequency (EDF) is calculated for each of the public transport services accessible from the site based on the criteria described above. These individual EDF values are then weighted to provide an accessibility index (AI) value for each service accessible from the site. The sum of the AI's for each mode are then aggregated to provide a single measure of accessibility. The Total AI value is then compared against the PTAL bands given below in **Table 4-12**.

Table 4-12: PTAL Bandings

PTAL SCORE	RANGE OF INDEX (AI)	DESCRIPTION
1a	0.01 – 2.50	Very Poor
1b	2.51 – 5.00	Very Poor
2	5.01 – 10.00	Poor
3	10.01 – 15.00	Moderate
4	15.01 – 20.00	Good
5	20.01 – 25.00	Very Good
6a	25.01 – 40.00	Excellent
6b	>40.01	Excellent

- 4.13.10 The exact location of the point of interest can have a considerable bearing on the PTAL score, as the distance to local transport services and the nature of the local walk network will vary from point to point. **Table 4-13** below highlights the PTAL for different points of interest around the HH site based on the TfL PTAL web-based calculator. Full details of the assessment are provided within **Appendix C**.

Table 4-13: PTAL Points – Hillingdon Hospital

POINT OF INTEREST	DESCRIPTION	EASTING, NORTHING	PTAL RATING
Pield Heath Road	Main Entrance (N)	506829, 182000	3
Colham Green Road	Eastern site access	507048, 181783	3
Royal Lane	Western site access	506621, 181826	2

- 4.13.11 As shown, HH generally benefits from a ‘moderate’ level of accessibility to public transport.

4.14 HIGHWAY NETWORK

- 4.14.1 The Hospital is bounded by Royal Lane to the west, Pield Heath Road to the north, Colham Green Road to the east and housing to the south. An internal road runs along the site’s southern perimeter.

PIELD HEATH ROAD

- 4.14.2 Pield Heath Road runs from the A437 Harlington Road in the east and continues into Church Road and Station Road to the west, where it reaches a junction with High Street. Pield Heath Road serves several bus routes and is a single carriageway road which is subject to 30mph limit. A pedestrian footway is provided on either side of Pield Heath Road, directly outside the site. No parking is allowed along Pield Heath Road at any time.
- 4.14.3 A signalised pedestrian crossing is located directly opposite the Hospital. The Pield Heath Road arms at this junction have specific lanes for right-turning traffic. This junction is the crossing point which many visitors and staff would use when gaining access to the site via the pedestrian footways.

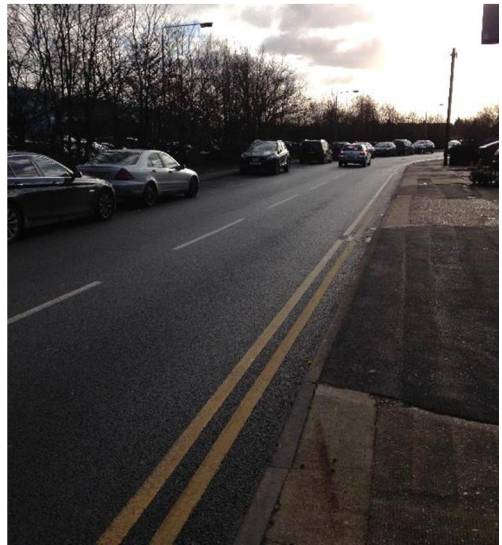




Field Heath Road

ROYAL LANE

- 4.14.4 Royal Lane runs from Falling Lane in the south to Uxbridge Road in the north, and is subject to a 30mph speed limit. Royal Lane is single carriageway with footpaths provided on both sides of the road. Royal Lane is a designated Sustrans Local Route, though no road markings indicate this.
- 4.14.5 There are two vehicular accesses to the site along Royal Lane, one to the south of Bradshawe Way which leads onto the internal hospital road network; and one to the north of Bradshawe Way that leads into the main car park. In June 2008 the Royal Lane main car park access became exit only, though as of January 2017 the access is fenced off for both entering and exiting vehicles.
- 4.14.6 Outside the site, on-street parking is provided along the eastern side of the road for permit holders only.



Royal Lane

COLHAM GREEN ROAD

4.14.7

Colham Green Road runs from Pield Heath Road in the north to Park View Road in the south. The road is single carriageway and is subject to a 30mph speed limit. At the site entrance, footways are provided along both sides of the road. Just to the north of the site on-street parking is provided for permit holders along the eastern side of the road.



Colham Green Road

INTERNAL SITE ROAD

4.14.8

The Internal Site Road runs from Royal Lane in the west to Colham Green Road in the east. The road is subject to a 5mph speed limit and runs from the A4020, Hillingdon Road and Pield Heath Road which is subject to 30mph road limit. The Internal Site Road provides vehicular access to the southern part of the Hospital, and pay and display parking is provided at various points along the road. Pavements are provided along both sides of the road at the western and eastern ends of the road, though there are points when footways are not provided on either side of the road.



Internal Site Road

4.14.9

The surrounding residential rounds are located within parking zone HH, which is for permit holders only, Monday – Friday 9:00-17:00. These roads include:

- Benson Close;

- Bradshawe Waye;
- Bryony Close;
- Colham Green Road;
- Colham Road;
- Copperfield Avenue;
- Greatfields Drive;
- Lavender Road;
- Moorcroft Lane;
- Myrtle Close;
- Newcroft Close;
- Newlyn Close;
- Normans Close;
- Old Orchard Close;
- Old School Road;
- Peel Way;
- Pield Heath Road;
- Rosemary Close;
- Royal Lane;
- Rutherford Close;
- Saxon Close;
- Stilwell Drive; and
- Violet Avenue.

4.15 VEHICULAR ACCESS

4.15.1 The following paragraphs and figures provide further detail of the existing vehicular access points to the Hospital.

4.15.2 Vehicular access to the Hospital is currently provided via:

- The Main Entrance at Pield Heath Road, via a signalised junction with 4 arms. This access leads to the drop-off area at the hospital reception and the main car park. The car park entrance is controlled by a barrier system;
- The eastern entrance along Pield Heath Road, via a priority junction. This access leads to A&E and ambulances therefore use this entrance. There is also a car park at this entrance which is controlled by a barrier system;
- Colham Green Road, via a priority junction. This access leads onto the internal site road and also has a pay and display car park by the site entrance. The Central and North West London (CNWL) Foundation is reached from this entrance, as is the hospital servicing area;
- Royal Lane, north of Bradshawe Waye, via a priority junction. As of June 2008 this access, previously allowing ingress and egress, became exit only, although as of January 2017 the whole access point is no longer in use and is fenced off. The access previously provided vehicular access to the main car park by controlled barrier system; and

- Royal Lane, south of Bradshawe Waye, via a priority junction. This access leads straight onto the internal site road which has pay and display parking bays along it. It also provides access to the Children's Nursery and other hospital areas such as Endoscopy.

4.15.3

The existing vehicular access arrangements, as detailed above, are illustrated in **Figure 4-17**.

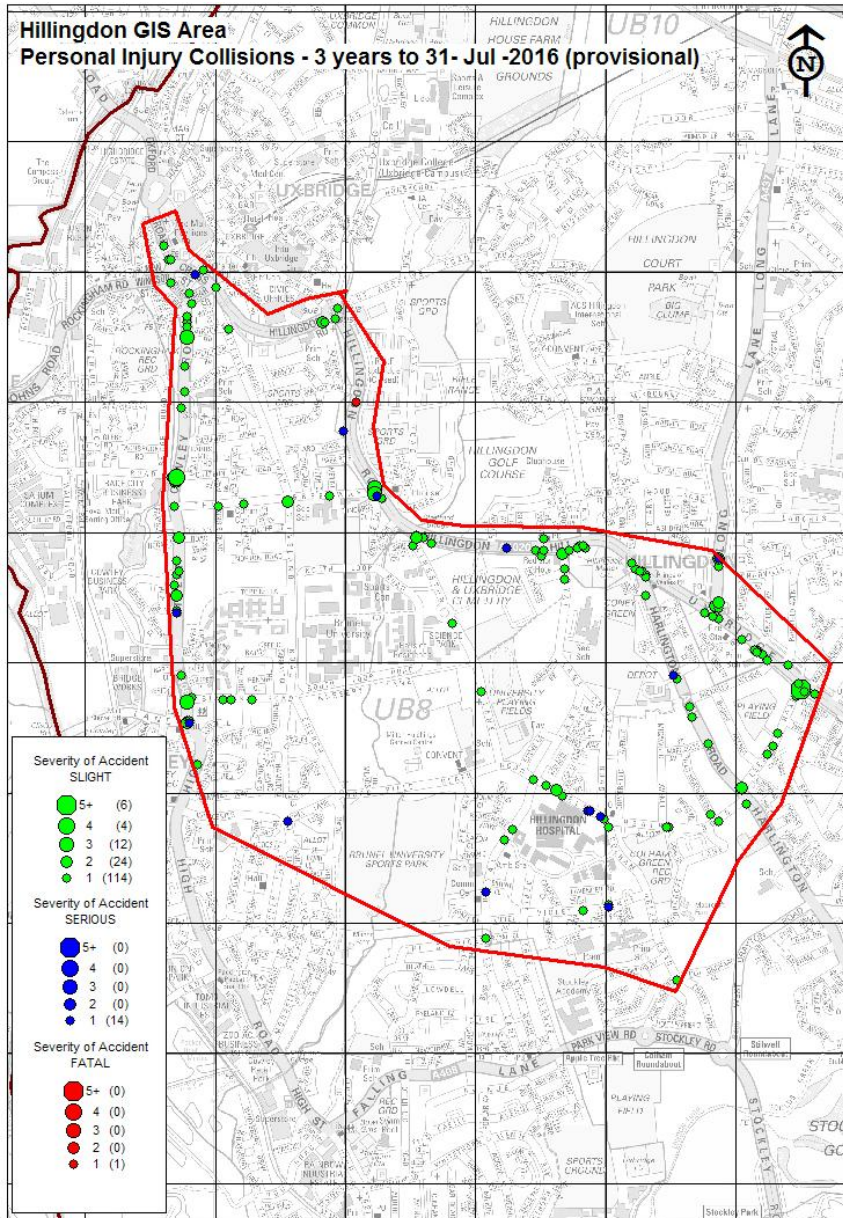
Figure 4-17: Vehicular Access Points



4.16 PERSONAL INJURY ACCIDENT DATA

4.16.1 Personal Injury Accident (PIA) records for the area surrounding both the BU and HH sites have been obtained from for the 3 year period to the end of July 2016. The area assessed is shown below in **Figure 4-18**.

Figure 4-18: PIA Data



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PIA ANALYSIS

4.16.2 The incidents occurring in the vicinity of the site are summarised in **Appendix E**, with the severity displayed.

4.16.3 Potential accident data severity ranges from 'slight' to 'fatal'. During the period of 1st August 2013 to 31st July 2016, a total of 175 accidents were recorded in the vicinity of the site, as shown in **Table 4-14** below.

Table 4-14: Summary of PIAs by Severity

COLLISIONS BY SEVERITY	NUMBER OF COLLISIONS	PERCENTAGE OF TOTAL
Slight	160	91%
Serious	14	8%
Fatal	1	1%

4.16.4 A more detailed review of PIAs has been undertaken at locations which met any of the following criteria:

- Five or more PIAs recorded in the last three year period; or
- One or more fatal PIAs were recorded; or
- Two or more PIAs recorded at a site access point.

4.16.5 As a result of the selection criteria, further consideration was undertaken at 5 junctions.

UXBRIDGE ROAD / LEES ROAD

4.16.6 There were 9 PIAs recorded at this location, all of which were classified as slight. 2 of these occurred in rainy conditions, whilst 7 took place when the weather and road conditions were fine. 5 of the collisions took place during dark hours, meaning the other 4 took place in daylight. Given the high volume of traffic at this location, the number of recorded collisions is not considered abnormal.

4.16.7 4 of the accidents occurred when a right turning vehicle collided with an oncoming vehicle, whilst 3 of the accidents can be defined as 'shunt' collisions. The other 2 accidents occurred as a result of driver error.

COWLEY ROAD / COWLEY MILL ROAD

4.16.8 There were 8 PIAs recorded at this location, all of which were classified as slight. All 8 of the accidents took place when the weather and road conditions were fine, though 3 of them took place during dark hours.

4.16.9 6 of the accidents can be attributed to driver error, whilst 2 occurred when right turning vehicles collided with oncoming traffic.

HILLINGDON ROAD / THE GREENWAY

4.16.10 There were 7 PIAs recorded at this location, one of which was classified as serious. This occurred in the daytime, and the weather and road conditions were fine. The accident can be defined as a 'shunt' collision, and involved 4 vehicles.

4.16.11 The other 6 PIAs at this location were classified as slight. 3 of these took place during dark hours in rainy conditions, and occurred as a result of right turning vehicles colliding with oncoming traffic. The other 3 accidents at this location occurred as a result of driver error.

HIGH STREET / IVER LANE

4.16.12 There were 7 PIAs recorded at this location, one of which was classified as serious. This occurred as a result of a pedestrian walking out into traffic.

4.16.13 The other 6 PIAs at this location were classified as slight. 4 of these took place as a result of right turning vehicles colliding with oncoming traffic. The other 2 collisions occurred as a result of driver error.

HILLINGDON ROAD

4.16.14 There was 1 fatal PIA recorded at this location. This occurred when a vehicle in lane 1 stopped to let a cyclist cross and a vehicle in lane 2 then clipped the cyclist. This caused the cyclist to spin and they were then hit by a second vehicle in lane 2.

PIA SUMMARY

4.16.15 It is evident from the accident record that there is a common pattern of accidents occurring as a result of right turning vehicles colliding with oncoming traffic. However, the number of accidents that took place due to this is normal for this kind of road environment. The accidents did not arise due to deficiencies in the highway layout.

5

PROPOSED DEVELOPMENTS

5.1 INTRODUCTION

5.1.1

This section outlines the development proposals for BU, HH, and the proposed Hospital site. These proposals relate to the representations put forward on LBH Local Plan 'Part 2', which are as follows:

- The allocation of Sites 1-7 of the BU campus for higher education/research and healthcare development, to include a Green Belt boundary review that removes sites 1, 2, 3 (northern part), 4, 6 and 7 from the Green Belt.
- The allocation of the existing HH site for healthcare and/or residential development

5.1.2

This chapter discusses the vehicular, pedestrian and cycle access arrangements, car and cycle parking provision, servicing and refuse collection arrangements, and pick-up and drop-off arrangements. It also details the likely travel patterns of future users of the facilities provided.

BRUNEL UNIVERSITY

5.2 DEVELOPMENT PROPOSALS

5.2.1

BU currently operates from a 78 hectare campus. The existing and future floorspace is shown in **Table 5-1** below.

Table 5-1: Existing and Future Floorspace

TYPE OF FLOORSPACE	EXISTING FLOORSPACE GIA	FUTURE FLOORSPACE	TOTAL FLOORSPACE	% INCREASE
Academic and Research	125,120sq.m	78,052sq.m	203,172sq.m	62%
Student Residential	108,731sq.m	40,500sq.m	149,231sq.m	37%
Total	233,851sq.m	118,552sq.m	352,403sq.m	51%

5.2.2

The future/ proposed floorspace will increase by 51%, split between academic, research and student residential. The existing and future student numbers are shown in **Table 5-2** below.

Table 5-2: Existing and Future Student Numbers

STUDENTS	EXISTING STUDENTS (FULL TIME EQUIVALENT)	FUTURE STUDENTS IN 2022/23	TOTAL STUDENTS	% INCREASE
Undergraduate and Postgraduate Students	13,860	7,631	21,491	55%
Total	13,860	7,631	21,491	55%

5.2.3

As well as an increase in floorspace, there is an increase in the number of students and staff. An additional 7,631 students are expected by year 2022/23. The existing and future staff numbers are shown in **Table 5-3** below.

Table 5-3: Existing and Future Staff Numbers

STAFF	EXISTING 2012-2013	FUTURE STAFF	TOTAL STAFF
Academic and Non-Academic Staff	2,450	1,300	3,750
Total	2,450	1,300	3,750

5.2.4 The total number of staff is set to increase by a substantial amount, due to the increase in academic and non-academic staff.

5.3 VEHICULAR ACCESS

5.3.1 The proposed vehicular access strategy for Sites 1, 2 and 4 is contained in section 7 of this report.

5.3.2 As per the existing arrangement, vehicular access to the three Sites would be controlled via a barrier system, thus ensuring that the on-site car park is secure and manageable.

5.4 PEDESTRIAN AND CYCLE ACCESS

5.4.1 The proposed pedestrian and cycle access strategy for Sites 1, 2 and 4 is provided in section 7 of this report.

5.5 CAR AND CYCLE PARKING

5.5.1 In line with the S106 agreement dated 16th April 2004 up to 2088 car parking spaces were consented for the University.

5.5.2 As part of the development proposals it is not proposed to provide any additional car parking spaces above that which is already consented at the University.

5.5.3 It is assumed that as part of the development proposals a proportion of the existing on-site car parking spaces would be re-distributed across the three Sites. The exact proportion and resultant location of the spaces which would be re-distributed across the three Sites is unknown at this stage; this would be confirmed once the masterplan for the scheme is developed.

5.5.4 In the event that an application is submitted by BU, it is envisaged that the following measures could be introduced in order to improve / control access to the proposed car parking spaces on the three Sites:

- A detailed signage strategy (which could include Variable Message Signs (VMS)); and
- Provision of barrier systems on all existing and proposed access points (as per the existing access arrangements).

5.5.5 710 cycle parking spaces are currently located on site and as a result of the increase in students and staff further cycle parking spaces will be provided in line with the local policy. This will encourage students and staff cycling to the University in order to help achieve the Mayoral target of 400% increase in cycling in Hillingdon by 2026.

5.6 SERVICING AND REFUSE COLLECTION

5.6.1 As part of the development proposals a strategic review would be undertaken to determine the servicing and refuse collection requirements for the University. The existing University opening hours are 09:00-17:00.

5.6.2 Environmental management, performance and sustainability is one of the core values of the University, and the University's Strategic Plan 2013 to 2017 obliges the University to provide 'an enabling environment' where the campus infrastructure, facilities, and activities are managed, developed and monitored in an environment-responsible and sustainable manner.

5.6.3 The University acknowledges it is responsible for continually improving its environmental performance, preventing pollution and protecting the environment at all levels. This is achieved through our Environmental Management System; our strategies, policies, risk management, procedures, and staff training. The University succeeded in attaining ISO 14001: 2004 accreditation covering all its activities across campus in 2012, and has retained this status to date.

5.7 PICK-UP / DROP-OFF ARRANGEMENTS

5.7.1 As part of the development proposals a strategic review would be undertaken to determine the requirements for new pick-up / drop-off facilities for the University.

5.8 TRAVEL PATTERNS

5.8.1 The future travel patterns for students and staff of the University have been determined based on the results of the student and staff surveys which were undertaken in 2013/14.

5.8.2 In order to calculate the future modal split for students and staff of BU, the following assumptions have been made:

- The additional uses on the site would not generate any additional car driver trips. As such, all car driver trips associated with the additional students / staff at the University has been re-allocated to all other modes of travel; and
- The future student / staff modal split has been calculated based on an average of the existing and proposed student / staff numbers.

5.9 TRAVEL PLAN

5.9.1 An updated TP would be submitted as part of any future planning application(s), particularly since there may be increases in travel as part of the redevelopment of the BU campus, and BU are keen to ensure that this is made up of public transport and active travel. This would again be reliant on car parking polices and management but also on a heavy reliance on information and awareness measures.

5.9.2 The following is a list of potential measures which could be considered as part of any future TP supporting the redevelopment proposals:

- Identify key walking and cycling routes, working with the local authority to improve connectivity, lighting and security along these routes;
- Ensure cycle parking is provided for as part of any redevelopment. Short term and Long Term secured cycle parking should be considered;
- Incorporation of cycle routes within the campuses, in particular connecting to key destinations and key cycle parking areas;
- Incorporate showers, lockers and changing facilities into any new buildings, and look for opportunities to retrofit facilities into existing buildings. Discussions with existing cyclists can be helpful in determining the best locations for new facilities, whereas a general analysis of existing locations may also be useful in identifying key gaps;
- Review and revise existing bus routes to reflect changes in both volume and origin and destination of passengers;
- Offer and promote the Cycle to Work scheme for staff;
- Negotiate discounts at local cycle shops for staff and students;

- Ensure there is comparable pricing between daily car parking charges and daily bus fares, if possible subsidising bus fares to reduce ticket prices for staff and all students;
- Production and promotion of walking / cycling / public transport maps showing routes, distances and times;
- Create and promote dedicated lift-share groups for staff and students;
- Create and promoted walking buddy and cycling buddy schemes for staff and students;
- Take part in local and national events, including 'Walk to Work Week' and 'Bike Week';
- Hold regular cycle training and cycle maintenance classes for staff and students; and
- Ensure real-time public transport information is readily available, including at bus stops, online and through portable devices.

FORMER HILLINGDON HOSPITAL SITE

5.10

DEVELOPMENT PROPOSALS

5.10.1

The proposed development comprises the construction of private and affordable residential flats across the site, with associated services and highway works. At this stage, the development quantum is based upon the London Plan Housing Density Matrix, with the following assumptions applied:

- Site size – 11 hectares;
- Setting – suburban; and
- PTAL – 2 to 3.

5.10.2

By applying the assumption above, the following quantum (**Table 5-4**) can be derived:

Table 5-4: Development Quantum

HABITABLE ROOMS	UNIT SPLIT %	UNIT SPLIT HA	MIN U/HA	MAX U/HA	MIN UNITS	MAX UNITS
1 bed	30%	3.3	35	65	116	215
2 bed	40%	4.4	40	80	176	352
3 bed	30%	3.3	50	95	165	314
Total	100%	11	-	-	457	881

5.10.3

Private housing will account for 65% of the units, whilst the other 35% will be affordable housing. Of the affordable housing, 20% will be affordable rented accommodation, with the other 15% being shared ownership.

5.11

TRIP GENERATION

5.11.1

In order to generate the likely number of trips associated with the residential flats of the proposed development, TRICS and TRAVL multi-modal trip generation surveys of Outer London residential developments have been reviewed. The selection criteria applied to the TRICS / TRAVL databases for the proposed development is shown in **Table 5-5**.

Table 5-5: TRICS / TRAVL Selection Criteria

SELECTION	CRITERIA
PTAL	1-4

Car Parking Ratio / unit	0.7-1.5 / unit
Survey Year	2004+
Survey Day	Multi-modal Neutral Weekday
Survey Location	Outer London
Tenure	Flats
No. Dwellings	95+

5.11.2 Using the above criteria, the following sites have therefore been selected for the residential multi-modal trip generation exercise. These trip rates have also been used within the consented Peel Centre and Beaufort Park schemes.

- **Clarence Close, Barnet (TRAVL: 395):** 104 dwellings, PTAL Index 3 and 120 car parking spaces (parking ratio of 1.15);
- **Orchard Court, Havering (TRAVL: 1032):** 97 dwellings, PTAL Index 2 and 147 car parking spaces (parking ratio of 1.5); and
- **Hanger Lane, Ealing (TRICS: EG-03-C-02):** 132 dwellings, PTAL Index 4 and approximately 182 car parking spaces (parking ratio of 1.38).

5.11.3 Trip rates for the above sites have been combined to derive average trip rates for the Proposed Development as outlined in **Table 5-6**. Full details of the trip generation are contained in **Appendix G**.

Table 5-6: Residential Trip Rates (Trips per Flat)

MODE	AM PEAK			PM PEAK		
	IN	OUT	2-WAY	IN	OUT	2-WAY
Car Driver	0.045	0.155	0.200	0.122	0.058	0.179
Car Passenger	0.007	0.026	0.033	0.031	0.003	0.034
Motor Cycle	0.000	0.000	0.000	0.005	0.000	0.005
Pedal Cycle	0.006	0.012	0.018	0.010	0.033	0.043
Taxi	0.000	0.000	0.000	0.000	0.000	0.000
Walk & PT	0.078	0.355	0.433	0.252	0.152	0.403
TOTAL PERSON	0.136	0.569	0.705	0.420	0.246	0.666

5.11.4 As shown above, the proposed car driver trip rates equate to 0.20 and 0.18 two-way trips per dwelling in the AM and PM peak periods respectively.

5.11.5 **Table 5-7** demonstrates the number of trips generated by the development based upon the minimum number of dwellings of 457 being provided, as per the London Plan Housing Density Matrix.

Table 5-7: Residential Trip Generation (457 Dwellings)

MODE	AM PEAK	PM PEAK
------	---------	---------

	IN	OUT	2-WAY	IN	OUT	2-WAY
Car Driver	21	71	91	56	27	82
Car Passenger	3	12	15	14	1	16
Motor Cycle	0	0	0	2	0	2
Pedal Cycle	3	5	8	5	15	20
Taxi	0	0	0	0	0	0
Walk & PT	36	162	198	115	69	184
TOTAL PERSON	62	250	313	192	112	303

5.11.6 **Table 5-7** shows that, presuming the minimum number of dwellings are built, the number of 2 way car driver trips forecast to be generated by the development during the AM and PM peak periods are 91 and 82 respectively.

5.11.7 **Table 5-8** shows the number of trips generated by the development based upon the minimum number of dwellings of 881 being provided, as per the London Plan Housing Density Matrix.

Table 5-8: Residential Trip Generation (881 Dwellings)

MODE	AM PEAK			PM PEAK		
	IN	OUT	2-WAY	IN	OUT	2-WAY
Car Driver	40	137	176	107	51	158
Car Passenger	6	23	29	27	3	30
Motor Cycle	0	0	0	4	0	4
Pedal Cycle	5	11	16	9	29	38
Taxi	0	0	0	0	0	0
Walk & PT	69	313	381	222	134	355
TOTAL PERSON	120	483	603	370	217	585

- 5.11.8 **Table 5-8** shows that, presuming the maximum number of dwellings are built, the number of 2 way car driver trips forecast to be generated by the development during the AM and PM peak periods are 176 and 156 respectively.

REPLACEMENT HILLINGDON HOSPITAL

5.12 DEVELOPMENT PROPOSALS

- 5.12.1 The allocation of Sites 1-7 of the BU campus for Higher Education/Research and Healthcare development would allow the existing HH to relocate to the BU campus. The relocated hospital would be situated on site 4 of the BU campus.
- 5.12.2 Any redevelopment or relocation of HH would require an uplift in total floor area - compared to the existing HH - to ensure the new HH buildings meet modern requirements. The relocation of HH to Site 4 of the BU campus would allow the new buildings to meet these requirements.
- 5.12.3 The new hospital facility would have a floor area of c. 80,000sq.m (an increase of c. 28,000sq.m). However this would not increase the functional capacity of HH and hence the number of staff and number of beds would remain the broadly the same.
- 5.12.4 The c. 80,000sq.m of floorspace for the new hospital facility is in addition to the proposed c. 118,500sq.m of additional university floorspace.

5.13 ACCESS

- 5.13.1 A comprehensive access strategy is contained in section 7 of this report.

5.14 CAR AND CYCLE PARKING

- 5.14.1 The existing car parking provision will be re-provided and the relocated hospital will have a total of 938 spaces - 890 existing spaces plus 48 additional permitted spaces (Application ref: 4058/APP/2015/4041, November 2015). As neither the London Plan nor the Hillingdon Local Plan specify a car parking standard for hospitals and as such the level of car parking provided should be assessed on a case by case basis. The re-provision of the permitted car parking spaces, coupled with the relocation and opportunities to increase travel by more sustainable modes (working with BU) will be sufficient to meet the demand for car parking spaces.
- 5.14.2 The London Plan requires provision for electric vehicle charging for residential, retail and employment land uses. Whilst a specific standard is not set out for Hospitals (or similar uses), the following provision will be made for employment land uses:
- 20% of total spaces will have charging points; and
 - 10% of total spaces will have provision for charging points should there be demand in the future.
- 5.14.3 According to the LBH Local Plan: Part 2 (Development Management Policies, Revised Version, October 2015), 10% of the total amount of spaces provided must be allocated for Blue Badge holders.
- 5.14.4 The expected car parking provision for the proposed development is summarised in **Table 5-9**.

Table 5-9: Proposed Car Parking Provision

SPACE TYPE	SPACES	NOTES
------------	--------	-------

Total	938	spaces (890 existing + 48 planned)
Blue badge	94	38 at current HH site
EV (active)	188	-
EV (passive)	94	-

5.14.5 Long and short stay cycle parking will be required as part of the proposed development in accordance with the London Plan, these standards are presented in **Table 5-10**.

Table 5-10: London Plan Cycle Parking Standards

LAND USE	LONG STAY	SHORT STAY
C2 Hospitals	1 space per 5 staff	1 space per 30 staff

5.14.6 It is expected that there will be 998 full-time and 358 part-time staff working at the hospital, with an average of 700 staff working at any one time (based on the staffing levels as the existing hospital). The following provision for cycle parking will be made (based on the peak number of staff on site – 700):

- 140 long stay spaces; and
- 24 short stay spaces.

5.15 SERVICING AND REFUGE STRATEGY

5.15.1 The potential relocation of HH to the BU campus presents the opportunity to develop an integrated waste strategy for both institutions. BU's current waste strategy is evolving to account for new technologies for dealing with waste and the growing desire to be as sustainable as possible. Some of the measures are as follows:

- On-site compaction equipment increasingly being used instead of wheelie bins for residential waste from student accommodation. This waste is collected by BU vehicles and transferred for compaction;
- Wheelie bins are still used for administrative and academic buildings, with separate bins for refuse and dry recycling located throughout the interior of these buildings; and
- There are future plans for food waste to be collected from all buildings and processed in an anaerobic digester in order to generate electricity, heat or hot water.

5.15.2

Table 5-11 illustrates the breakdown of the different waste disposal methods employed on the BU campus. It shows that less than 1% of waste is taken to landfill or incinerated. The goal for the proportion of waste to be recycled by 2019 is 60%.

Table 5-11: BU Waste Disposal Methods 2014-2015¹

WASTE DISPOSAL METHOD	%
Recycled	43.33
Incineration	0.11
Energy from Waste	50.99
Composting	5.47
Landfill	0.11

5.15.3

The strategies currently employed by BU could also be used for the new hospital development although some additional requirements, such as clinical waste, will require specific dedicated collections. The relocation of the hospital will present opportunities to consolidate waste on site reducing the number of vehicles movements required for collection across the BU and HH campuses.

¹ Brunel University London, 2015, <http://www.brunel.ac.uk/about/environment/recycling-and-waste>

6

TRIP ATTRACTION

6.1 INTRODUCTION

6.1.1

This section provides a trip generation assessment for all modes of transport for the existing and proposed uses at BU, HH and the new hospital. This section also summarises the likely net trip generation resulting from the development proposals.

BRUNEL UNIVERSITY

6.2 EXISTING TRIP ATTRACTION

Vehicular Trips

6.2.1

The number of vehicular trips which are currently attracted to the University during the morning and evening peak periods has been derived from the 2015 traffic survey data. The number of surveyed vehicular arrivals and departures are summarised in **Table 6-1** below.

Table 6-1: Existing Surveyed Vehicle Trips

TIME PERIOD	TOTAL VEHICLE TRIPS		
	Arrivals	Departures	Total
AM Peak 0700-0800	178	24	202
AM Peak 0800-0900	496	55	551
AM Peak 0900-1000	459	90	549
PM Peak 1600-1700	134	384	518
PM Peak 1700-1800	122	308	430
PM Peak 1800-1900	122	240	362

6.2.2

A vehicular trip rate has been derived for the morning and evening peak period based on the number of vehicular trips that are currently attracted to the University (as highlighted in the table above) and the overall floorspace of the University. For the purposes of this assessment, the overall floorspace is assumed to be 55,280sq.m Gross Floor Area (GFA) (which predominantly includes academic and research buildings). The trips rates are summarised in **Table 6-2** below.

Table 6-2: Existing Trip Rates (per 100sq.m)

TIME PERIOD	VEHICLE TRIP RATE (PER 100SQ.M)		
	Arrivals	Departures	Total
AM Peak 0700-0800	0.32	0.04	0.36
AM Peak 0800-0900	0.90	0.10	1.00
AM Peak 0900-1000	0.83	0.16	0.99
PM Peak 1600-1700	0.24	0.69	0.93
PM Peak 1700-1800	0.22	0.56	0.78
PM Peak 1800-1900	0.22	0.43	0.65

MULTI-MODAL TRIPS

6.2.3 The likely number of multi-modal trips which are currently attracted to the University has been calculated based on the existing number of students and staff which currently attend the University and the existing travel patterns of students and staff of the University (as detailed in section 5.6 of this report).

6.2.4 In order to determine the likely number of AM and PM peak hour trips that could be attracted to the University, a profile has been derived using the 2015 traffic survey data. For the AM peak hour, it is assumed that approximately 31% of all students and staff (5,022) will travel to and from the University. Similarly, for the PM peak hour, it is assumed that approximately 22% of all students and staff (3517) will travel to and from the University. Furthermore, during the AM peak, it is assumed that 90% of all trips would arrive at the University and 10% of trips would depart the University. Similarly, during the PM peak, it is assumed that 28% of all trips would arrive at the University and 72% of all trips would depart the University.

6.2.5 Based on the above assumptions, the resultant multi-modal trip attraction is summarised in **Table 6-3** below.

Table 6-3: Existing Multi-Modal Trip Generation

MODE	AM PEAK (08:00 – 09:00)			PM PEAK (17:00 – 18:00)		
	Arr.	Dep.	2 Way	Arr.	Dep.	2 Way
Car Driver	841	93	934	186	469	655
Car Passenger	132	15	147	29	74	103
Train	249	28	277	55	139	194
Underground	811	90	901	179	452	631
Bus	790	88	878	174	441	615
Walk	1370	152	1522	302	763	1065
Cycle	298	33	331	66	166	232
Motorcycle	9	1	10	2	5	7
Other	33	4	37	7	18	25
Total	4533	504	5037	1000	2527	3527

6.3 PROPOSED TRIP GENERATION

VEHICULAR TRIPS

- 6.3.1 Up to 2,088 car parking spaces have been consented in the S106 agreement, but no additional parking permits will be provided in the future. As a result there will not be an increase in car trips on the local highway network and therefore it is not considered necessary to carry out any junction capacity assessments.
- 6.3.2 It is assumed that as part of the development proposals a proportion of the existing on-site car parking spaces will be re-distributed across the three Sites (as discussed in section 8-5). This is discussed in more detail in section 9 of this report.

MULTI-MODAL TRIPS

- 6.3.3 The likely number of multi-modal trips which could be generated by the University (once redeveloped) has been calculated based on the proposed number of students and staff which currently attend the University and the likely travel patterns of existing and future students and staff of the University.
- 6.3.4 The multi-modal trip generation is summarised in **Table 6-4**.

Table 6-4: Proposed Multi-Modal Trip Generation

MODE	AM PEAK (08:00 – 09:00)			PM PEAK (17:00 – 18:00)		
	Arr.	Dep.	2 Way	Arr.	Dep.	2 Way
Car Driver	813	90	903	179	453	632
Car Passenger	234	26	260	52	130	182
Train	415	46	461	92	231	323
Underground	1358	151	1509	300	757	1057
Bus	1325	147	1472	293	739	1032
Walk	2285	253	2538	504	1273	1777
Cycle	501	56	557	111	279	390
Motorcycle	17	2	19	4	9	13
Other	59	7	66	6	15	21
Total	7007	778	7785	1541	3886	5427

6.4 NET DIFFERENCE IN TRIPS

VEHICULAR TRIPS

- 6.4.1 As detailed in section 6.3, the proposals are not expected to generate any additional vehicular trips above the number already generated by the existing University site.

MULTI-MODAL TRIPS

6.4.2

Comparing the multi-modal trip generation of the existing University site with that of the proposed University site produces the following (**Table 6-5**) net change in trip generation.

Table 6-5: Proposed Multi-Modal Trip Generation

MODE	AM PEAK (08:00 – 09:00)			PM PEAK (17:00 – 18:00)		
	Arr.	Dep.	2 Way	Arr.	Dep.	2 Way
Car Driver	-28	-3	-31	-7	-16	-23
Car Passenger	102	11	113	23	56	79
Train	166	18	184	37	92	129
Underground	547	61	608	121	305	426
Bus	535	59	594	119	298	417
Walk	915	101	1016	202	510	712
Cycle	203	23	226	45	113	158
Motorcycle	8	1	9	2	4	6
Other	26	3	29	-1	-3	-4
Total	2474	274	2748	541	1359	1900

6.5

SERVICING TRIPS

6.5.1

In order to predict the likely number of servicing trips that could be generated by the development proposals we would envisage undertaking surveys of the existing University servicing activity in conjunction with an application being submitted for the site.

6.5.2

It is envisaged that the following data could be collected from the surveys which could then be used to inform any estimates of future servicing activity:

- Number of servicing trips;
- Type / size of servicing vehicles;
- Arrival and departure times;
- Servicing locations; and
- Service Vehicle Routing

6.5.3

In addition to undertaking surveys, we would also liaise with the existing University management / logistics team to understand whether the University has any management systems in place to control servicing at the existing University.

RELOCATED HOSPITAL

6.6 METHODOLOGY

6.6.1 As noted in section 5, the relocation, and modernisation, of HH would not increase its functional capacity; the number of staff and number of beds would remain broadly the same as the provision at the existing HH. As such the relocation would not result in an increase in patient or visitor trips.

6.6.2 The trip generation methodology for the existing hospital land use is based on the TRICS database (version 7.3.4). TRICS holds a survey for HH undertaken in 2016 (HD-05-A-01) and this has been used to inform the trip generation for the relocated hospital.

6.6.3 The average person trip rates generated from HD-05-A-01 have been calculated and are presented in **Table 6-6**.

Table 6-6: Hospital Person Trip Rates per 100sq.m

TRIP RATE	AM PEAK HOUR			PM PEAK HOUR			DAILY		
	In	Out	Total	In	Out	Total	In	Out	Total
Average Trip Rate	2.46	0.82	3.28	0.79	1.99	2.77	16.15	16.29	32.44

6.6.4 The trip rates shown in **Table 6-6** have been applied to the existing hospital floor space (52,000sq.m) to reproduce the existing trips associated with the hospital. The resulting person trips are provided in **Table 6-7**.

Table 6-7: Hospital Person Trips

TRIPS	AM PEAK HOUR			PM PEAK HOUR			DAILY		
	In	Out	Total	In	Out	Total	In	Out	Total
Existing Hospital	1,279	426	1,705	410	1,033	1,442	8,400	8,468	16,868

6.6.5 The trips presented in **Table 6-7** include staff, patient and visitor trips. As set out in section 3 of this report the hospital employees 998 full time staff and 358 part time staff. The TRICS survey states that 30% of staff (299 full time staff) work a 09:00-17:00 shift pattern. The remaining staff are assumed to work a number of different shifts with start and finish times throughout the day.

6.6.6 To establish the trip rate for patient and visitor trips, staff trips (for full time staff) have been discounted from the trips shown in **Table 6-7**. **Table 6-8** presents the peak hour and daily staff trips based on the 30% of full time staff (299) working 9-5 shifts and the remaining full time staff trips being distributed across the survey period (07:00-22:00). The latter would include some staff departing in the AM peak hour and some staff arriving in the PM peak hour (those working night shifts for example).

Table 6-8: Existing Staff Trips

TRIPS	AM PEAK HOUR			PM PEAK HOUR			DAILY		
	In	Out	Total	In	Out	Total	In	Out	Total
Staff Trips	299	27	326	20	299	319	998	998	1996

6.6.7

As part time staff would not be on site each day, they have not been included in the analysis, to ensure the estimate of visitor and patients trips is robust. Subtracting the staff trips from the existing trips identified in TRICS leaves an estimate of patient and visitor trips to the existing hospital. This has been used to derive a trip rate for visitor and patient trips as presented in **Table 6-9**.

Table 6-9: Existing Visitor Trip Rates

TRIP RATE	AM PEAK HOUR			PM PEAK HOUR			DAILY		
	In	Out	Total	In	Out	Total	In	Out	Total
Visitor Trip Rate	1.91	0.77	2.68	0.51	1.44	1.95	14.71	15.27	29.98

6.6.8

The adjusted trips rates in **Table 6-9** can then be applied to the existing (52,000sq.m) and proposed (c. 80,000sq.m) hospitals to calculate total person trips for each development and the net change in visitors. This is presented in **Table 6-10**.

Table 6-10: Existing Visitor Trips

TRIP RATE	AM PEAK HOUR			PM PEAK HOUR			DAILY		
	In	Out	Total	In	Out	Total	In	Out	Total
Visitor Trips	1044	447	1,491	430	785	1,215	8,120	8,192	16,311

6.6.9

The trip generation methodology for the proposed hospital land use is based on the TRICS database (version 7.3.4). TRICS holds a survey for HH undertaken in 2016 (HD-05-A-01) and this has been used to inform the trip generation for the relocated hospital.

6.7 MODAL SPLIT

6.7.1

The mode split for the hospital land use is based on a 2016 TRICS survey, and is presented in **Table 6-11**.

Table 6-11: Mode Split

MODE	PERCENTAGE MODE SPLIT (%)
Underground, metro light rail or tram	0.87%
Train	0.06%
Bus, minibus or coach	12.68%
Taxi	2.03%
Motorcycle, scooter or moped	0.45%
Driving a car or van	55.28%
Passenger in a car or van	18.47%
Bicycle	0.87%
On foot	9.31%
Total	100.00%

6.7.2

The predicted visitor and patient trips for the existing development in **Table 6-10** have been applied to the mode split outline in **Table 6-11**, in order to forecast the number of trips by mode. This is shown in **Table 6-12**.

Table 6-12: Estimated Existing Trips by Mode

TRIP RATE	AM PEAK HOUR			PM PEAK HOUR			DAILY		
	In	Out	Total	In	Out	Total	In	Out	Total
Underground, metro and light rail	12	4	16	4	9	13	77	77	154
Train	1	0	1	0	1	1	5	5	11
Bus, minibus or coach	170	57	227	55	137	192	1,118	1,127	2,246
Taxi	27	9	36	9	22	31	179	181	360
Motorcycle, scooter or moped	6	2	8	2	5	7	40	40	80
Driving a car or van	742	247	990	238	599	837	4,876	4,915	9,791
Passenger in car or van	248	83	331	79	200	280	1,629	1,642	3,271
Bicycle	12	4	16	4	9	13	77	77	154
On foot	125	42	167	40	101	141	821	828	1,649
Total	1,343	447	1,790	430	1,084	1,514	8,820	8,892	17,711

6.7.3

The functional capacity of HH would not change as a result of the relocation and modernisation and therefore the number of patient and visitor trips would remain broadly the same as for the current hospital, as shown above in **Table 6-12**.

6.8

PROPOSED TRAVEL PLAN

6.8.1

The relocation of the hospital, closer to Uxbridge London Underground station and a greater number of bus routes will present an opportunity to encourage travel by more sustainable modes. A joint travel plan, encompassing the HH and BU campuses, would offer more scope for initiatives to encourage travel by the most sustainable modes than individual travel plans for the two campuses would.

6.8.2

The overarching objectives of a joint travel plan would encompass:

- Provision of a range of transport modes as means of access to the campuses;
- Reductions in car dependency by encouraging other modes of travel;
- Provision of adequate and convenient car parking for essential car users; and
- Sustaining and improving alternative patterns of travel over time while realising the maximum potential for development and expansion of the campuses.

7 ACCESS STRATEGY

7.1 INTRODUCTION

7.1.1 This section describes the proposed vehicular, pedestrian and cycle access strategy for BU, HH, and the new hospital site. More specifically, this section identifies various options for providing suitable access to the three sites, along with a description of the opportunities and constraints presented by each option.

7.1.2 This section also considers the impacts of the proposed vehicular access arrangements on future traffic flows on the local highway network.

BRUNEL UNIVERSITY

7.2 VEHICULAR ACCESS

Site 1

7.2.1 Vehicular access to Site 1 is currently provided from Cleveland Road and Station Road (see section 4). In addition to the existing access arrangements, consideration has been given to providing a new vehicular access point from Cowley Road to the west. The opportunities and constraints presented by this option are detailed on **Figure 7-1** below.

Figure 7-1: Site 1 – Cowley Road Potential Vehicular Access Point



Site 2

- 7.2.2 The main vehicular access to Site 2 is currently provided from Kingston Lane (see section 4). Existing vehicular access points are also provided from Cleveland Road, although one access is intended for 'emergency vehicles' only and the other access is closed off.

Cleveland Road

- 7.2.3 BU received planning permission in 2003 for the development of academic floorspace, student residential accommodation, and ancillary floorspace at the campus. In conjunction with the planning permission, LBH imposed a condition on the University which required the closure of the existing Cleveland Road access to general traffic. The reasons for the closure of the Cleveland road access to general traffic are unknown.

- 7.2.4 On the basis of the above, it is not considered feasible to re-instate the access to serve any future development on Site 2.

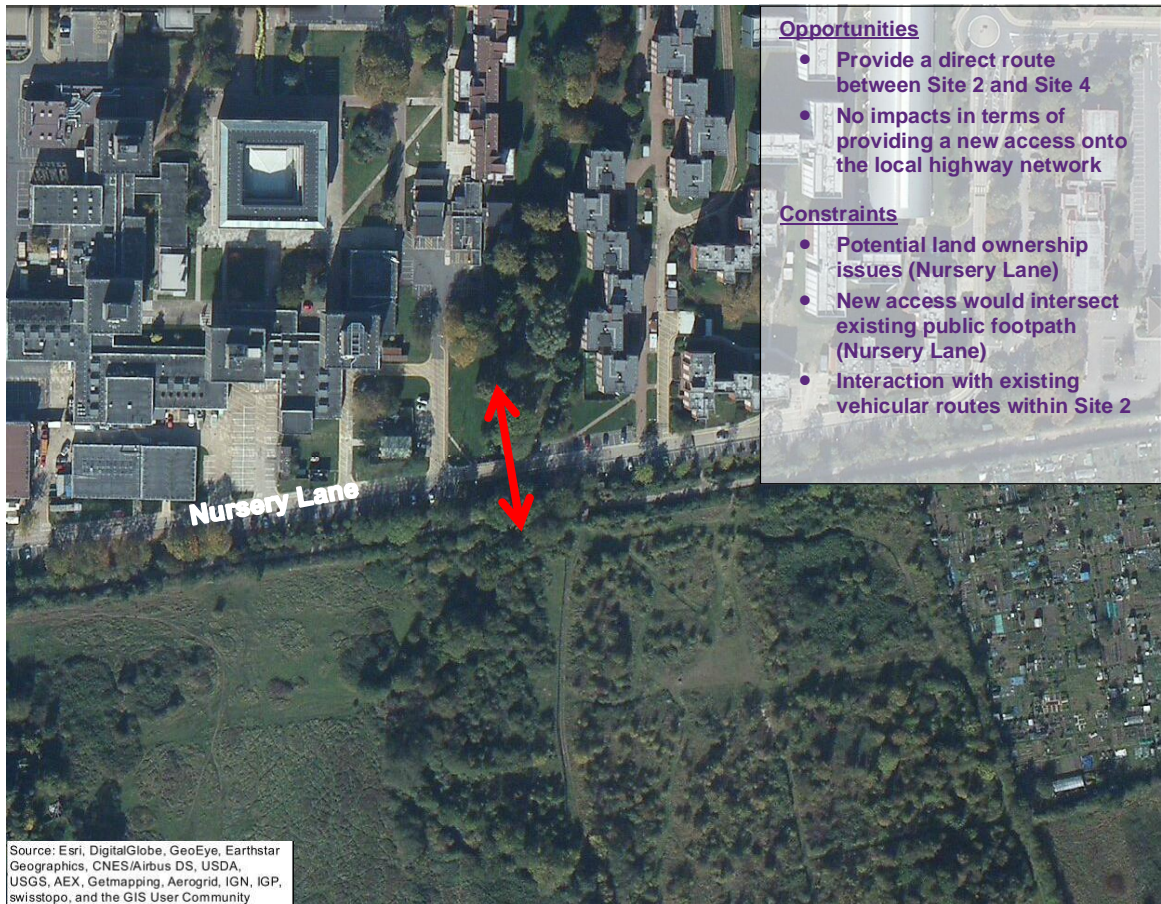
Site 4

- 7.2.5 Hillingdon Garden Centre is accessible via a two-way priority access point from Church Road. In addition, vehicular access to Site 4 is also provided from Nursery Lane via a single track road, which is designated as a public footpath.

Internal Link between Site 2 and Site 4

- 7.2.6 Consideration has been given to providing a new vehicular link between Site 2 and Site 4, via the existing University internal road network. The opportunities and constraints presented by this option are detailed on **Figure 7-2** overleaf.

Figure 7-2: Site 4 – Internal Link Potential Vehicular Access Point



Church Road / Hillingdon Garden Centre

7.2.7

Consideration has been given to using the existing priority access from Church Road (which currently provides access to Hillingdon Garden Centre) to access Site 4. The opportunities and constraints presented by this option are detailed on **Figure 7-3** overleaf.

Figure 7-3: Site 4 – Church Road Potential Vehicular Access Point



Nursery Lane

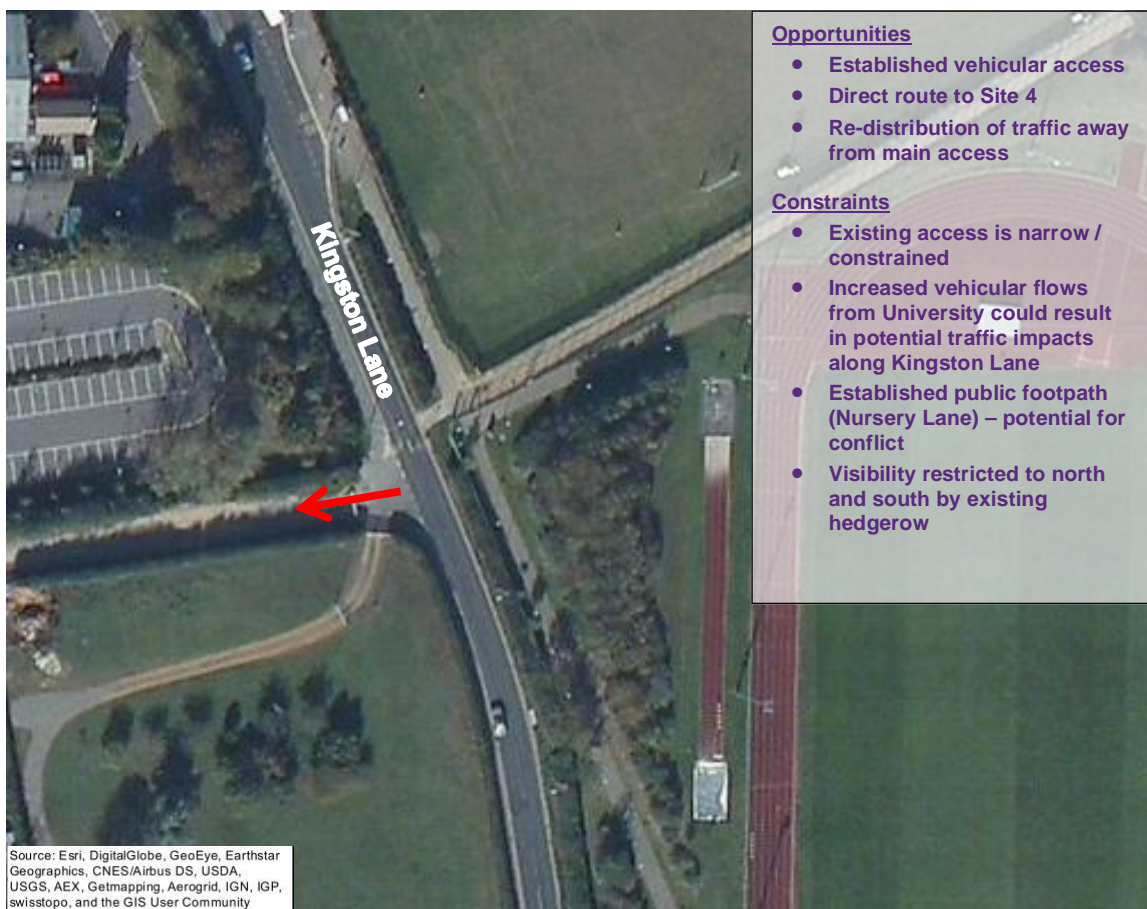
7.2.8

Consideration has been given to using Nursery Lane, via Kingston Lane / Church Road, to access Site 2. The opportunities and constraints presented by this option are detailed on [Figure 7-4](#) and [Figure 7-5](#).

Figure 7-4: Site 4 – Church Road / Nursery Lane Potential Vehicular Access Point



Figure 7-5: Site 4 – Kingston Lane / Nursery Lane Potential Vehicular Access Point



Preferred Vehicular Access Arrangements

7.2.9

The preferred vehicular access arrangements for Sites 1, 2 and 4 are summarised in **Table 7-1** below.

Table 7-1: Summary of Preferred Vehicular Access Arrangements

SITE	PREFERRED ACCESS ARRANGEMENTS
Site 1	West Spur Road, Topping Lane and Station Road (including emergency access from Station Road) existing access points.
Site 2	Kingston Lane (including emergency access from Cleveland Road) existing access points.
Site 4	Church Road (Hillingdon Garden Centre) existing access point, new internal link via Site 2

7.3 PEDESTRIAN AND CYCLE ACCESS

7.3.1 A description of the existing pedestrian and cycle access arrangements for Sites 1, 2 and 4 is provided in section 4 of this report.

7.3.2 A number of options have been considered in terms of providing sufficient pedestrian and cycle access to serve the proposed development. With reference to Sites 1, 2 and 4 each option is described in greater detail in the following sections.

POTENTIAL PEDESTRIAN AND CYCLE ACCESS OPTIONS

Site 1

7.3.3 Pedestrian and cycle access to Site 1 is currently provided from and Cleveland Road, Station Road and Cowley Road.

7.3.4 Given the scale and likely proposed uses (student accommodation) on Site 1, the existing pedestrian and cycle access arrangements are considered to be sufficient to serve any future development on the site.

Site 2

7.3.5 Pedestrian and cycle access to Site 2 is currently provided from Kingston Lane, Station Road and Cleveland Road. In addition, pedestrian access is provided to the north of Site 2 from the A4020 Hillingdon Road.

7.3.6 Given that Site 2 is currently well developed, and any future development is only likely to replace what is currently there, it is considered that the existing pedestrian and cycle access arrangements are sufficient to serve any future development on the site.

Site 4

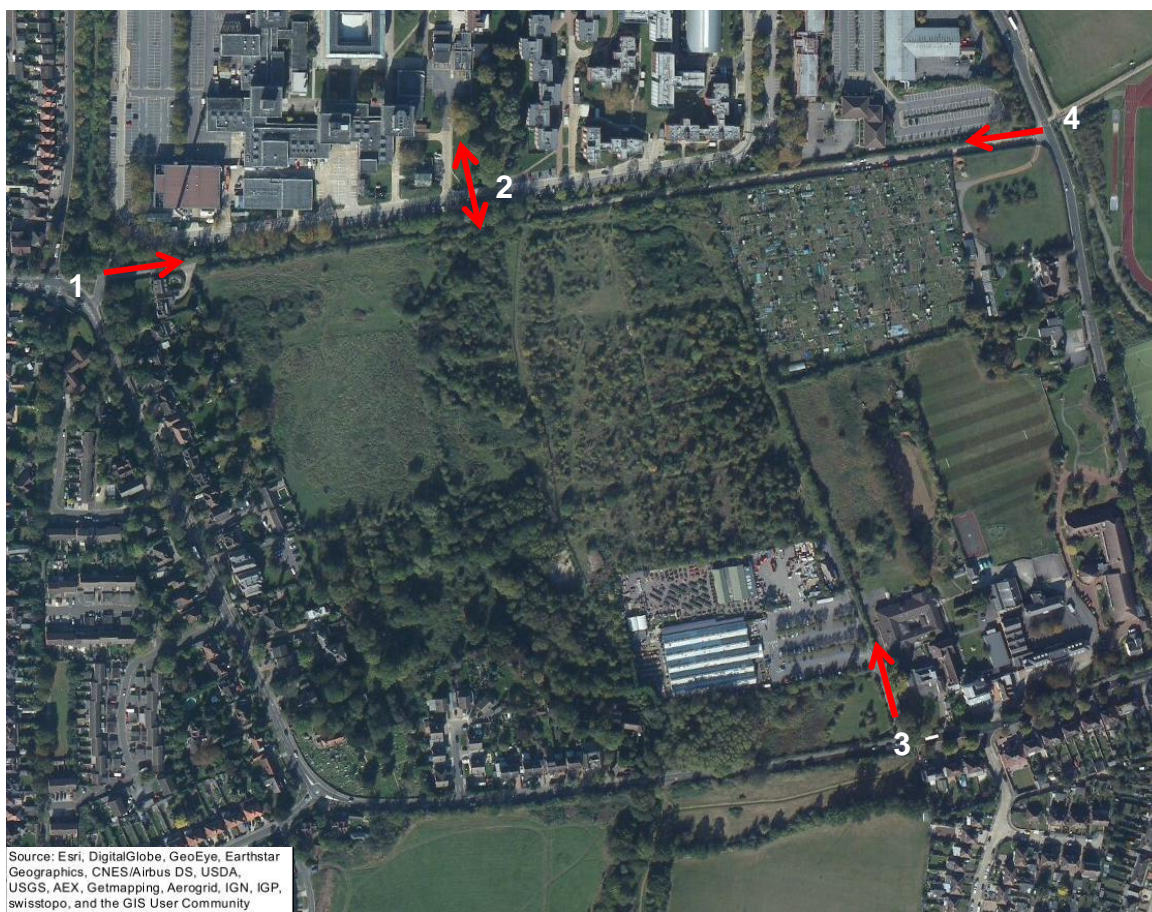
7.3.7 Pedestrian and cycle access to Site 4 is currently provided Nursery Lane, which skirts the northern boundary of the site. No other designated pedestrian and cycle access points are provided.

7.3.8 The following options have been considered:

- Upgrade the existing Nursery Lane public footpath;
- New footways / cycleway provided in conjunction with the new vehicular link between Site 2 and Site 4; and
- Upgrade the existing Hillingdon Garden Centre access to include new footway / cycleway.

7.3.9 The above options are illustrated on **Figure 7-6** overleaf.

Figure 7-6: Site 4 – Potential Pedestrian and Cycle Access Points



PREFERRED PEDESTRIAN AND CYCLE ACCESS ARRANGEMENTS

7.3.10

The preferred pedestrian and cycle access arrangements for Sites 1, 2 and 4 are summarised in **Table 7-2** below.

Table 7-2: Summary of Preferred Pedestrian and Cycle Access Arrangements

SITE	PREFERRED ACCESS ARRANGEMENTS
Site 1	Cleveland Road, Station Road and Cowley Road existing access points.
Site 2	Kingston Lane, Station Road Cleveland Road and A4020 Hillingdon Road existing access points.
Site 4	Nursery Lane Public Footpath (to be upgraded), new internal link between Site 2 and Site 4, Hillingdon Garden Centre (to include new footway / cycleway).

7.4 PUBLIC TRANSPORT ACCESS

BUS ACCESS

7.4.1 At present BU is served by regular bus services which operate along Kingston Lane and Cleveland Road. In addition, bus services also operate along Church Road, Station Road and Cowley Road. It is understood that no bus services currently enter the University. The University does not operate any shuttle bus services at present.

7.4.2 The proposals seek to redevelop Sites 1, 2 and 4 to provide additional University buildings / student accommodation and associated infrastructure.

7.4.3 Given the current uses that occupy Site 4 (garden centre) and the potential scale and type of development that could be introduced as part of the proposals, it is considered that the existing bus facilities and services would need to be upgraded. As such, the following access options have been considered (with service levels considered in the following chapter).

OPTION 1

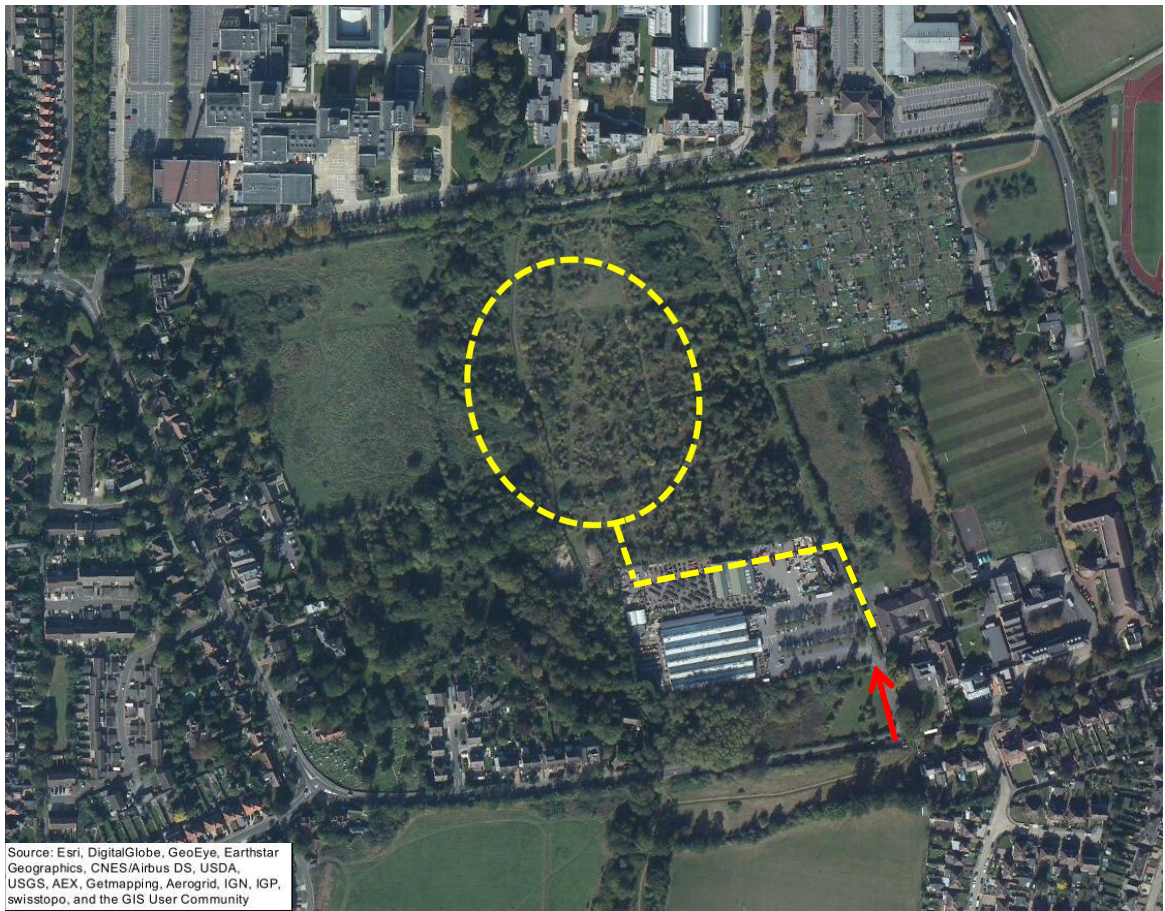
7.4.4 Consideration has been given to introducing a loop arrangement internally within Site 4. It is envisaged that the new loop arrangement could be served by:

- A new shuttle bus service which would be operated by BU. The shuttle bus would enter and exit the site via Church Road (using the internal loop arrangement); or
- The diversion of existing bus services, which currently operate along Church Road, into Site 4.

7.4.5

The potential loop arrangement is illustrated on **Figure 7-7**.

Figure 7-7: Site 4 - Potential Internal Loop Arrangement



OPTION 2

7.4.6

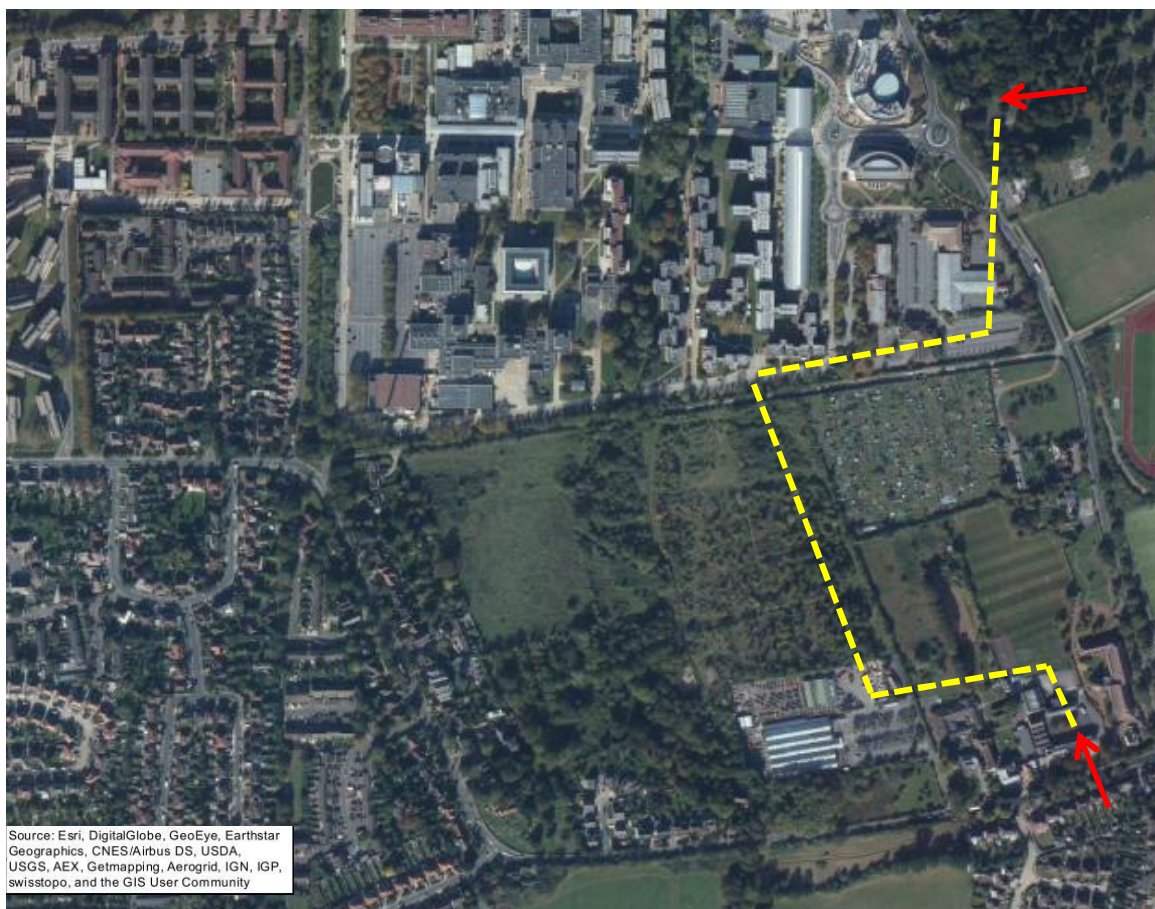
A second option has been considered, which comprises of a new internal bus route through Sites 2 and 4. It is envisaged that the internal bus route could be served by:

- A new shuttle bus service; or
- Existing bus services (Kingston Lane and Church Road) which could be redirected through the site.

7.4.7

The potential internal bus route is illustrated on **Figure 7-8**.

Figure 7-8: Site 4 - Potential Internal Bus Route



PREFERRED OPTION

7.4.8

The existing internal roads which currently serve Site 2 have been designed to accommodate cars and possibly small delivery vehicles. In order to accommodate buses, the existing internal roads would require significant upgrading.

7.4.9

Given that Sites 1 and 2 are adequately served by a good level of bus services, and that the existing internal roads which serve Site 2 would require significant upgrading to accommodate buses, it is considered that Option 1 (potential loop arrangement) would be best suited to the proposals.

7.4.10

Any improvements / alterations to the existing bus facilities and services which operate within the vicinity of the University would be subject to agreement with LBH, TfL (London Buses) and, for routes from outside London, the operator.

LONDON UNDERGROUND

7.4.11

The nearest London Underground station to BU is Uxbridge station. It is envisaged that Uxbridge station would continue to be used by students and staff of the University.

NATIONAL RAIL

- 7.4.12 The nearest National Rail station to BU is West Drayton. It is envisaged that West Drayton would continue to be used by students and staff of the University.

7.5 VEHICULAR TRAFFIC IMPACTS

NETWORK TRAFFIC FLOWS

- 7.5.1 To understand the change in prevailing traffic flows on the local highway network, a comparison has been made between 2006 traffic survey data (provided by SDG in their Transport Statement, dated December 2006) and the 2015 traffic survey data (used to inform this report). The results of the analysis are presented in **Table 7-3** below.

Table 7-3: Comparison of network traffic flows (2006 and 2015)

JUNCTION	2006 TRAFFIC FLOWS		2015 TRAFFIC FLOWS		PERCENTAGE CHANGE	
	Weekday AM Peak	Weekday PM Peak	Weekday AM Peak	Weekday PM Peak	Weekday AM Peak	Weekday PM Peak
Cleveland Road / The Greenway	1268	898	1140	1032	+11%	+12%
Cleveland Road / Station Road	1200	1261	1244	1149	0%	-9%
Kingston Lane / Church Road / Pield Heath Road	1073**	2657	3293	3196	+207%**	+20%
Kingston Lane / University Site Access	944*	1041*	1209	1022	+28%	-1%
Kingston Lane / Hillingdon Hill / Hillingdon Road	1270	1039	1792	1704	+41%	+64%

* 2006 Traffic flows derived by combining total turning movements at Kingston Lane / University Site Access junction with entry / exit turning movements at Cleveland Road / University Site Access junction (which was operational during the period in which the 2006 traffic surveys were undertaken)

** 2006 Traffic Flows during AM peak hour at Kingston Lane/ Church Road/ Pield Heath Road junction is an anomaly. 2006 PM flows are more realistic and comparative to 2015 flows.

- 7.5.2 As can be seen from the data above, with the exception of the Cleveland Road / Station Road junction, traffic volumes have increased at all of the junctions across the local highway network in the vicinity of the site over that past nine years.

VEHICULAR TRAFFIC IMPACTS

- 7.5.3 The proposals seek to redevelop Sites 1, 2 and 4 to provide additional University buildings and student accommodation. The proposals will not provide any additional car parking spaces. On this basis, it is considered that the proposals will not generate any additional vehicular trips during the network peak hours. However, it is assumed that as part of the development proposals a proportion of the existing on-site car parking spaces will be re-distributed across the three Sites.
- 7.5.4 Given the likely re-distribution of parking spaces across the three Sites and the introduction of new access points (Sites 2 and 4), it is considered that the distribution patterns of the existing University traffic on the local highway network will change in the future as a result of the proposals.
- 7.5.5 In order to accurately assessed the future traffic movements and resultant impacts on the local highway network, the following assumptions have been made:

- In the future scenario it is assumed that approximately 20% of all traffic entering and exiting the University from Kingston Lane north (via the A4020) will utilise the proposed Church Road access (via Station Road / High Street);

- In the future scenario, it is assumed approximately 60% of all traffic entering and exiting the University from Kingston Lane south (via Pield Heath Road East) will utilise the proposed Church Road access (from Pield Heath Road);
- In the future scenario, it is assumed that all traffic which currently enters and exits the University from Kingston Lane south via Pield Heath Road west will utilise the proposed Church Road access (from Station Road / High Street);
- No background growth has been applied to the baseline 2015 traffic flows. Recent research by LBH (Trends in Vehicular Use in Hillingdon) indicates that traffic volumes on the highway network in LBH have decreased between 2000 and 2008. In addition, recent research by TfL (Traffic Note 1 – Traffic Levels in Greater London 1993 – 2010) indicates that traffic volumes on TfL roads in the LBH have decreased between 1994-1999 (average) and 2010 by 5.2%. On the basis of this research it is considered that traffic volumes would not increase on the LBH road network over the next 10 years and as such no growth should be applied; and
- No committed developments have been taken into consideration at this stage. Should LBH / TfL identify any relative committed developments then these will be reviewed and included as part of any future assessment.

7.5.6

In order to understand the impacts of the proposals on the local highway network, the following scenarios have been assessed:

- 2015 Base Traffic Flows;
- 2026 'Do Nothing' Baseline Traffic Flows (assuming no development occurs on the campus and no traffic growth has been applied); and
- 2026 'Do Something' Baseline Traffic Flows (assuming that the development is completed by 2026, including the introduction of new access arrangements).

7.5.7

The vehicular flows for each of the scenarios is summarised in **Table 7-4** below, with relevant flow diagrams included in **Appendix F**.

Table 7-4: Comparison of network traffic flows

JUNCTION	2015 BASE TRAFFIC FLOWS		2026 BASE TRAFFIC FLOWS (DO NOTHING)		RE-DISTRIBUTED 2026 BASE TRAFFIC (DO SOMETHING)	
	Weekday AM Peak	Weekday PM Peak	Weekday AM Peak	Weekday PM Peak	Weekday AM Peak	Weekday PM Peak
Cleveland Road / The Greenway / Whitehall Road	1107	1002	1107	1002	1100	997
High Street / Station Road	2350	2079	2350	2079	2389	2114
Cleveland Road / Station Road	1214	1132	1214	1132	1280	1183
Kingston Lane / Church Road / Pield Heath Road	1769	1672	1769	1672	1707	1613
Kingston Lane / University Site Access	1190	1009	1190	1009	929	813
Uxbridge Road / Harlington Road	3520	3074	3520	3074	3499	3060
Kingston Lane / Hillingdon Hill / Hillingdon Road	3261	3147	3261	3147	3195	3096
The Greenway / Hillingdon Road / Churchill Road	3353	3310	3353	3310	3308	3273

7.5.8

The impacts of the proposals are summarised in **Table 7-5** overleaf.

Table 7-5: Percentage Impact 2026 (Do Nothing compared to Do Something)

JUNCTION	% IMPACT	
	Weekday AM Peak	Weekday PM Peak
Cleveland Road / The Greenway / Whitehall Road	-1%	0%
High Street / Station Road	+2%	+2%
Cleveland Road / Station Road	+5%	+5%
Kingston Lane / Church Road / Pield Heath Road	-4%	-4%
Kingston Lane / University Site Access	-22%	-19%
Uxbridge Road / Harlington Road	-1%	0%
Kingston Lane / Hillingdon Hill / Hillingdon Road	-2%	-2%
The Greenway / Hillingdon Road / Churchill Road	-1%	-1%

SENSITIVITY TEST

7.5.9

Although it is not considered that baseline traffic on the local highway network will grow over the next ten years, a sensitivity test has been undertaken which assesses the impacts of the development proposals on the local highway with application of growth factors to the baseline traffic.

7.5.10

The baseline 2015 traffic flows have been growthed to 2026 (anticipated year of completion of the proposals) using to Tempro NTM locally adjusted growth factors of 17% during AM peak hour and 18% during PM peak hours respectively. The growth factors are included in **Appendix F**.

7.5.11

The resultant vehicular flows and resultant impacts are summarised in **Table 7-6** and **Table 7-7** below and overleaf. Relevant flow diagrams are included in **Appendix F**.

Table 7-6: Comparison of network traffic flows

JUNCTION	2015 BASE TRAFFIC FLOWS		2026 BASE TRAFFIC FLOWS (DO NOTHING)		RE-DISTRIBUTED 2026 BASE TRAFFIC (DO SOMETHING)	
	Weekday AM Peak	Weekday PM Peak	Weekday AM Peak	Weekday PM Peak	Weekday AM Peak	Weekday PM Peak
Cleveland Road / The Greenway / Whitehall Road	1107	1002	1290	1179	1283	1173
High Street / Station Road	2350	2079	2746	2451	2784	2486
Cleveland Road / Station Road	1214	1132	1410	1330	1477	1381
Kingston Lane / Church Road / Pield Heath Road	1769	11672	2034	1944	1971	1903
Kingston Lane / University Site Access	1190	1009	1299	1114	1038	918
Uxbridge Road / Harlington Road	3520	3074	4104	3618	4083	3604
Kingston Lane / Hillingdon Hill / Hillingdon Road	3261	3147	3762	3671	3696	3619
The Greenway / Hillingdon Road / Churchill Road	3353	3310	3888	3876	3843	3839

Table 7-7: Percentage Impact 2026 (Do Nothing compared to Do Something)

JUNCTION	% IMPACT	
	Weekday AM Peak	Weekday PM Peak
Cleveland Road / The Greenway / Whitehall Road	-1%	-1%
High Street / Station Road	+2%	+1%
Cleveland Road / Station Road	+5%	+4%
Kingston Lane / Church Road / Pield Heath Road	-4%	-2%
Kingston Lane / University Site Access	-22%	-18%
Uxbridge Road / Harlington Road	-1%	0%
Kingston Lane / Hillingdon Hill / Hillingdon Road	-2%	+1%
The Greenway / Hillingdon Road / Churchill Road	-1%	+1%

RELOCATED HILLINGDON HOSPITAL

7.6

VEHICLE ACCESS

7.6.1

Site 4 (where the relocated hospital will be situated) is bound to the north by Nursery Lane, a pedestrian only single-track road that is connected to Station/Church Road to the west and Kingston Lane to the east. To the west and south the site is bound by residential properties along Church Road and to the east the site is bound by the existing allotments, residential properties and Pield Heath House School.

7.6.2

Four potential access points to the proposed developments, namely:

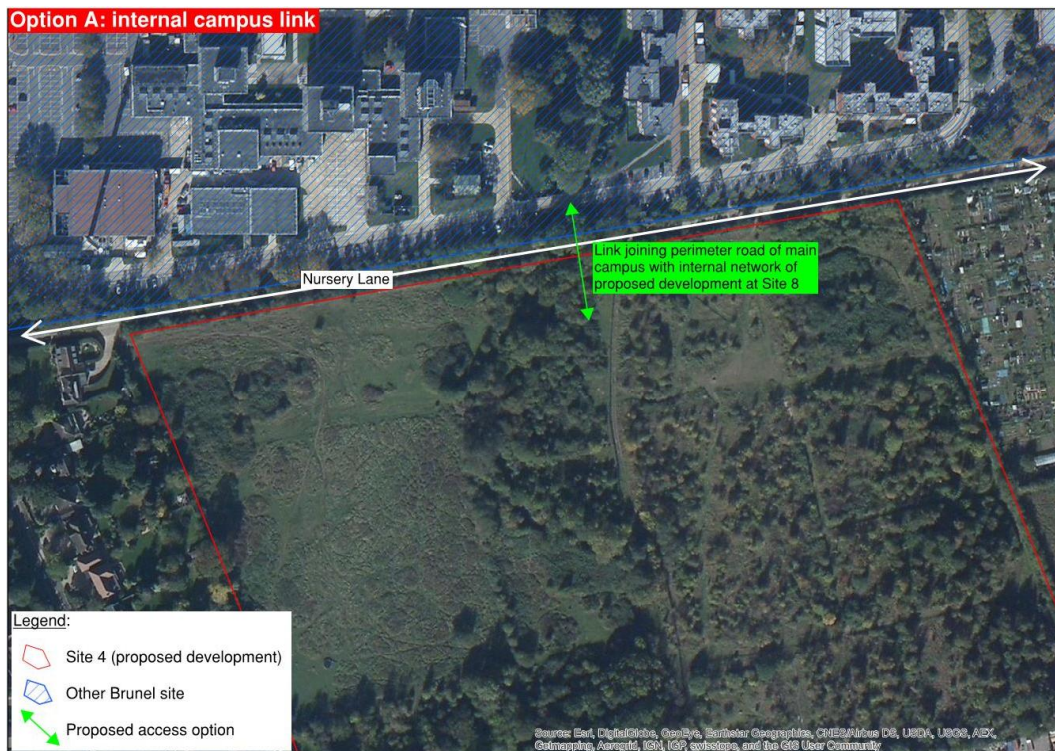
- Option A: A new internal link connected to the southern portion of the existing University perimeter road;
- Option B: The existing garden centre access from Church Road. This road would be extended to the north to connect to the internal road network of the new development;
- Option C: Nursery Lane west would provide access to the local highway network to the west of the site, on Station Road; and
- Option D: Nursery Lane east would provide access to the local highway network to the east of the site, on Kingston Lane.

OPTION A: INTERNAL CAMPUS LINK

7.6.3

Figure 7-9 illustrates the option of integrating the new development at Site 4 with the BU campus to the north.

Figure 7-9: Option A Schematic



7.6.4

Advantages of this option are:

- Interconnectivity between the hospital site and the main campus; and
- No new access required on the local highway network.

7.6.5

Disadvantages of this option are:

- Increased vehicular movements in the main campus, between, from and to the new access;
- Nursery Lane public footpath would be split, so a pedestrian crossing would be required; and
- Land ownership would require further investigation.

OPTION B: GARDEN CENTRE ACCESS

7.6.6

Figure 7-10 illustrates the option of using the existing garden centre vehicular access on Church Road. The existing road is 5.9m wide and this would need to be widened to provide segregated pedestrian and cycle access.

Figure 7-10: Option B Schematic



7.6.7

Advantages of this option are:

- There is a two-way access already in place;
- Traffic to/from the new development would avoid the internal campus road network; and
- The hospital would have a dedicated access.

7.6.8

Disadvantages of this option are:

- The existing bus stop close to the access point would likely need to be relocated;
- The access road carriageway would require widening; and
- Visibility between the access and Church Road would need to be improved.

OPTION C: NURSERY LANE WEST

7.6.9

Figure 7-11 illustrates the option of using Nursery Lane as a vehicular access route, linking the proposed development to Church Road and Station Road to the west of the Site.

Figure 7-11: Option C Schematic



7.6.10

Advantages of this option are:

- The access is already in place;
- Traffic to and from the new development would avoid the internal campus road network; and
- The hospital would have a dedicated access.

7.6.11

Disadvantages of this option are:

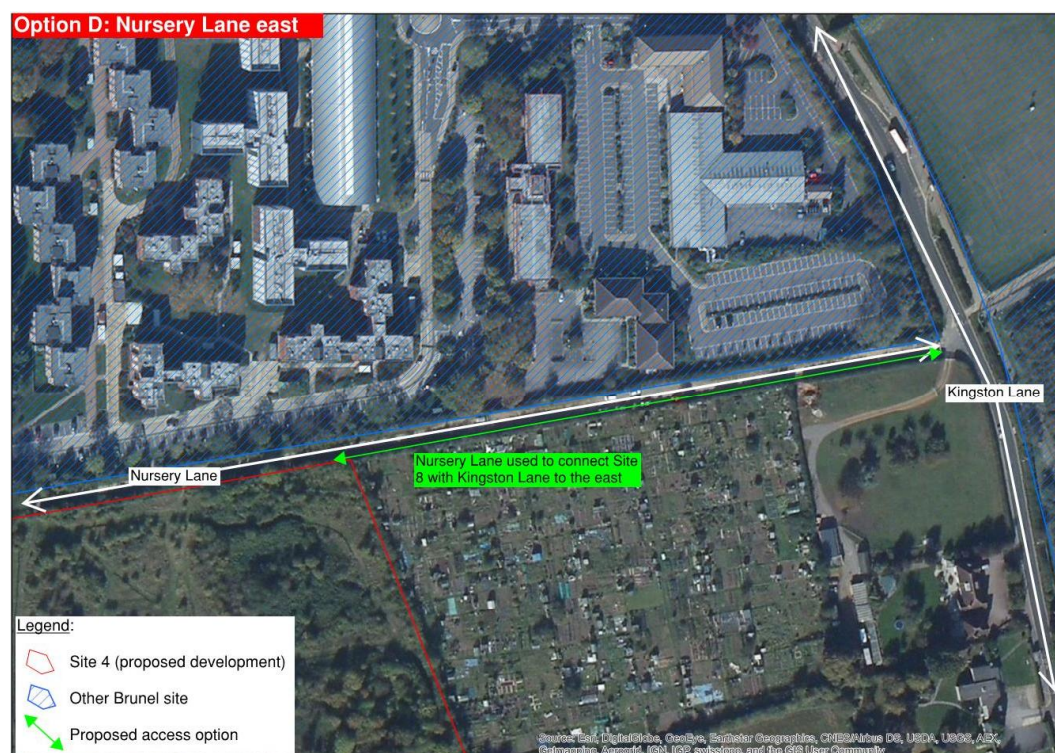
- The existing public route for cyclists and pedestrians would be severed;
- Access to two dwellings on Nursery Lane, to the north-west of the Site would need to be maintained;
- The existing access is relatively narrow and widening of the carriageway would be required; and
- The junction with Station Road, Church Road and Cleveland Road would need to be realigned.

OPTION D: NURSERY LANE EAST

7.6.12

Figure 7-12 illustrates the option of using Nursery Lane as a vehicular access route, linking the proposed development to Church Road and Station Road to the east of the Site. The access is currently 4.7m wide which would need to be widened to accommodate a two-way access and suitable pedestrian and cycle access.

Figure 7-12: Option D Schematic



7.6.13

Advantages of this option are:

- The access is already in place;
- Traffic to/from the new development would avoid the internal campus road network; and
- The hospital would have a dedicated access.

7.6.14

Disadvantages of this option are:

- The existing public route for cyclists and pedestrians would be severed;
- The entrance and route are relatively narrow and widening would be required; and
- Visibility between Nursery Lane and Kingston Lane would need to be improved.

PREFERRED OPTION

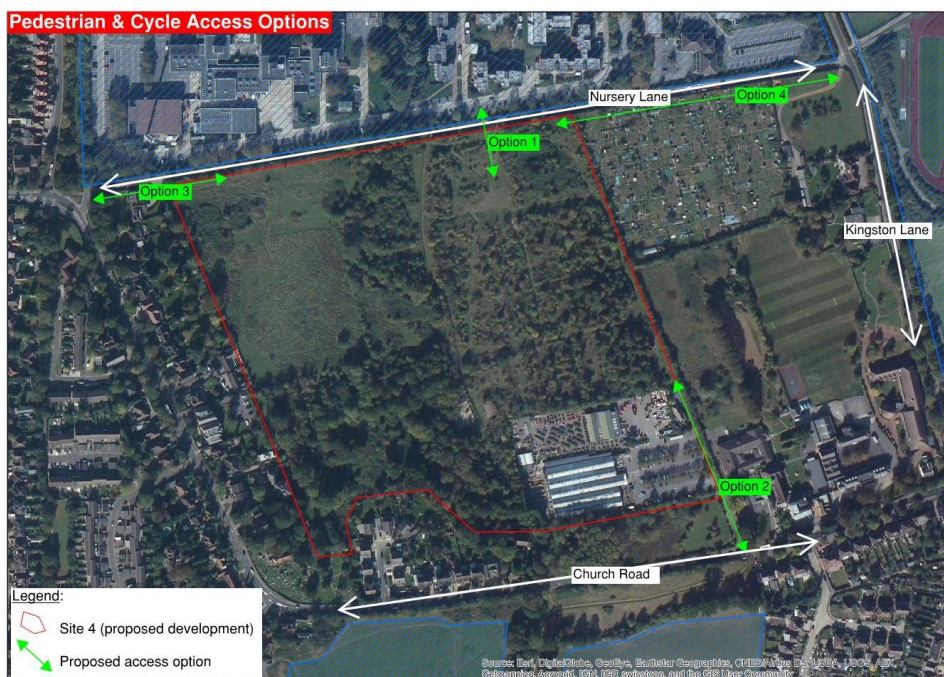
- 7.6.15 A combination of Options A and B was identified in the WSB|PB study as the preferred vehicular access points i.e. the existing garden centre access on Church Road and a new internal link across Nursery Lane to the main BU campus. The premise for such a strategy was threefold: to make use of the existing access point on Church Road, to create a vehicular link with the main BU campus and to severance of Nursery Lane. The access points identified were suitable for the uses being considered by BU.
- 7.6.16 Whilst the hospital will have specific requirements, the locations identified previously are appropriate for the relocated hospital. An additional point of access, along Nursery Lane from either Church Road or Kingston Lane would be beneficial as this would allow for some segregation of private, servicing and emergency vehicles movements.
- 7.6.17 The preferred option is the hybrid of Options A and B outlined in this section.

7.7 PEDESTRIANS & CYCLES

EXISTING CONDITIONS & OPTIONS

- 7.7.1 Nursery Lane is the only existing pedestrian and cycle route adjacent to the site, with access to the local highway network at Church Road to the west and Kingston Lane to the east. This route is in relatively poor condition. Observations on-site included uneven muddy terrain, puddles and overgrown vegetation obstructing the path.
- 7.7.2 As part of the hospital relocation access along Nursery Lane to the hospital and BU could be improved. The existing link between Nursery Lane and the main BU campus could be extended to connect it to the hospital campus.
- 7.7.3 Pedestrian and cycle routes along the vehicular access routes outlined previously would also be provided improving the permeability of the BU campus as well as providing access to the Hospital campus.
- 7.7.4 Pedestrian infrastructure in the locality is not of a high standard. Examples include narrow footways and a lack of crossings. The carriageways in the local area are narrow which, combined with relatively high vehicle speeds, contribute to a less than satisfactory pedestrian environment. **Figure 7-13** shows potential pedestrian and cycle accesses.

Figure 7-13: Pedestrian and Cycles Access Options



PREFERRED OPTION

7.7.5

The preferred option remains is a hybrid of each of the options outlined in this section:

- Nursery Lane will remain a pedestrian and cycle route, with upgrades made to reflect the increased volume of movements arising from the hospital development;
- A new internal link between Site 4 and the BU campus; and
- The provision for pedestrian and cycle access from Church Road using the enhanced existing garden centre access route.

7.8

SERVICING AND EMERGENCY VEHICLES

7.8.1

All servicing vehicles and emergency vehicles would, where possible, access Site 4 in the same manner as for private vehicular traffic, as previously outlined. Owing to the size of many of the servicing vehicles and the layout of the road network within the main BU campus, much of the servicing traffic will likely travel via the proposed access on Church Road.

8

PUBLIC TRANSPORT STRATEGY

8.1 INTRODUCTION

8.1.1 Section 4 of this Transport and Feasibility Report provides details of the existing public transport network. This network provides a broad base from which to develop services which will facilitate the level of development proposed.

8.1.2 This Public Transport Strategy sets out the recommended approach to the provision of a sustainable basis for the increased travel requirements arising from the University's expansion. Given the distance from the site to the nearest Underground and National Rail stations, the primary public transport mode for the immediate vicinity of the site will continue to be bus services, alongside other sustainable transport modes such as walking and cycling.

BRUNEL UNIVERSITY

8.2 PUBLIC TRANSPORT

8.2.1 Although seemingly obvious, it is worth reiterating that the site's location at the local and more strategic level is well placed to achieve high mode shares by public transport because:

- While it is located on the edge of the TfL boundary, for the most part it is served by a unified and multi-modal public transport network, with integrated Smartcard ticketing (by means of Oyster®) providing for high-quality and high-frequency services;
- The recent history of the London bus network in particular is very strong, with the total number of passenger journeys doubling between the mid-1990s and the start of the current decade;
- The principal target market segment, students, have a relatively high propensity to use public transport based on a number of factors including cost, (reduced) availability of private cars, and large numbers travelling to common destinations; and
- More locally within the overall site, there is good pedestrian access and therefore all bus services serving the wider site can be used, even if a slightly longer walk is needed to reach the final destination.

8.2.2 Taking these principal factors into account, the public transport strategy is based upon the continued development and tailoring of the existing public transport network, rather than the development of bespoke and exclusive University-only bus services. This is consistent with the approach adopted at other universities in London, where the (TfL) public bus network provides the backbone of the services, with staff and student only shuttle buses used to link separated campuses. While the BU campus is distinctly different in terms of its edge of London location, bus services are a sufficiently flexible mode that they can adapt and grow to support the requirements of students, staff and other visitors as development comes on stream and total trip numbers increase.

8.2.3 This strategy addresses the 3 principal elements required to deliver sufficient bus services:

- Additional capacity on the existing network;
- Development of the network in light of the development; and
- Supporting facilities and infrastructure to support future service levels.

8.3 BACKGROUND DATA

8.3.1

In order to assess the scale of the public transport interventions which will be necessary, it is necessary to consider the increase in student and staff numbers which are expected by the end of the development period and to factor in that car parking space provision will not increase. Consequently, not only will the public transport network need to develop in order to accept current mode share levels, it will also need to reflect a higher mode share (than is currently achieved) for the increased numbers. Section 6 provides the calculations which have been used to project future numbers and while the mode share of buses is projected to increase by around 2% (from 20 to 22% of all student trips and from 3 to 5% of all staff trips). The current and future student and staff bus trip numbers are shown in **Table 8-1** below.

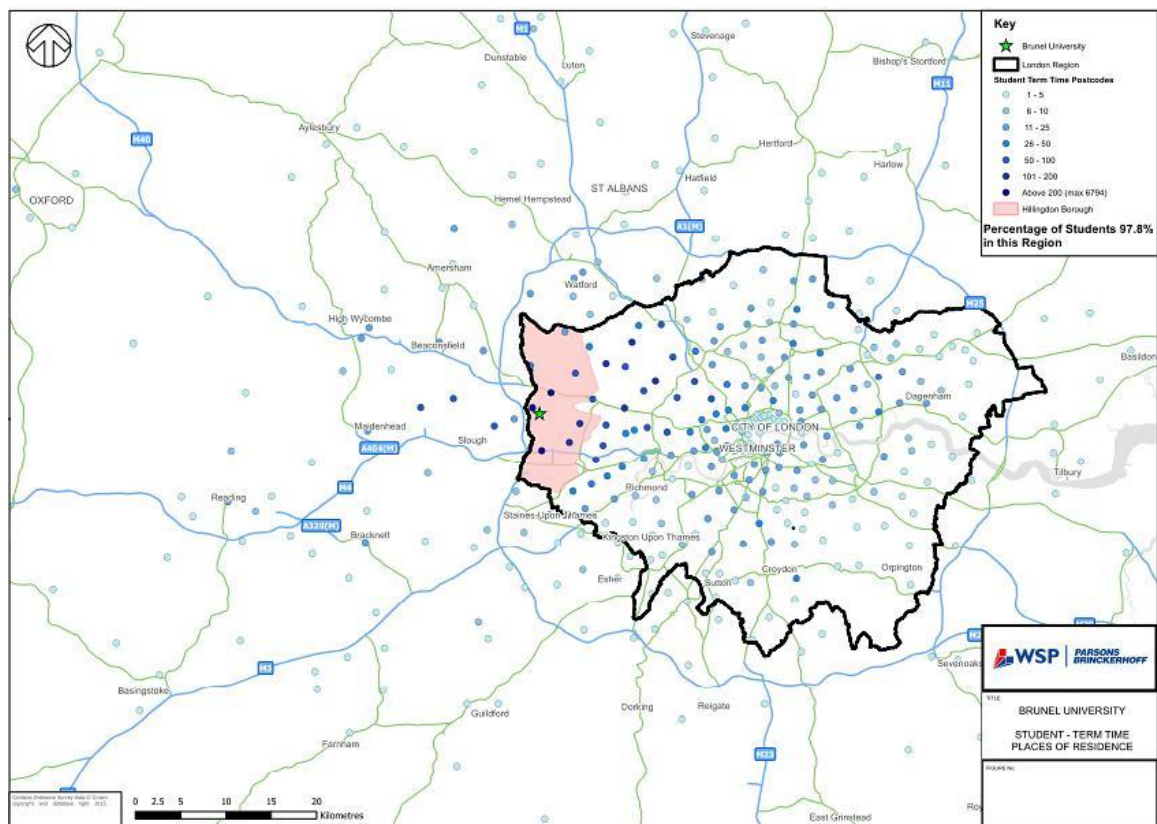
Table 8-1: Current and future student and staff bus trip numbers

CATEGORY	EXISTING	FUTURE	INCREASE
Students	2500	4,227	69%
Staff	240	452	88%
Total	2,790	4,679	68%

8.3.2

In planning for the expansion of the public transport network to support this additional volume of trips, the term time postcodes of current students and home addresses of staff have been reviewed. Chapter 6 sets out the general approach to the processing of the data and in order to examine the implications on public transport, the data has been considered both in the simple geographic distribution and the relative volumes from each postcode. **Figure 8-1** shows the distribution of student term time postcodes across London and the South East.

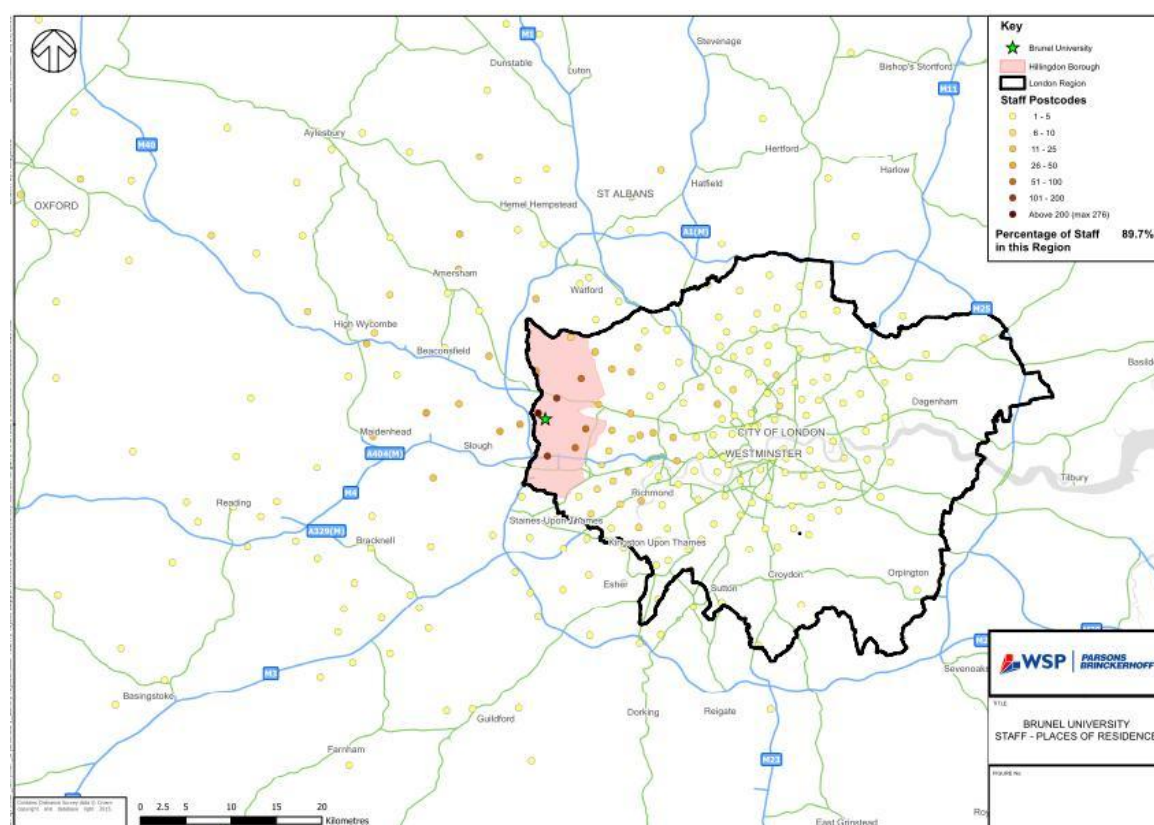
Figure 8-1: Student Term Time Places of Residence



8.3.3 As the site is located within postcode UB8, the impact of the student accommodation means that 64% of the plotted postcodes within the area covered by the map shown are within the university's own postcode. The next most popular postcodes are UB7 (to the south of the site), UB10 (to the north, covering Hillingdon and Ickenham) and UB3 (to the south-east, covering Hayes).

8.3.4 For staff, the profile of postcode distribution is more dispersed, but still with a high level of local residency, as is evidenced below in **Figure 8-2**.

Figure 8-2: Staff Places of Residence



8.3.5 As with students, postcode UB8 has the greatest number of plots (at 25% of the total shown in the map), with postcodes UB10 and UB7 being the next most popular, albeit in the opposite order to students. All 3 of these postcodes each represent more than 100 plots and therefore account for 53% of the total number of staff.

8.4 ADDITIONAL CAPACITY ON THE EXISTING NETWORK

8.4.1 This high level of local student and staff postcode distribution supports the approach that the first priority of the public transport strategy is to target additional capacity on the existing bus network. This will not only address the needs of those local residents who need to make relatively short trips, with the bus being the main mode of transport, but will also improve access for the next largest group of staff and students who live in other London postcodes (such as the rest of UB and HA) and who use either Underground or national rail services as the main mode, with the bus providing a secondary link in the end to end journey.

8.4.2 TfL's approach to bus service planning is to operate the full length of each route, rather than to have multiple destinations (by having some journeys operate as "short" trips), and therefore the most efficient method of adding additional capacity is to provide it on the routes currently served by single deck vehicles (which could be upgraded to double deck vehicles) and, where greater frequency is appropriate, to increase the frequency of services with the shortest overall journey time, or a combination of both approaches.

8.4.3 In order to balance the needs between linking to key interchanges with Underground and rail, serving the site via multiple points of access and the deployment of capacity only where it is needed, the following illustrates a practical interpretation of this approach:

- U1 – increase the frequency of service from every 15 minutes to a more attractive and minimum 'turn up and go' frequency of every 12 minutes. This would require an additional 2 vehicles and would provide an approximate 50% increase in total capacity on the route;
- U3 – increase the vehicle capacity from single deck to double deck vehicles at the current frequency which would not require any additional vehicles but would provide an approximate 55% increase in total capacity on the route; and
- U5 – increase the vehicle capacity from single deck to double deck vehicles at the current frequency, which would not require any additional vehicles but would provide an approximate 55% increase in total capacity on the route.

8.4.4 Given that the peak time of travel for students is typically different than for all bus passengers as a whole, the level of capacity increase illustrated in paragraph 10.3.3 is considered reasonable to address the levels of increase shown in Table 10-1. More detailed data about the off-campus term time places of residence for BU students will enable more accurate and targeted capacity initiatives to be implemented and it is recommended that the methodology for doing so is discussed and reviewed with TfL before, during and after the development has come on stream.

8.5 DEVELOPMENT OF THE NETWORK IN LIGHT OF THE DEVELOPMENT

8.5.1 In the longer term, developing the existing network to be better tailored to trip patterns serving the University could involve more substantial route changes, particularly on routes operating beyond the TfL boundary, where University-related trips may represent a higher proportion of the total passenger demand on each route.

8.5.2 Within London, TfL's existing ongoing programme of managing the bus network will determine whether any route changes are required, such as diverting more services to serve the site, changing the terminal points and/or introducing new routes.

8.5.3 It will be particularly relevant for staff, where the distribution of postcodes is more evenly spread than for students, that bus services from outside of London are also reviewed in the longer term. Bus services which could be tailored in terms of routing (to serve the site more directly) and/or benefit from a more radical increase in the number of scheduled journeys include:

- 58 – to/from Slough and Uxbridge via Langley Rail Station – develop more peak-time journeys towards Uxbridge, with potential extension to BU;
- 583 – to/from Slough and Uxbridge via Iver Rail Station – develop a peak-time service towards Uxbridge;

8.5.4 These enhancements are likely to form part of the medium to long term approach to public transport as these corridors will generate the need for a much more bespoke response than the provision of volume on the main routes serving Uxbridge and Hillingdon borough in general.

8.5.5 A further option for the development of the network to serve the bespoke requirements of staff and students would be a shuttle bus service, which could either be open to the public, or could be available only to students and staff. In order to develop the concept further, detailed consideration would need to be given to all aspects of the service including, but not limited to:

- Service – i.e. as above, only for BU or available to the public (and thus part of the TfL network);
- Route – e.g. serving only nearby student residences and thus at very high frequency to maximise convenience or dedicated service to/from key interchanges e.g. Uxbridge town centre and Underground station and/or local rail stations;
- Vehicle size e.g. minibus sized vehicle to better serve side roads not already served directly by public bus services;
- Schedule – e.g. fully fixed timetable or on-demand at certain off-peak times; and
- Cost – e.g. provided free to some or all users and/or acceptance of TfL network tickets.

8.5.6 A shuttle bus could be provided with new, bespoke access as part of the development's future layout and therefore some of these considerations would benefit from being taken into account at an early stage of the development's planning.

8.6 SUPPORTING FACILITIES AND INFRASTRUCTURE TO SUPPORT FUTURE SERVICE LEVELS

8.6.1 It has already been identified in paragraph 5.9.2 that the Travel Plan should support the operation and provision of public transport. This should include facilities and infrastructure to support future service levels, such as passenger-focussed items like bus shelters and 'Countdown' real-time information displays at all bus stops which serve the wider site, as well as more operational and highway related matters, like the provision of additional road markings and kerb space to reflect the higher frequency of bus services.

8.6.2 Subject to the adoption of the preferred option for bus access, on-site investment in boarding and alighting facilities and bus turning space would be required.

8.6.3 The potential for existing bus services to be upgraded from single deck to double deck operation should enable services to continue to serve existing stops, without a major requirement to expand the number of marked bus stops and shelters, although this should be kept under review based on the actual flows and distribution of passenger numbers between the different bus services.

8.7 RECOMMENDATION

8.7.1 BU already benefits from the provision of a comprehensive public bus network around the site, with TfL having a strong track record in expanding and improving the London bus network.

8.7.2 The quantum of the future bus demand lends itself to the continued expansion of scheduled, high frequency and high capacity services, which provide journey opportunities where bus is the main mode of transport and also to integrate with other public transport services at Underground and rail stations.

- 8.7.3 In the short term, expanding the capacity of the network by means of increasing frequency and vehicle size on existing routes is appropriate and feasible. In the longer term, amending the route and timetable of services and potentially introducing new services is likely to be required to achieve a higher mode share. In both the short and the long term, the provision of supporting infrastructure (e.g. bus stops) will need to be reviewed to ensure the safety and comfort of passengers and the operational reliability and deliverability of services.

RELOCATED HILLINGDON HOSPITAL

8.8 PUBLIC TRANSPORT

- 8.8.1 BU is at present, served by regular bus services which operate along Kingston Lane and Cleveland Road. In addition, bus services also operate along Church Road, Station Road and Cowley Road. It is understood that no bus services currently enter the University campus and the University does not operate any shuttle bus services.

- 8.8.2 The combined campus and introduction of additional residential units on the existing hospital site would create additional demand for local transport services, particularly the bus routes passing close to the sites. Opportunities to enhance these services would need to be explored with TfL and LBH to ensure that they serve the campuses and benefit the wider local community.

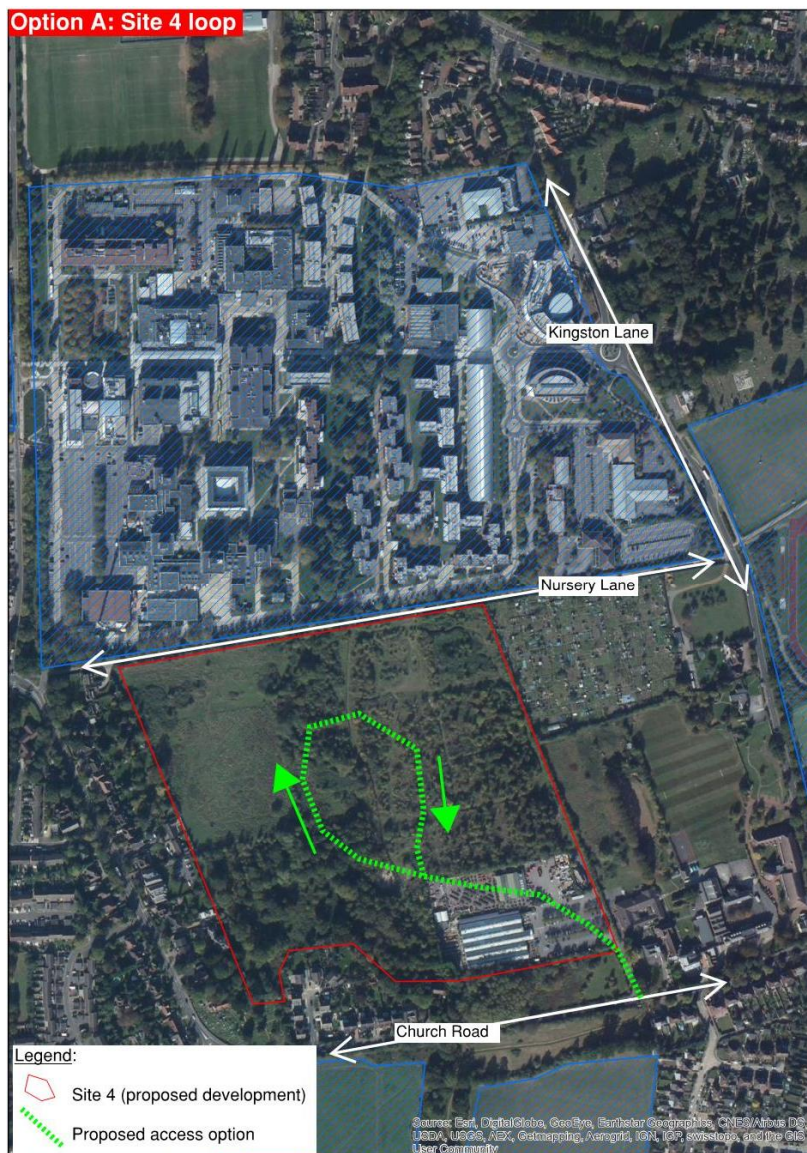
- 8.8.3 Diversion of the existing routes through the campuses would be beneficial, particularly for patients who may be restricted in how far they can walk unassisted. Consideration has been given to how diverted routes could be accommodated within the campuses. The diversions could either serve both campuses directly or just the hospital campus with walking and cycling links to the BU campus.

OPTION A: HOSPITAL CAMPUS ONLY

- 8.8.4 This option would provide a 'loop' within the hospital campus development. Buses could enter from the existing Church Road entrance, proceed to the bus stop and return to Church Road.

- 8.8.5 Existing public services could be diverted to serve the loop within minimal changes to the route schedules. The loop could also serve a shuttle bus between the campuses and nearby transport interchanges such as Uxbridge or West Drayton Stations. This option is shown indicatively on **Figure 8-3**.

Figure 8-3: Option A Public Transport Access



8.8.6

Advantages of this option are:

- Buses would not be required to navigate the internal road network, sections of which are not designed for large vehicles, of the main campus;
- The relocation of the existing bus stop on Church Road could be accommodated within the campus with minimal changes to walking distances for local residents; and
- The relocation of the stop within the campus would offer an opportunity to improve the waiting area.

8.8.7

Disadvantages of this option are:

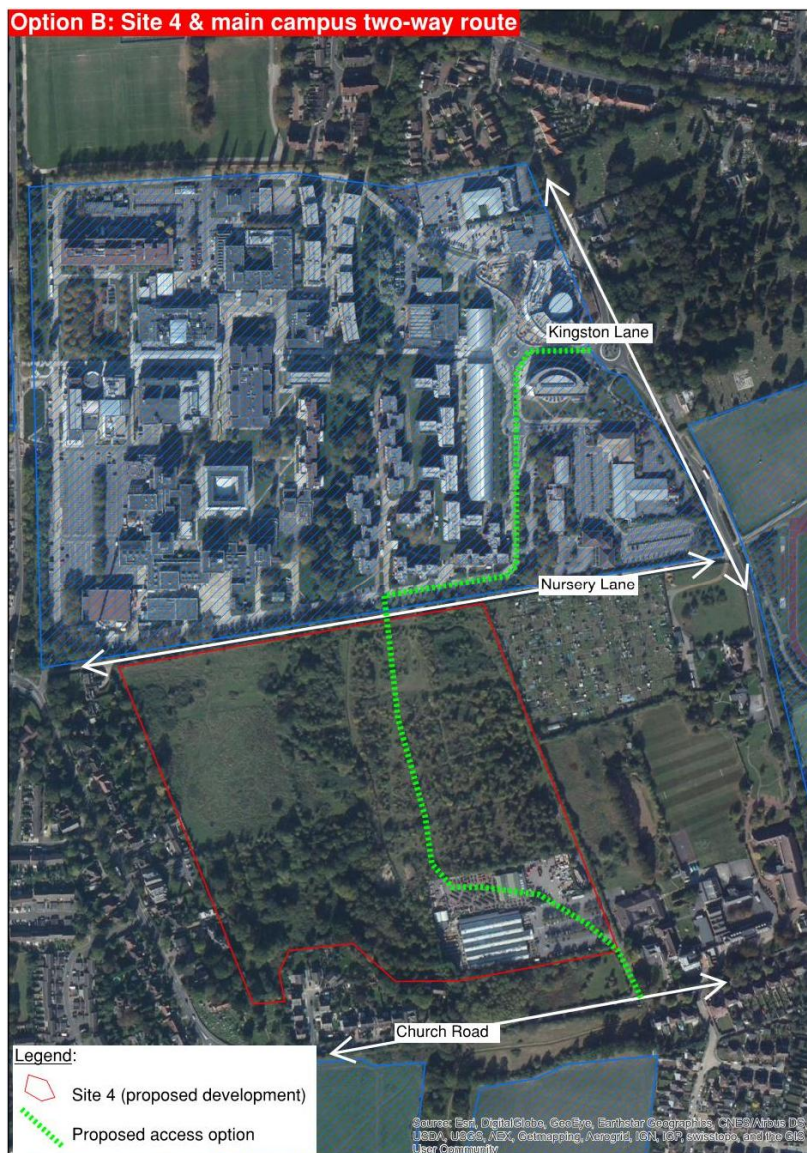
- If existing bus services were extended, rerouted or diverted, journey times would increase, albeit such changes should be minimal.

OPTION B: INTRA-CAMPUS ROUTE

8.8.8

Option B consists of a two-way route connecting the main entrance of BU on Kingston Lane with the proposed vehicular access to Site 4 on Church Road, travelling via the perimeter road of the main campus. A variant on this option would be to route via Nursery Lane, either in its entirety or either end, with buses then continuing through Site 4 as outlined. Existing public services could be diverted through the campuses with minimal changes to the route schedules. The route could also serve a shuttle bus between the campuses and nearby transport interchanges such as Uxbridge or West Drayton Stations. This option is shown indicatively on **Figure 8-4**.

Figure 8-4: Option B Public Transport Access



8.8.9

Advantages of this option are:

- The relocation of the existing bus stop on Church Road could be accommodated within the hospital campus with minimal changes to walking distances for local residents;
- The relocation of the stop within the campus would offer an opportunity to improve the waiting area; and

- Multiple stops could be provided for a shuttle bus service which would enhance its attractiveness.

8.8.10

Disadvantages of this option are:

- Buses would be required to navigate the internal road network, sections of which are not designed for large vehicles, of the main campus; and
- If existing bus services were extended, rerouted or diverted, journey times would likely increase, albeit the changes should be minimal.

PREFERRED OPTION

8.8.11

The preferred option is Option A. The existing internal road network within the BU campus, unless upgraded and remodelled, is considered to be unsuitable for use by buses. Implementing such services on this network would have an adverse effect on its operation as a whole. The main campus is also already served by buses that stop on both Cowley Road and Kingston Lane. Option A or a variant of it would therefore have the least impact on the existing campus and existing public transport services.

8.8.12

This strategy sets out the recommended approach to the provision of a sustainable basis for the increased travel requirements arising from the relocation of HH to the BU campus. Given the distance from the site to the nearest Underground and National Rail stations (approximately 2km to both Uxbridge and West Drayton), the bus network is a crucial component of the public transport strategy. Capacity improvements on the existing routes is the preferred strategy to improve public transport connectivity for the following reasons:

- The BU campus is already well-served by buses, with services linking it to London Underground, National Rail stations, residential areas within Hillingdon, Ickenham and Ruislip, as well as Heathrow Airport. Towns such as Beaconsfield and Rickmansworth are also accessible by bus. Many of these services are integrated with the Oyster ticketing scheme, which enables convenient interchange between many rail and bus services;
- Buses serving principal destinations such as local town centres and stations operate at high frequencies (there at least 30 services per hour between BU and Uxbridge town centre off-peak on weekdays, on the U1, U2, U3, U4, U5 and U7 routes);
- Students, have a relatively high propensity to use public because of the relatively low cost, reduced availability of private cars, and large numbers travelling to common destinations;
- Diversion of the existing services through the hospital campus could be achieved within minimal changes to route lengths and schedules;
- Some of the services serving the BU campus already serve the existing hospital and would be familiar to the staff and regular patients; and
- Improvements to the existing services would also benefit residents of any new residential development on the existing hospital site.

8.8.13

The introduction of a shuttle bus service has been considered and may form part of a viable strategy for the completed University Masterplan. However shuttle bus services have a number of limitations, in this case particularly:

- Services need to fit to the working patterns of those being served and it is likely that the BU and hospital campuses would have diverged demand profiles throughout the day; and
- Services work best where there are limited existing public transport and sustainable travel options. The campuses would be served by a number of local bus services and improved walking and cycling links would be implemented.

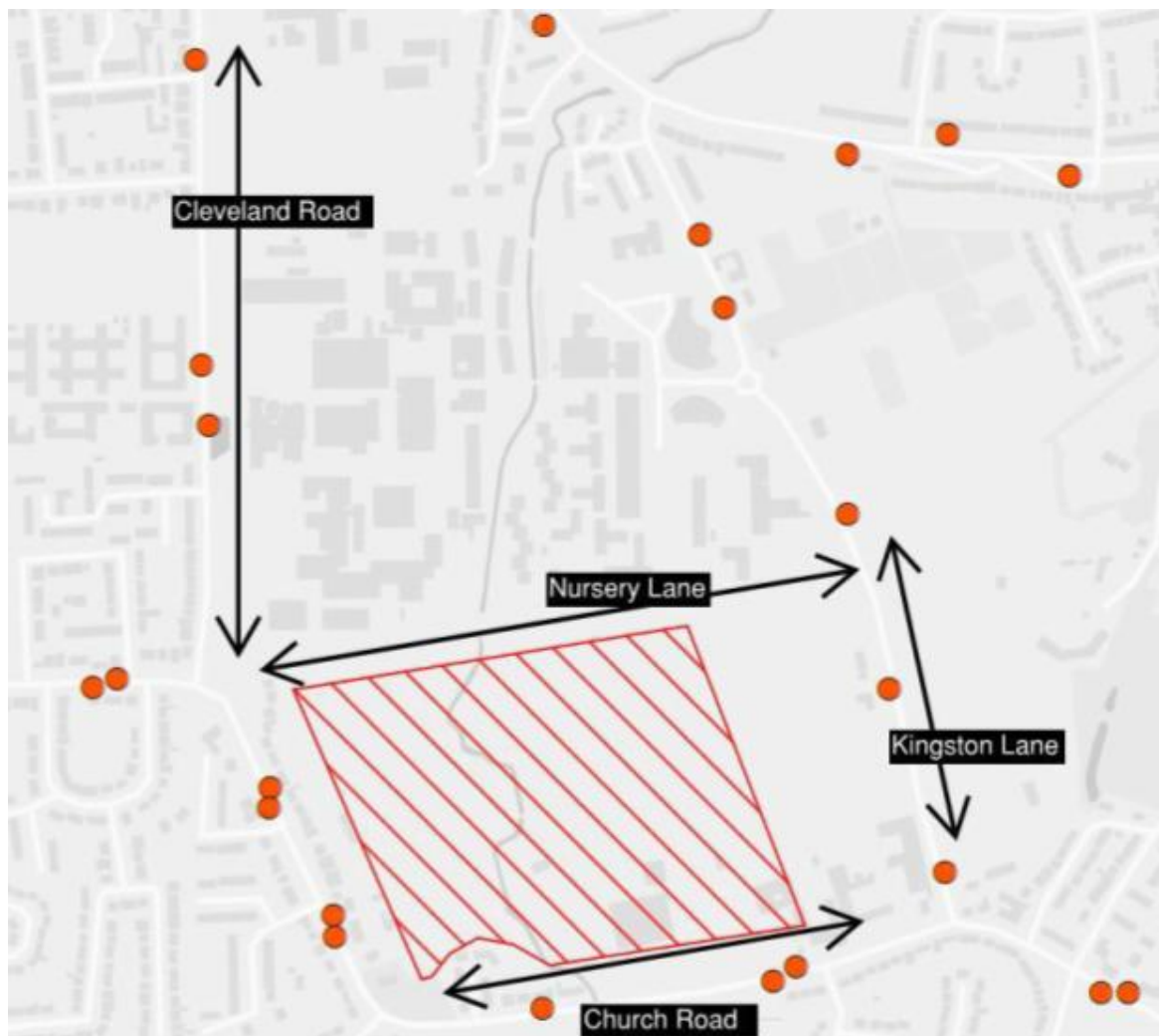
8.9 ADDITIONAL CAPACITY ON EXISTING NETWORK

8.9.1 Based on the high proportion of trips originating within LBH, the simplest approach to enhancing capacity may be to increase capacity on existing routes. This approach would help to meet increasing demand brought on by development, as well as making the service more attractive and thus encouraging a modal shift from private to public transport for short journeys on the corridor between Uxbridge town centre and Heathrow Airport.

8.9.2 This approach is considered preferable to re-routing services due to the relatively small campus area, as buses already stop on roads to the east and west of the main campus and to the south of the site of the proposed development. TfL's 'Accessible bus stop design guidance' suggests that 400m is the ideal maximum spacing for bus stops along a route, and most residents should be within 400m of a stop. The internal layout should be designed to minimise distances to bus stops. Nevertheless, the potential to improve bus penetration into the site would be discussed with TfL in order to improve accessibility to HH, particularly for those with mobility difficulties. This could be implemented as a means of managing demand for car parking.

8.9.3 **Figure 8-5** shows all of the bus stops in the immediate vicinity of the site.

Figure 8-5: Local BU bus stops



8.9.4

Enhancements to the existing services could include:

- Increasing the frequency of the U1 service from 4 four bph (buses per hour) to five bph; and
- For U3 and U5 services, the current single-deck vehicles should be replaced by double deck vehicles, which would see a 55% capacity increase on these routes.

8.10 NETWORK ENHANCEMENT TO SUPPORT DEVELOPMENT

8.10.1 In a future scenario, a bus service into the campus itself may provide a more convenient service for high volumes of students, staff and patients. Further analysis would be required to determine, which existing routes would be appropriate for such re-routing, or if additional routes would be more suitable. These enhancements to the network would be part of a longer term strategy to improve the local public transport network.

8.10.2 Another option would be to introduce an express shuttle service that would link the university to key residential areas, town centres and transport interchanges. This would likely be a private service, and could be run by BU and/or HH between Uxbridge town centre and West Drayton. An extended service to Gerrard's Cross could also be an option as this would provide an alternative to travelling by car for commuters travelling from Buckinghamshire and along the Chiltern Mainline, these travel patterns are presented in [Figure 3-3](#) is an overview of where commuters to the chosen MSOA ordinarily reside. Other trips are said to be made from other areas of England, but the majority originate from the coloured areas in this map. As would likely be expected, most of these trips are relatively short, and are between Hillingdon 017 and other areas of LB Hillingdon, south-west Hertfordshire and east Buckinghamshire.

8.10.3 .

8.11 SUPPORTING FACILITIES & INFRASTRUCTURE

8.11.1 Any improvements to bus services associated with BU/HH campus developments should be accompanied by appropriate facilities and infrastructure that will enable these services to operate efficiently and increase patronage. Examples of such measures are real-time arrival displays, adequate shelters, bus stands for terminating routes extended into the site and relevant service information for passengers.

8.11.2 If services serve the campus itself, as outlined in the Access Strategy in this document, then adequate boarding and alighting facilities should be provided in addition to the amenities previously listed. Appropriate turning space should also be provided.

8.12 RECOMMENDATION

8.12.1 Due to the proximity of both the site of the proposed HH and the main BU campus, the current bus routes and stop locations are considered adequately located for the current and future requirements of the campus. It is considered preferable that capacity is added to existing routes through either increasing vehicle capacity or increasing the frequency of services. However, a long-term public transport strategy, including the potential to improve bus penetration into the site would be discussed with TfL in conjunction with any site development in order to improve accessibility to HH, particularly for those with mobility difficulties.

8.12.2 This should be considered a longer-term strategy due to the capital investment required and would depend on TfL's strategy for service alterations in the local area as well as vehicle procurement. It would be beneficial for BU/HH to submit a case supporting such service alterations. This would consist of data illustrating the scale and patterns of bus use by BU/HH staff, students and patients. Such a case should outline the greater benefits to local residents and users of the existing network.

9

SUMMARY AND CONCLUSION

9.1 SUMMARY

9.1.1 WSP and Arup have been commissioned by BU and HH respectively to provide transport consultancy services and also to prepare a Transport Feasibility Report to support BU's and HH's representations to the emerging LBH Local Plan, which are as follows:

- Allocation of Sites 1-7 of the BU campus for higher education/research and healthcare development, to include a Green Belt boundary review that removes sites 1, 2, 3 (northern part), 4, 6 and 7 from the Green Belt.
- Allocation of the existing HH site for healthcare and/or residential development.

9.1.2 The University currently has 13,860 students and 2,514 members of staff with a projected increase of 7,641 students and 1,300 members of staff. The existing floorspace is 129,625sq.m with a projected increase of 118,552sq.m, which is an increase of 95%. The number of parking spaces will increase by 127 to 2,088 car parking spaces.

9.1.3 The Hospital currently has 998 full time and 358 part time staff, with an average of 700 on site at any one time. The hospital sees approximately 384,000 patients per year: 60,000 emergency patients, 54,000 in-patients and 270,000 out-patients. The existing floorspace is c. 52,000sq.m, which if relocated to BU Site 4, will increase to c. 80,000sq.m. The total number of parking spaces at the proposed development will be 938. The proposed hospital will see a modernisation of facilities but the functional capacity will not change.

9.1.4 The proposed residential development would accommodate between 457 and 881 dwellings, based upon the London Housing Density Matrix. This would take place on the existing HH site, which is 11 hectares in area. The proposed residential development is forecast to generate between 300 and 600 AM trips, based upon the variation in the number of dwellings.

9.1.5 A review of the existing transport and travel conditions at BU and HH has been undertaken. There are currently nine London bus routes in the vicinity of the sites providing approximately 46 services per hour. Uxbridge LUL station is an approximate 20/30 minute walk north of BU/HH respectively and West Drayton station is in the region of 2.5km away.

9.1.6 The assessment of current public transport accessibility is based on a methodology which depends to a significant extent on rail and tube access. Kingston Lane is measured to have the best accessibility due to its proximity to the range of bus services on Hillingdon Road. In order to balance the needs between linking to key interchanges with Underground and rail, serving the sites via multiple points of access and the deployment of capacity only where it is needed, possible improvements to the existing bus network could be increasing the frequency of service U1 and using double deck buses on services U3 and U5. Taken together, these actions would enable the public bus network to accommodate the increase in passengers.

9.1.7 The Public Transport Strategy seeks to build upon the strengths and opportunities of the current network by expanding capacity of existing services in the short-term and identifying possible route network developments in the longer term. This could include the development of a shuttle bus service, tailored to BU and HH, with its precise specification considered in light of the development of the public bus network and physical access to the site.

9.1.8 Additionally, the implementation of updated TPs will help to promote the use of sustainable transport and therefore prevent further vehicular demand on the local highway network.

9.2 CONCLUSION

9.2.1 The proposed developments change of use:

- Give residents, University students and staff, as well as Hospital patients and staff, a choice about how they travel. The sites are located close to good frequent bus routes, good quality pedestrian and cycle routes and in close proximity to key local facilities;
- Secure safe and suitable access to the sites for all people by sustainable modes; and
- Provide a level of car parking which is appropriate for the scale of the proposed developments.

9.2.2 The proposed Permitted Development changes of use are therefore considered to be sustainable and appropriate.

Mayor's Office

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The Queen's Walk
London SE1 2AA
Switchboard: 020 7983 4000
Minicom: 020 7983 4458
Web: www.london.gov.uk

Mr Karl Dafe
Major Applications Team
Planning and Transportation Department
Hillingdon Council
Civic Centre
High Street
UXBRIDGE
UB8 1UW

Our ref: PDU/0300b/02
Your ref: 532/2002/2237
Date: 22 October 2003

Dear Mr Dafe,

**Town & Country Planning Act 1990 (as amended); Greater London Authority Act 1999; Town & Country Planning (Mayor of London) Order 2000
Brunel University outline master plan proposals for the Uxbridge campus (532/APP/2002/2237).**

I refer to your letter dated 2 October 2003 informing me that Hillingdon Council is minded to grant planning permission for the above planning application. I refer you also to the notice that I issued on 9 October 2003 under the provisions article 4(1)(b)(i) of the above Order.

Having now considered a report on this case (reference PDU/0300c/02, copy enclosed), I am content to allow Hillingdon Council to determine the case itself, subject to any action that the Secretary of State may take, and do not therefore wish to direct refusal.

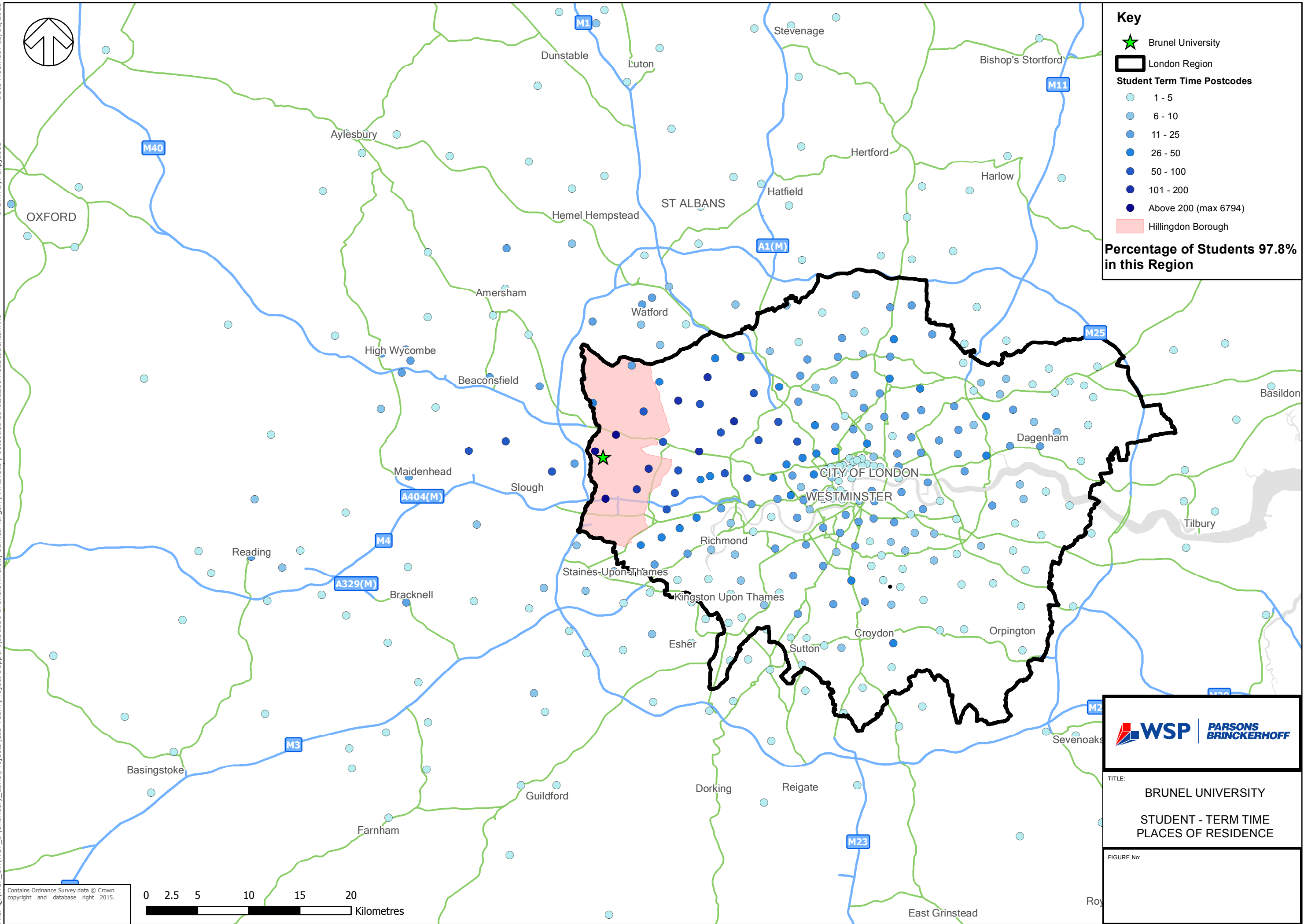
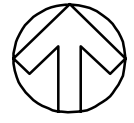
The application represents EIA development for the purposes of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999. I have taken the environmental information made available to date into consideration in formulating my decision.

Yours sincerely,



Ken Livingstone
Mayor of London

cc Richard Barnes, London Assembly Constituency Member
Bob Neill, Chair of London Assembly Planning and Spatial Development Committee
Andrew Melville, GoL
Sam Richards, TfL
Anne Crane, LDA
Mrs Charlotte Grant, GVA Grimley, 10 Stratton Street, London W1 8JR
Eddie Fell, Grayton House, 26a High Street, Eastleigh, SO50 5LD.



Key

- Brunel University
- London Region

Student Term Time Postcodes

- 1 - 5
- 6 - 10
- 11 - 25
- 26 - 50
- 50 - 100
- 101 - 200
- Above 200 (max 6794)

Hillingdon Borough

Percentage of Students 97.8% in this Region

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TITLE:
BRUNEL UNIVERSITY
STUDENT - TERM TIME
PLACES OF RESIDENCE

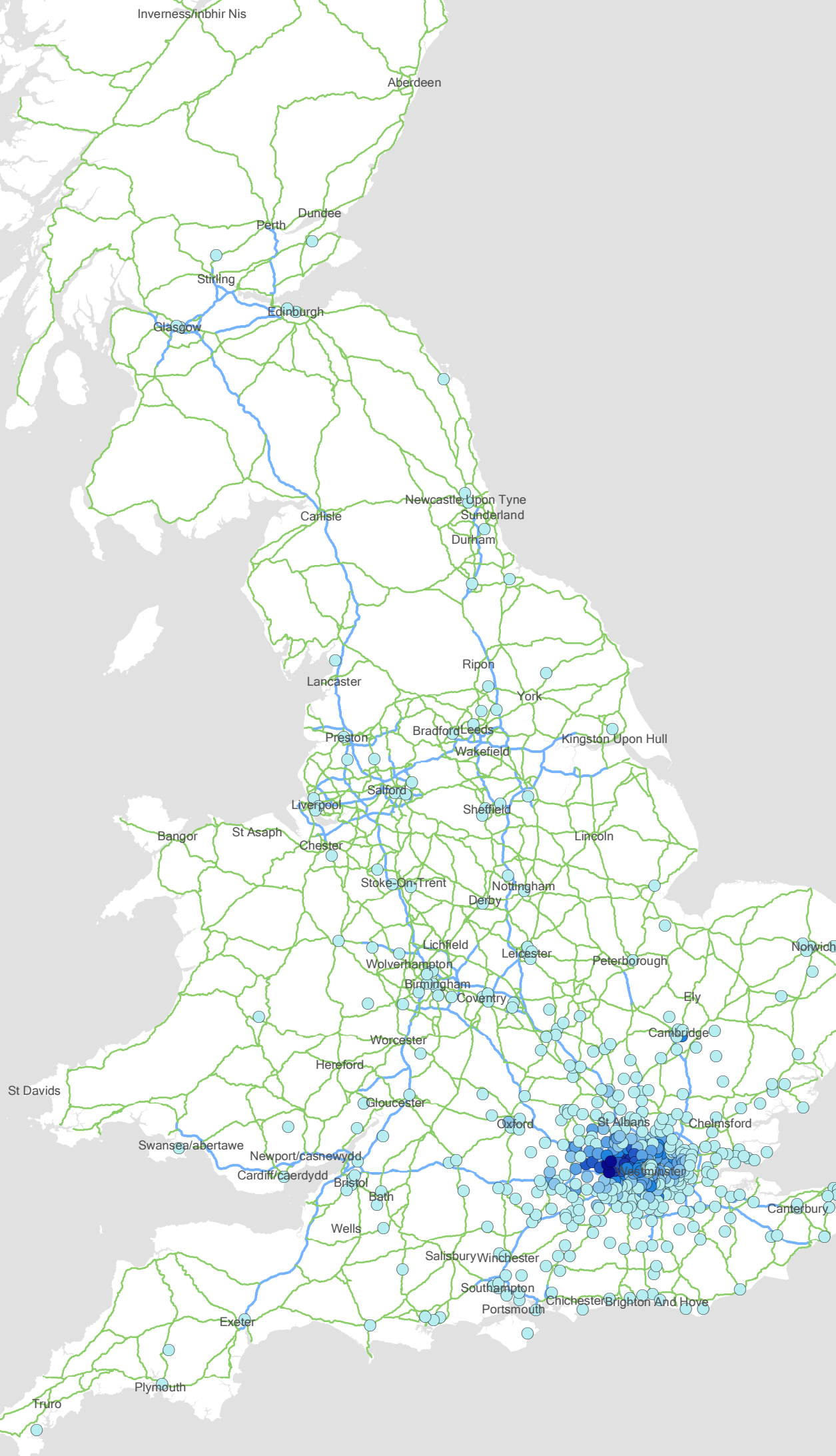
FIGURE No:



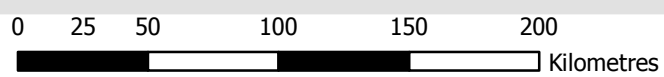
Key

Student Term Time Postcodes

- 1 - 5
- 6 - 10
- 11 - 25
- 26 - 50
- 50 - 100
- 101 - 200
- Above 200 (max 6794)

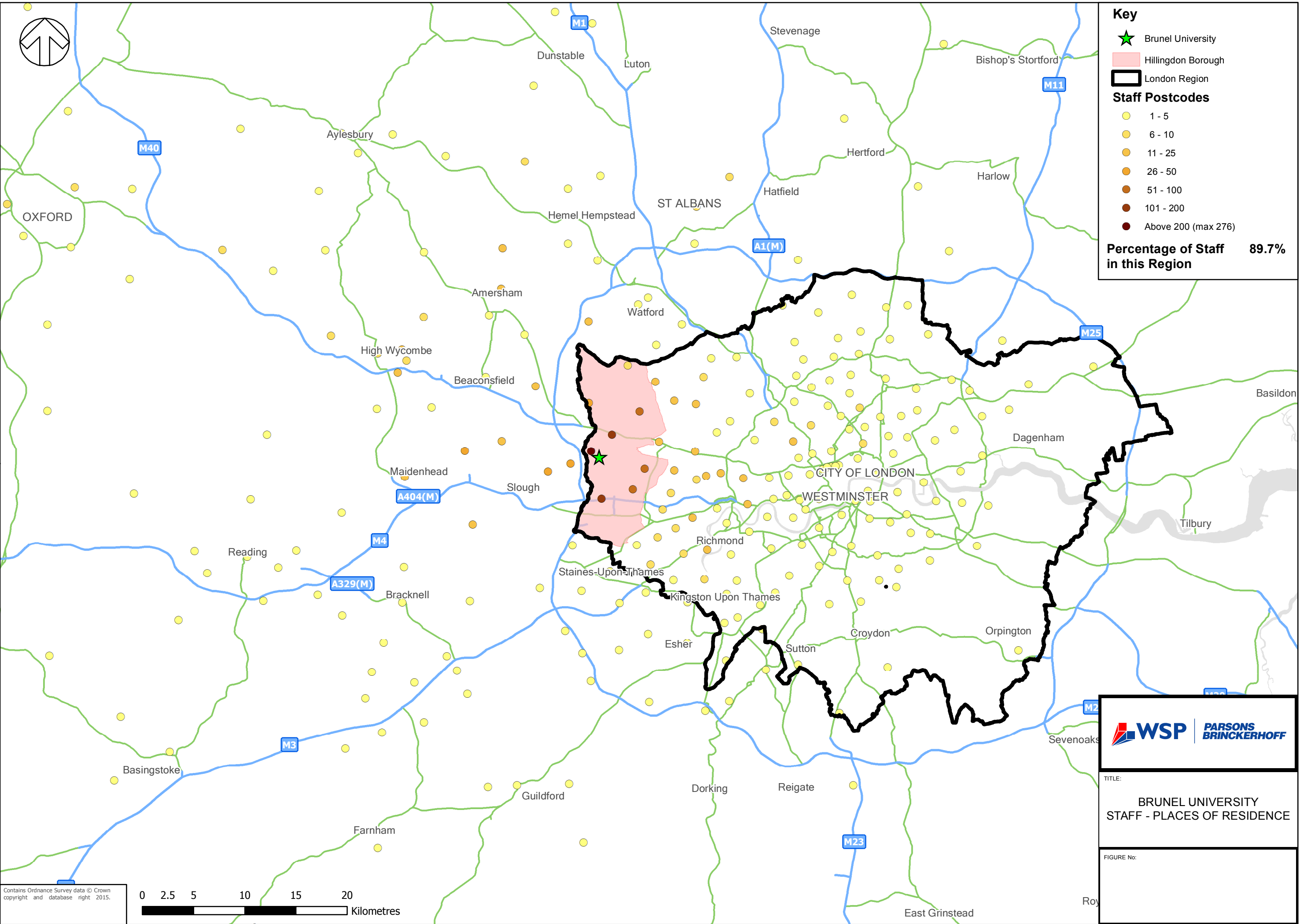


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TITLE:
BRUNEL UNIVERSITY
STUDENT - TERM TIME
PLACES OF RESIDENCE

FIGURE No:



Key

- Brunel University
- Hillingdon Borough
- London Region

Staff Postcodes

- 1 - 5
- 6 - 10
- 11 - 25
- 26 - 50
- 51 - 100
- 101 - 200
- Above 200 (max 276)

Percentage of Staff in this Region 89.7%

TITLE:
**BRUNEL UNIVERSITY
 STAFF - PLACES OF RESIDENCE**

FIGURE No:

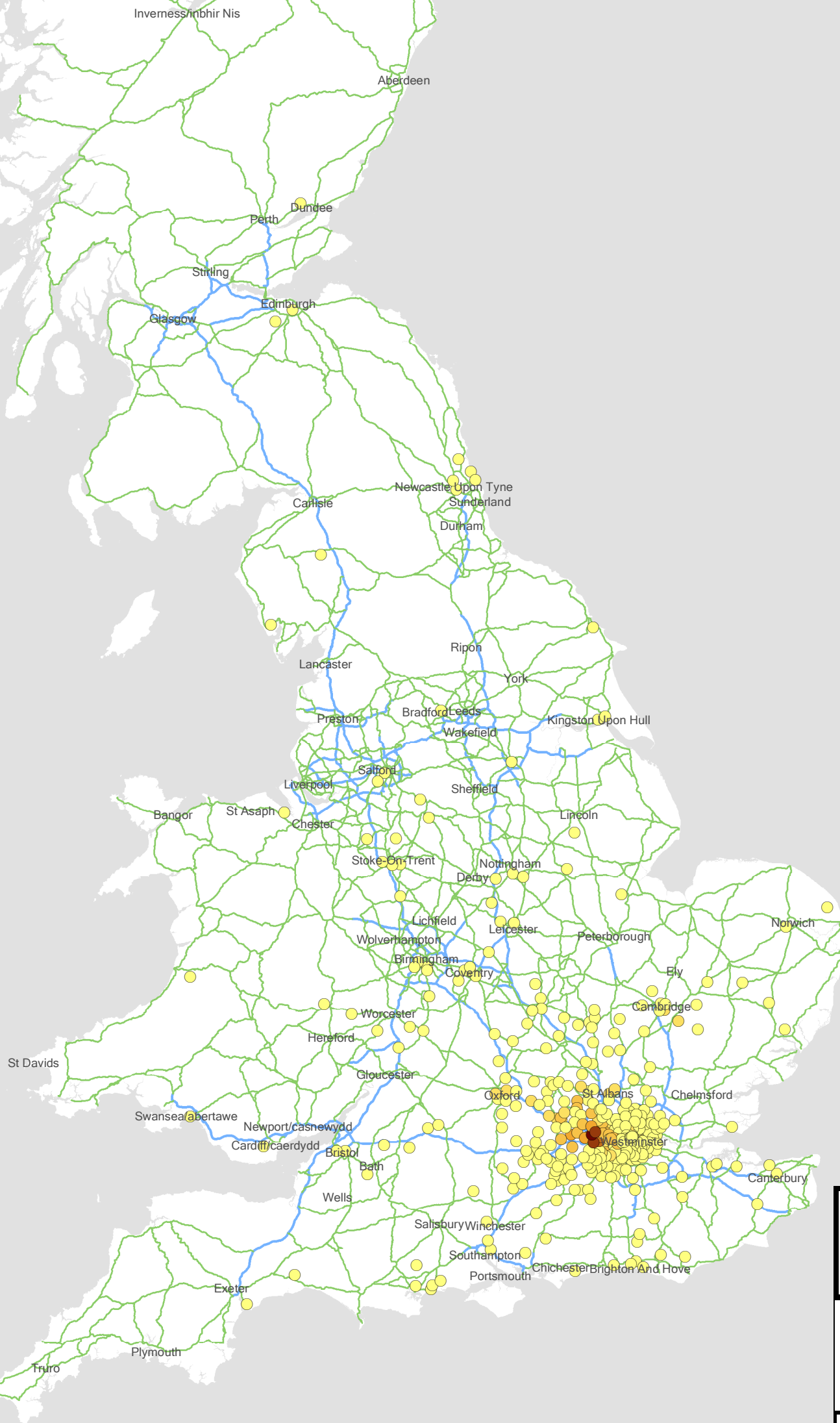
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 0 2.5 5 10 15 20
 Kilometres



Key

Staff Postcodes

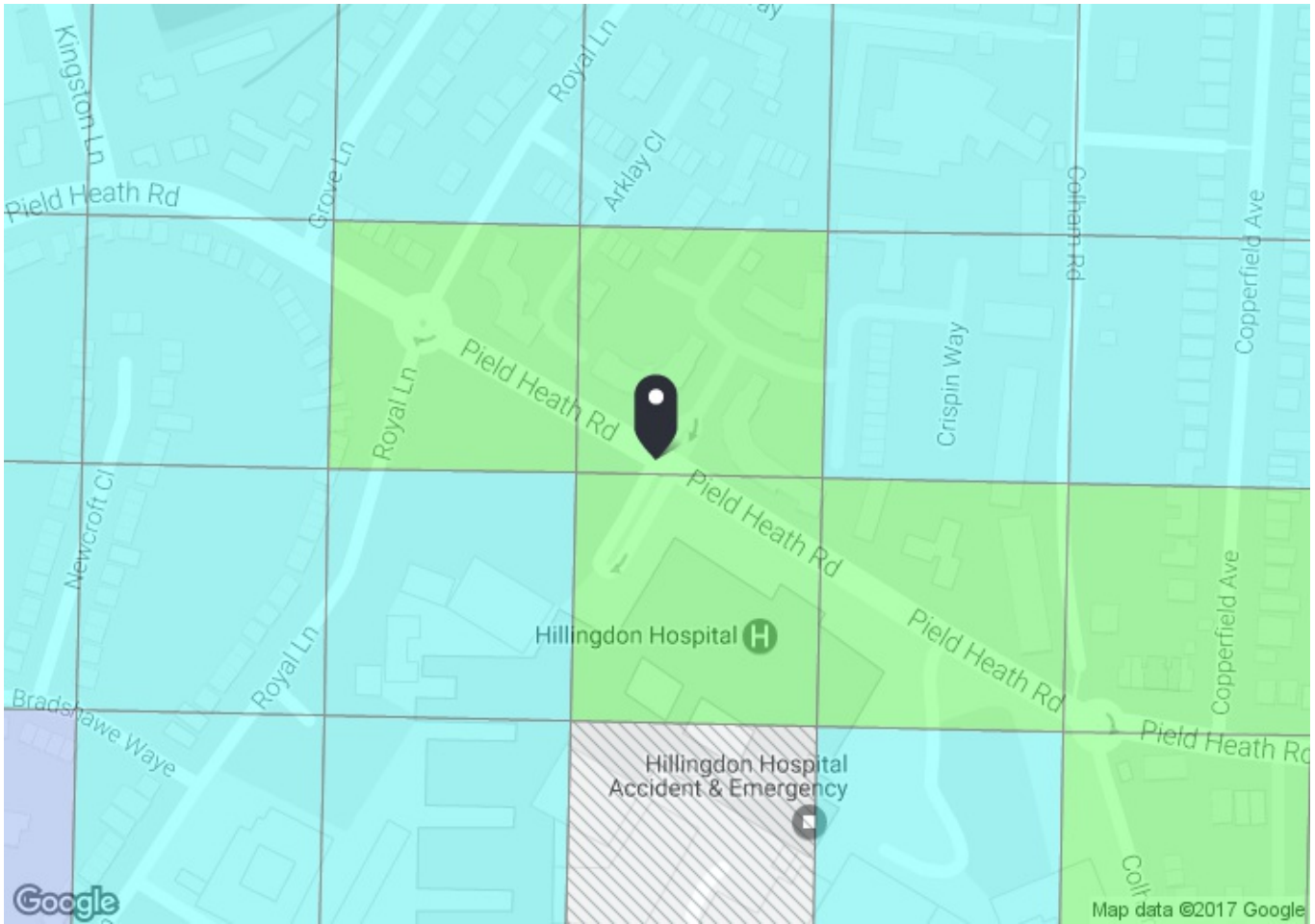
- 1 - 5
- 6 - 10
- 11 - 25
- 26 - 50
- 51 - 100
- 101 - 200
- Above 200 (max 276)



TITLE:
BRUNEL UNIVERSITY
STAFF - PLACES OF RESIDENCE

FIGURE No:





PTAL output for Base Year
3

Field Heath Rd, Uxbridge UB8 3WT, UK
Easting: 506829, Northing: 182000

Grid Cell: 88151

Report generated: 26/01/2017

Calculation Parameters

Day of Week	M-F
Time Period	AM Peak
Walk Speed	4.8 kph
Bus Node Max. Walk Access Time (mins)	8
Bus Reliability Factor	2.0
LU Station Max. Walk Access Time (mins)	12
LU Reliability Factor	0.75
National Rail Station Max. Walk Access Time (mins)	12
National Rail Reliability Factor	0.75

Map key - PTAL

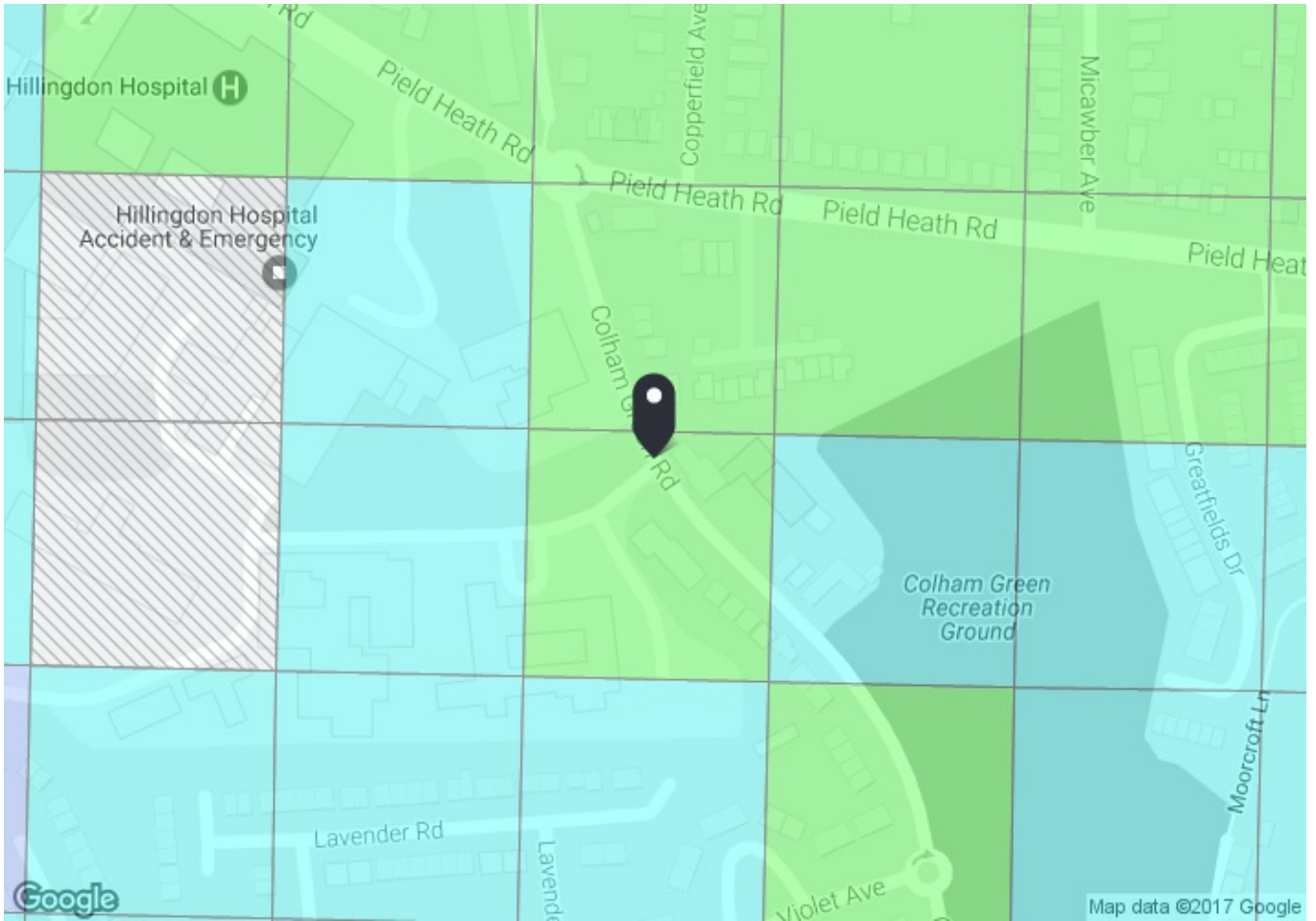
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	1b		2
	3		4
	5		6a
	6b (Best)		

Map layers

- PTAL (cell size: 100m)

Calculation data

Mode	Stop	Route	Distance (metres)	Frequency(vph)	Walk Time (mins)	SWT (mins)	TAT (mins)	EDF	Weight	AI
Bus	HILLINGDON HOSPITAL	U7	126.73	2	1.58	17	18.58	1.61	0.5	0.81
Bus	HILLINGDON HOSPITAL	U2	126.73	6	1.58	7	8.58	3.49	0.5	1.75
Bus	HILLINGDON HOSPITAL	U5	126.73	5	1.58	8	9.58	3.13	0.5	1.57
Bus	HILLINGDON HOSPITAL	U3	126.73	5	1.58	8	9.58	3.13	0.5	1.57
Bus	HILLINGDON HOSPITAL	U4	126.73	7.5	1.58	6	7.58	3.96	1	3.96
Bus	HILLINGDON HOSPITAL	U1	126.73	4	1.58	9.5	11.08	2.71	0.5	1.35
Total Grid Cell AI:										10.99



PTAL output for Base Year
3

4 Colham Green Rd, Uxbridge UB8 3QQ, UK
Easting: 507048, Northing: 181783

Grid Cell: 86632

Report generated: 26/01/2017

Calculation Parameters

Day of Week	M-F
Time Period	AM Peak
Walk Speed	4.8 kph
Bus Node Max. Walk Access Time (mins)	8
Bus Reliability Factor	2.0
LU Station Max. Walk Access Time (mins)	12
LU Reliability Factor	0.75
National Rail Station Max. Walk Access Time (mins)	12
National Rail Reliability Factor	0.75

Map key - PTAL

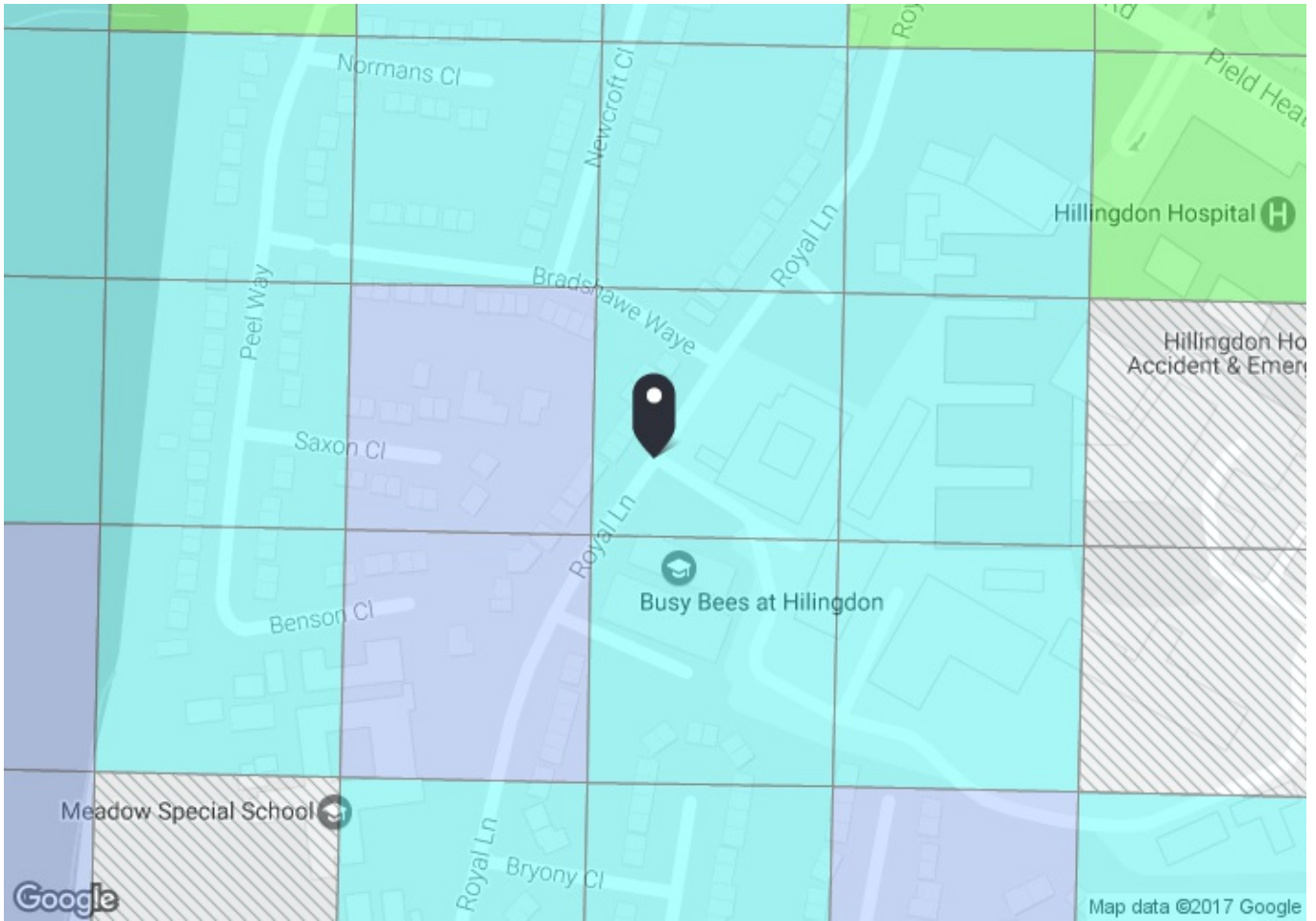
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1b	2
3	4
5	6a
6b (Best)	

Map layers

- PTAL (cell size: 100m)

Calculation data

Mode	Stop	Route	Distance (metres)	Frequency(vph)	Walk Time (mins)	SWT (mins)	TAT (mins)	EDF	Weight	AI
Bus	COLHAM G PRINCE OF WALES	U7	191.51	2	2.39	17	19.39	1.55	0.5	0.77
Bus	COLHAM G PRINCE OF WALES	U2	191.51	6	2.39	7	9.39	3.19	0.5	1.6
Bus	COLHAM G PRINCE OF WALES	U5	191.51	5	2.39	8	10.39	2.89	0.5	1.44
Bus	COLHAM G PRINCE OF WALES	U3	191.51	5	2.39	8	10.39	2.89	0.5	1.44
Bus	COLHAM G PRINCE OF WALES	U4	191.51	7.5	2.39	6	8.39	3.57	1	3.57
Bus	COLHAM G PRINCE OF WALES	U1	191.51	4	2.39	9.5	11.89	2.52	0.5	1.26
Total Grid Cell AI:										10.09



PTAL output for Base Year

2

61a Royal Ln, Uxbridge UB8 3QU, UK
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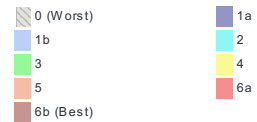
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Report generated: 26/01/2017

Calculation Parameters

Day of Week	M-F
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Bus Reliability Factor	2.0
LU Station Max. Walk Access Time (mins)	12
LU Reliability Factor	0.75
National Rail Station Max. Walk Access Time (mins)	12
National Rail Reliability Factor	0.75

Map key - PTAL



Map layers

 PTAL (cell size: 100m)

Calculation data

Mode	Stop	Route	Distance (metres)	Frequency(vph)	Walk Time (mins)	SWT (mins)	TAT (mins)	EDF	Weight	AI
Bus	HILLINGDON HOSPITAL	U7	286.88	2	3.59	17	20.59	1.46	0.5	0.73
Bus	HILLINGDON HOSPITAL	U2	286.88	6	3.59	7	10.59	2.83	0.5	1.42
Bus	HILLINGDON HOSPITAL	U5	286.88	5	3.59	8	11.59	2.59	0.5	1.29
Bus	HILLINGDON HOSPITAL	U3	286.88	5	3.59	8	11.59	2.59	0.5	1.29
Bus	HILLINGDON HOSPITAL	U4	286.88	7.5	3.59	6	9.59	3.13	1	3.13
Bus	HILLINGDON HOSPITAL	U1	286.88	4	3.59	9.5	13.09	2.29	0.5	1.15
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PTAI Study Report File Details

Date 18/02/2015 11:10

Day of week M-F

Time period AM peak

Walk speed 4.8 kph

Walk file PLSQLTest

POI Name: 505794, 182613

Bus Services

Reliability factor for this mode is 2

Maximum walk time for this mode is 8 minutes

Maximum walk distance for this mode is 640.0 metres

Stop UXBRIDGE HIGH SCHOOL

Walk time to stop from POI is 7.81 minutes

Walk distance to stop from POI is 624.75 metres

Route U3 Direction BACK Frequency 5.0 giving AWT of 6.0 minutes

Route U3 Direction OUT Frequency 5.0 giving AWT of 6.0 minutes

Stop CLEVELAND ROAD

Walk time to stop from POI is 4.0 minutes

Walk distance to stop from POI is 320.27 metres

Route U3 Direction BACK Frequency 5.0 giving AWT of 6.0 minutes

Route U3 Direction OUT Frequency 5.0 giving AWT of 6.0 minutes

Stop BRUNEL UNIVERSITY, CLEVELAND ROAD

Walk time to stop from POI is 0.33 minutes

Walk distance to stop from POI is 26.24 metres

Route U3 Direction BACK Frequency 5.0 giving AWT of 6.0 minutes

Route U3 Direction OUT Frequency 5.0 giving AWT of 6.0 minutes

Stop CHURCH ROAD HUXLEY CLOSE

Walk time to stop from POI is 4.92 minutes

Walk distance to stop from POI is 393.73 metres

Route U3 Direction OUT Frequency 5.0 giving AWT of 6.0 minutes

Route U3 Direction BACK Frequency 5.0 giving AWT of 6.0 minutes

Route U5 Direction OUT Frequency 5.0 giving AWT of 6.0 minutes

Route U5 Direction BACK Frequency 5.0 giving AWT of 6.0 minutes

Stop CHURCH ROAD PEACHEY LANE

Walk time to stop from POI is 7.19 minutes
Walk distance to stop from POI is 574.85 metres
Route U3 Direction OUT Frequency 5.0 giving AWT of 6.0 minutes
Route U3 Direction BACK Frequency 5.0 giving AWT of 6.0 minutes
Route U5 Direction OUT Frequency 5.0 giving AWT of 6.0 minutes
Route U5 Direction BACK Frequency 5.0 giving AWT of 6.0 minutes
Stop STATION ROAD THE AVENUE
Walk time to stop from POI is 4.54 minutes
Walk distance to stop from POI is 362.84 metres
Route U5 Direction BACK Frequency 5.0 giving AWT of 6.0 minutes
Route U5 Direction OUT Frequency 5.0 giving AWT of 6.0 minutes
Stop COWLEY STATION ROAD
Walk time to stop from POI is 7.15 minutes
Walk distance to stop from POI is 571.98 metres
Route U5 Direction BACK Frequency 5.0 giving AWT of 6.0 minutes
Route U5 Direction OUT Frequency 5.0 giving AWT of 6.0 minutes

TATs for this mode

Route U3 Stop BRUNEL UNIVERSITY, CLEVELAND ROAD TAT 8.33 minutes EDF 3.6
Route U5 Stop STATION ROAD THE AVENUE TAT 12.54 minutes EDF 2.39

Best EDF is 3.6

Half of all other EDFs is 1.2

AI for this mode is 4.8

Underground Services

Reliability factor for this mode is .75
Maximum walk time for this mode is 12 minutes
Maximum walk distance for this mode is 960.0 metres

** No stops found within buffer for this POI

Rail Services

Reliability factor for this mode is .75
Maximum walk time for this mode is 12 minutes
Maximum walk distance for this mode is 960.0 metres

** No stops found within buffer for this POI

Total AI for this POI is 4.8. X: 505794, Y: 182613.

PTAL Rating is 1b.

PTAI Study Report File Details

Date 18/02/2015 11:20

Day of week M-F

Time period AM peak

Walk speed 4.8 kph

Walk file PLSQLTest

POI Name: 506399, 182669

Bus Services

Reliability factor for this mode is 2

Maximum walk time for this mode is 8 minutes

Maximum walk distance for this mode is 640.0 metres

Stop HILLINGDON R TURNPIKE LN

Walk time to stop from POI is 6.62 minutes

Walk distance to stop from POI is 529.64 metres

Route U1 Direction BACK Frequency 4.0 giving AWT of 7.5 minutes
Route U1 Direction OUT Frequency 4.0 giving AWT of 7.5 minutes
Route U7 Direction BACK Frequency 2.0 giving AWT of 15.0 minutes
Route U7 Direction OUT Frequency 2.0 giving AWT of 15.0 minutes
Route U7 Direction OUT Frequency 2.0 giving AWT of 15.0 minutes
Route U7 Direction BACK Frequency 2.0 giving AWT of 15.0 minutes
Route A10 Direction OUT Frequency 4.0 giving AWT of 7.5 minutes
Route A10 Direction BACK Frequency 4.0 giving AWT of 7.5 minutes
Route U4 Direction OUT Frequency 7.5 giving AWT of 4.0 minutes
Route U4 Direction BACK Frequency 7.5 giving AWT of 4.0 minutes
Route 607 Direction BACK Frequency 6.0 giving AWT of 5.0 minutes
Route 607 Direction OUT Frequency 6.0 giving AWT of 5.0 minutes
Route 427 Direction BACK Frequency 7.5 giving AWT of 4.0 minutes
Route 427 Direction BACK Frequency 7.5 giving AWT of 4.0 minutes
Route 427 Direction OUT Frequency 7.5 giving AWT of 4.0 minutes
Route 427 Direction OUT Frequency 7.5 giving AWT of 4.0 minutes

Stop KINGSTON LANE, IVYBRIDGE CLOSE

Walk time to stop from POI is 3.44 minutes

Walk distance to stop from POI is 275.12 metres

Route U1 Direction OUT Frequency 4.0 giving AWT of 7.5 minutes

Route U7 Direction OUT Frequency 2.0 giving AWT of 15.0 minutes
Route U7 Direction OUT Frequency 2.0 giving AWT of 15.0 minutes
Route U4 Direction BACK Frequency 7.5 giving AWT of 4.0 minutes
Stop BRUNEL UNIVERSITY, KINGSTON LANE
Walk time to stop from POI is 0.25 minutes
Walk distance to stop from POI is 19.79 metres
Route U1 Direction BACK Frequency 4.0 giving AWT of 7.5 minutes
Route U1 Direction OUT Frequency 4.0 giving AWT of 7.5 minutes
Route U2 Direction OUT Frequency 6.0 giving AWT of 5.0 minutes
Route U2 Direction BACK Frequency 6.0 giving AWT of 5.0 minutes
Route U7 Direction BACK Frequency 2.0 giving AWT of 15.0 minutes
Route U7 Direction BACK Frequency 2.0 giving AWT of 15.0 minutes
Route U7 Direction OUT Frequency 2.0 giving AWT of 15.0 minutes
Route U7 Direction OUT Frequency 2.0 giving AWT of 15.0 minutes
Route U4 Direction BACK Frequency 7.5 giving AWT of 4.0 minutes
Route U4 Direction OUT Frequency 7.5 giving AWT of 4.0 minutes

Stop HILLINGDON H THE FAIRWAY

Walk time to stop from POI is 7.7 minutes

Walk distance to stop from POI is 616.3 metres

Route A10 Direction OUT Frequency 4.0 giving AWT of 7.5 minutes
Route A10 Direction BACK Frequency 4.0 giving AWT of 7.5 minutes
Route 607 Direction OUT Frequency 6.0 giving AWT of 5.0 minutes
Route 607 Direction BACK Frequency 6.0 giving AWT of 5.0 minutes
Route 427 Direction BACK Frequency 7.5 giving AWT of 4.0 minutes
Route 427 Direction OUT Frequency 7.5 giving AWT of 4.0 minutes
Route 427 Direction OUT Frequency 7.5 giving AWT of 4.0 minutes
Route 427 Direction BACK Frequency 7.5 giving AWT of 4.0 minutes

Stop PIELD HEATH KINGSTON LN

Walk time to stop from POI is 5.5 minutes

Walk distance to stop from POI is 440.12 metres

Route U1 Direction BACK Frequency 4.0 giving AWT of 7.5 minutes
Route U1 Direction OUT Frequency 4.0 giving AWT of 7.5 minutes
Route U2 Direction OUT Frequency 6.0 giving AWT of 5.0 minutes
Route U2 Direction BACK Frequency 6.0 giving AWT of 5.0 minutes
Route U7 Direction BACK Frequency 2.0 giving AWT of 15.0 minutes
Route U7 Direction BACK Frequency 2.0 giving AWT of 15.0 minutes
Route U7 Direction OUT Frequency 2.0 giving AWT of 15.0 minutes
Route U7 Direction OUT Frequency 2.0 giving AWT of 15.0 minutes
Route U4 Direction BACK Frequency 7.5 giving AWT of 4.0 minutes
Route U4 Direction OUT Frequency 7.5 giving AWT of 4.0 minutes

TATs for this mode

Route U1 Stop BRUNEL UNIVERSITY, KINGSTON LANE TAT 9.75 minutes EDF 3.08
Route U7 Stop BRUNEL UNIVERSITY, KINGSTON LANE TAT 17.25 minutes EDF 1.74
Route A10 Stop HILLINGDON R TURNPIKE LN TAT 16.12 minutes EDF 1.86
Route U4 Stop BRUNEL UNIVERSITY, KINGSTON LANE TAT 6.25 minutes EDF 4.8
Route 607 Stop HILLINGDON R TURNPIKE LN TAT 13.62 minutes EDF 2.2
Route 427 Stop HILLINGDON R TURNPIKE LN TAT 12.62 minutes EDF 2.38
Route U2 Stop BRUNEL UNIVERSITY, KINGSTON LANE TAT 7.25 minutes EDF 4.14

Best EDF is 4.8
Half of all other EDFs is 7.7

AI for this mode is 12.5

Underground Services

Reliability factor for this mode is .75
Maximum walk time for this mode is 12 minutes
Maximum walk distance for this mode is 960.0 metres

** No stops found within buffer for this POI

Rail Services

Reliability factor for this mode is .75
Maximum walk time for this mode is 12 minutes
Maximum walk distance for this mode is 960.0 metres

** No stops found within buffer for this POI

Total AI for this POI is 12.5. X: 506399, Y: 182669.

PTAL Rating is 3.

PTAI Study Report File Details

Date 18/02/2015 11:11

Day of week M-F

Time period AM peak

Walk speed 4.8 kph

Walk file PLSQLTest

POI Name: 505792, 182906

Bus Services

Reliability factor for this mode is 2

Maximum walk time for this mode is 8 minutes

Maximum walk distance for this mode is 640.0 metres

Stop HILLINGDON R TURNPIKE LN

Walk time to stop from POI is 7.77 minutes

Walk distance to stop from POI is 621.93 metres

Route U1 Direction BACK Frequency 4.0 giving AWT of 7.5 minutes
Route U1 Direction OUT Frequency 4.0 giving AWT of 7.5 minutes
Route U7 Direction BACK Frequency 2.0 giving AWT of 15.0 minutes
Route U7 Direction OUT Frequency 2.0 giving AWT of 15.0 minutes
Route U7 Direction OUT Frequency 2.0 giving AWT of 15.0 minutes
Route U7 Direction BACK Frequency 2.0 giving AWT of 15.0 minutes
Route A10 Direction OUT Frequency 4.0 giving AWT of 7.5 minutes
Route A10 Direction BACK Frequency 4.0 giving AWT of 7.5 minutes
Route U4 Direction OUT Frequency 7.5 giving AWT of 4.0 minutes
Route U4 Direction BACK Frequency 7.5 giving AWT of 4.0 minutes
Route 607 Direction BACK Frequency 6.0 giving AWT of 5.0 minutes
Route 607 Direction OUT Frequency 6.0 giving AWT of 5.0 minutes
Route 427 Direction BACK Frequency 7.5 giving AWT of 4.0 minutes
Route 427 Direction BACK Frequency 7.5 giving AWT of 4.0 minutes
Route 427 Direction OUT Frequency 7.5 giving AWT of 4.0 minutes
Route 427 Direction OUT Frequency 7.5 giving AWT of 4.0 minutes

Stop UXBRIDGE HIGH SCHOOL

Walk time to stop from POI is 4.14 minutes

Walk distance to stop from POI is 331.5 metres

Route U3 Direction BACK Frequency 5.0 giving AWT of 6.0 minutes

Route U3 Direction OUT Frequency 5.0 giving AWT of 6.0 minutes
Stop CLEVELAND ROAD
Walk time to stop from POI is 0.34 minutes
Walk distance to stop from POI is 27.02 metres
Route U3 Direction BACK Frequency 5.0 giving AWT of 6.0 minutes
Route U3 Direction OUT Frequency 5.0 giving AWT of 6.0 minutes
Stop BRUNEL UNIVERSITY, CLEVELAND ROAD
Walk time to stop from POI is 3.34 minutes
Walk distance to stop from POI is 267.01 metres
Route U3 Direction BACK Frequency 5.0 giving AWT of 6.0 minutes
Route U3 Direction OUT Frequency 5.0 giving AWT of 6.0 minutes

TATs for this mode

Route U1 Stop HILLINGDON R TURNPIKE LN TAT 17.27 minutes EDF 1.74
Route U7 Stop HILLINGDON R TURNPIKE LN TAT 24.77 minutes EDF 1.21
Route A10 Stop HILLINGDON R TURNPIKE LN TAT 17.27 minutes EDF 1.74
Route U4 Stop HILLINGDON R TURNPIKE LN TAT 13.77 minutes EDF 2.18
Route 607 Stop HILLINGDON R TURNPIKE LN TAT 14.77 minutes EDF 2.03
Route 427 Stop HILLINGDON R TURNPIKE LN TAT 13.77 minutes EDF 2.18
Route U3 Stop CLEVELAND ROAD TAT 8.34 minutes EDF 3.6

Best EDF is 3.6

Half of all other EDFs is 5.54

AI for this mode is 9.13

Underground Services

Reliability factor for this mode is .75
Maximum walk time for this mode is 12 minutes
Maximum walk distance for this mode is 960.0 metres

** No stops found within buffer for this POI

Rail Services

Reliability factor for this mode is .75
Maximum walk time for this mode is 12 minutes
Maximum walk distance for this mode is 960.0 metres

** No stops found within buffer for this POI

Total AI for this POI is 9.13. X: 505792, Y: 182906.

PTAL Rating is 2.

PTAI Study Report File Details

Date 18/02/2015 11:18

Day of week M-F

Time period AM peak

Walk speed 4.8 kph

Walk file PLSQLTest

POI Name: 505714, 182363

Bus Services

Reliability factor for this mode is 2

Maximum walk time for this mode is 8 minutes

Maximum walk distance for this mode is 640.0 metres

Stop COWLEY STATION ROAD

Walk time to stop from POI is 4.46 minutes

Walk distance to stop from POI is 356.57 metres

Route 222 Direction OUT Frequency 8.0 giving AWT of 3.75 minutes

Route 222 Direction BACK Frequency 8.0 giving AWT of 3.75 minutes

Route 222 Direction BACK Frequency 8.0 giving AWT of 3.75 minutes

Route 222 Direction OUT Frequency 8.0 giving AWT of 3.75 minutes

Stop BRUNEL UNIVERSITY, CLEVELAND ROAD

Walk time to stop from POI is 4.35 minutes

Walk distance to stop from POI is 347.9 metres

Route U3 Direction BACK Frequency 5.0 giving AWT of 6.0 minutes

Route U3 Direction OUT Frequency 5.0 giving AWT of 6.0 minutes

Stop CHURCH ROAD HUXLEY CLOSE

Walk time to stop from POI is 2.61 minutes

Walk distance to stop from POI is 209.14 metres

Route U3 Direction OUT Frequency 5.0 giving AWT of 6.0 minutes

Route U3 Direction BACK Frequency 5.0 giving AWT of 6.0 minutes

Route U5 Direction OUT Frequency 5.0 giving AWT of 6.0 minutes

Route U5 Direction BACK Frequency 5.0 giving AWT of 6.0 minutes

Stop CHURCH ROAD PEACHEY LANE

Walk time to stop from POI is 4.88 minutes

Walk distance to stop from POI is 390.26 metres

Route U3 Direction OUT Frequency 5.0 giving AWT of 6.0 minutes

Route U3 Direction BACK Frequency 5.0 giving AWT of 6.0 minutes
Route U5 Direction OUT Frequency 5.0 giving AWT of 6.0 minutes
Route U5 Direction BACK Frequency 5.0 giving AWT of 6.0 minutes
Stop STATION ROAD THE AVENUE
Walk time to stop from POI is 0.46 minutes
Walk distance to stop from POI is 36.92 metres
Route U5 Direction BACK Frequency 5.0 giving AWT of 6.0 minutes
Route U5 Direction OUT Frequency 5.0 giving AWT of 6.0 minutes
Stop COWLEY STATION ROAD
Walk time to stop from POI is 3.08 minutes
Walk distance to stop from POI is 246.06 metres
Route U5 Direction BACK Frequency 5.0 giving AWT of 6.0 minutes
Route U5 Direction OUT Frequency 5.0 giving AWT of 6.0 minutes

TATs for this mode

Route 222 Stop COWLEY STATION ROAD TAT 10.21 minutes EDF 2.94
Route U3 Stop CHURCH ROAD HUXLEY CLOSE TAT 10.61 minutes EDF 2.83
Route U5 Stop STATION ROAD THE AVENUE TAT 8.46 minutes EDF 3.55

Best EDF is 3.55

Half of all other EDFs is 2.88

AI for this mode is 6.43

Underground Services

Reliability factor for this mode is .75
Maximum walk time for this mode is 12 minutes
Maximum walk distance for this mode is 960.0 metres

** No stops found within buffer for this POI

Rail Services

Reliability factor for this mode is .75
Maximum walk time for this mode is 12 minutes
Maximum walk distance for this mode is 960.0 metres

** No stops found within buffer for this POI

Total AI for this POI is 6.43. X: 505714, Y: 182363.

PTAL Rating is 2.

PTAI Study Report File Details

Date 18/02/2015 11:09

Day of week M-F

Time period AM peak

Walk speed 4.8 kph

Walk file PLSQLTest

POI Name: 505326, 182475

Bus Services

Reliability factor for this mode is 2

Maximum walk time for this mode is 8 minutes

Maximum walk distance for this mode is 640.0 metres

Stop HIGH STREET FERNDALE CR

Walk time to stop from POI is 4.3 minutes

Walk distance to stop from POI is 344.12 metres

Route 222 Direction OUT Frequency 8.0 giving AWT of 3.75 minutes

Route 222 Direction OUT Frequency 8.0 giving AWT of 3.75 minutes

Route 222 Direction BACK Frequency 8.0 giving AWT of 3.75 minutes

Route 222 Direction BACK Frequency 8.0 giving AWT of 3.75 minutes

Route U5 Direction OUT Frequency 5.0 giving AWT of 6.0 minutes

Route U5 Direction BACK Frequency 5.0 giving AWT of 6.0 minutes

Stop COWLEY STATION ROAD

Walk time to stop from POI is 2.51 minutes

Walk distance to stop from POI is 200.89 metres

Route 222 Direction OUT Frequency 8.0 giving AWT of 3.75 minutes

Route 222 Direction BACK Frequency 8.0 giving AWT of 3.75 minutes

Route 222 Direction BACK Frequency 8.0 giving AWT of 3.75 minutes

Route 222 Direction OUT Frequency 8.0 giving AWT of 3.75 minutes

Stop STATION ROAD THE AVENUE

Walk time to stop from POI is 5.54 minutes

Walk distance to stop from POI is 442.96 metres

Route U5 Direction BACK Frequency 5.0 giving AWT of 6.0 minutes

Route U5 Direction OUT Frequency 5.0 giving AWT of 6.0 minutes

Stop COWLEY STATION ROAD

Walk time to stop from POI is 2.93 minutes

Walk distance to stop from POI is 234.61 metres

Route U5 Direction BACK Frequency 5.0 giving AWT of 6.0 minutes

Route U5 Direction OUT Frequency 5.0 giving AWT of 6.0 minutes

TATs for this mode

Route 222 Stop COWLEY STATION ROAD TAT 8.26 minutes EDF 3.63

Route U5 Stop COWLEY STATION ROAD TAT 10.93 minutes EDF 2.74

Best EDF is 3.63

Half of all other EDFs is 1.37

AI for this mode is 5.0

Underground Services

Reliability factor for this mode is .75

Maximum walk time for this mode is 12 minutes

Maximum walk distance for this mode is 960.0 metres

** No stops found within buffer for this POI

Rail Services

Reliability factor for this mode is .75

Maximum walk time for this mode is 12 minutes

Maximum walk distance for this mode is 960.0 metres

** No stops found within buffer for this POI

Total AI for this POI is 5.0. X: 505326, Y: 182475.

PTAL Rating is 1b.

Manual PTAL Calculation

Mode	Route	Stop	Distance (m)	Walk speed (Meters/Min)	Walk time (mins)	Frequency (per hour)	Weight	Headway (mins)	SWT (mins)	Reliability factor	AWT (mins)	Total access time (mins)	EDF	Accessibility index	
BUS	222	Femdale Crescent (BV)	1000	80	12.50	7	0.5	8.57	4.29	2	6.286	18.786	1.60	0.80	
	427	The Greenway (BE)	900	80	11.25	7	0.5	8.57	4.29	2	6.286	17.536	1.71	0.86	
	607	The Greenway (BE)	850	80	10.63	6	0.5	10.00	5.00	2	7.000	17.625	1.70	0.85	
	A10	The Greenway (BE)	850	80	10.63	4	0.5	15.00	7.50	2	9.500	20.125	1.49	0.75	
	U1	Brunel University (BJ)	800	80	10.00	4	0.5	15.00	7.50	2	9.500	19.500	1.54	0.77	
	U2	Brunel University (BH)	1000	80	12.50	6	0.5	10.00	5.00	2	7.000	19.500	1.54	0.77	
	U3	Brunel University (BA)	50	80	0.63	5	0.5	12.00	6.00	2	8.000	8.625	3.48	1.74	
	U5	Cleveland Road (BP)	350	80	4.38	5	0.5	12.00	6.00	2	8.000	12.375	2.42	1.21	
	U7	Brunel University (BJ)	800	80	10.00	2	0.5	30.00	15.00	2	17.000	27.000	1.11	0.56	
UNDERGROUND	Uxbridge Station	Uxbridge Station	1800	80	22.5	11	1	5.45	2.73	0.75	3.48	25.98	1.15	1.15	
													OVERALL ACCESSIBILITY INDEX		9.45
													PTAL		2

PTAL Bands:

PTAL	Range of Index		Map Colour	Description
1a	0.01	2.50		Very Poor
1b	2.51	5.00		Very Poor
2	5.01	10.00		Poor
3	10.01	15.00		Moderate
4	15.01	20.00		Good
5	20.01	25.00		Very Good
6a	25.01 - 40.00	40.00		Excellent
6b	40.01	+		Excellent

Manual PTAL Calculation

Mode	Route	Stop	Distance (m)	alk speed (Meters/Mi)	Walk time (mins)	Frequency (per hour)	Weight	Headway (mins)	SWT (mins)	Reliability factor	AWT (mins)	Total access time (mins)	EDF	Accessibility index
BUS	222	Ferndale Crescent (BT)	900	80	11.25	7	0.5	8.57	4.29	2	6.286	17.536	1.71	0.86
	427	The Greenway (BE)	600	80	7.50	7	0.5	8.57	4.29	2	6.286	13.786	2.18	1.09
	607	The Greenway (BE)	650	80	8.13	6	0.5	10.00	5.00	2	7.000	15.125	1.98	0.99
	A10	The Greenway (BE)	650	80	8.13	4	0.5	15.00	7.50	2	9.500	17.625	1.70	0.85
	U1	Brunel University (BJ)	1000	80	12.50	4	0.5	15.00	7.50	2	9.500	22.000	1.36	0.68
	U2	Brunel University (BH)	800	80	10.00	6	0.5	10.00	5.00	2	7.000	17.000	1.76	0.88
	U3	Brunel University (BA)	300	80	3.75	5	0.5	12.00	6.00	2	8.000	11.750	2.55	1.28
	U5	Cleveland Road (BP)	650	80	8.13	5	0.5	12.00	6.00	2	8.000	16.125	1.86	0.93
	U7	The Greenway (BE)	650	80	8.13	2	0.5	30.00	15.00	2	17.000	25.125	1.19	0.60
UNDERGROUND	Uxbridge Station	Uxbridge Station	1400	80	17.5	11	1	5.45	2.73	0.75	3.48	20.98	1.43	1.43

OVERALL ACCESSIBILITY INDEX	9.58
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PTAL	2
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PTAL Bands:

PTAL	Range of Index		Map Colour	Description
1a	0.01	2.50	Dark Blue	Very Poor
1b	2.51	5.00	Blue	Very Poor
2	5.01	10.00	Cyan	Poor
3	10.01	15.00	Green	Moderate
4	15.01	20.00	Yellow	Good
5	20.01	25.00	Orange	Very Good
6a	25.01 - 40.00	40.00	Red	Excellent
6b	40.01	+	Dark Red	Excellent

Manual PTAL Calculation

Mode	Route	Stop	Distance (m)	alk speed (Meters/Min)	Walk time (mins)	Frequency (per hour)	Weight	Headway (mins)	SWT (mins)	Reliability factor	AWT (mins)	Total access time (mins)	EDF	Accessibility index
BUS	222	Peel Way (HE)	750	80	9.38	7	0.5	8.57	4.29	2	6.286	15.661	1.92	0.96
	427	Brunel University (BJ)	100	80	1.25	7	0.5	8.57	4.29	2	6.286	7.536	3.98	1.99
	607	The Greenway (BE)	450	80	5.63	6	0.5	10.00	5.00	2	7.000	12.625	2.38	1.19
	A10	The Greenway (BE)	450	80	5.63	4	0.5	15.00	7.50	2	9.500	15.125	1.98	0.99
	U1	Brunel University (BJ)	120	80	1.50	4	0.5	15.00	7.50	2	9.500	11.000	2.73	1.36
	U2	Brunel University (BH)	50	80	0.63	6	0.5	10.00	5.00	2	7.000	7.625	3.93	1.97
	U3	Brunel University (BA)	700	80	8.75	5	0.5	12.00	6.00	2	8.000	16.750	1.79	0.90
	U5	Cleveland Road (BP)	1000	80	12.50	5	0.5	12.00	6.00	2	8.000	20.500	1.46	0.73
	U7	Brunel University (BJ)	100	80	1.25	2	0.5	30.00	15.00	2	17.000	18.250	1.64	0.82
UNDERGROUND	Uxbridge Station	Uxbridge Station	2000	80	25	11	1	5.45	2.73	0.75	3.48	28.48	1.05	1.05

OVERALL ACCESSIBILITY INDEX	11.96
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PTAL	3
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PTAL Bands:

PTAL	Range of Index		Map Colour	Description
1a	0.01	2.50	Dark Blue	Very Poor
1b	2.51	5.00	Blue	Very Poor
2	5.01	10.00	Cyan	Poor
3	10.01	15.00	Green	Moderate
4	15.01	20.00	Yellow-Green	Good
5	20.01	25.00	Yellow	Very Good
6a	25.01 - 40.00	40.00	Orange	Excellent
6b	40.01	+	Red	Excellent

Manual PTAL Calculation

Mode	Route	Stop	Distance (m)	Walk speed (Meters/Min)	Walk time (mins)	Frequency (per hour)	Weight	Headway (mins)	SWT (mins)	Reliability factor	AWT (mins)	Total access time (mins)	EDF	Accessibility index
BUS	222	Station Road (BR)	190	80	2.38	7	0.5	8.57	4.29	2	6.286	8.661	3.46	1.73
	427	Brunel University Sports Park (HC)	1100	80	13.75	7	0.5	8.57	4.29	2	6.286	20.036	1.50	0.75
	607	The Greenway (BE)	500	80	6.25	6	0.5	10.00	5.00	2	7.000	13.250	2.26	1.13
	A10	The Greenway (BE)	500	80	6.25	4	0.5	15.00	7.50	2	9.500	15.750	1.90	0.95
	U1	Brunel University (BH)	1200	80	15.00	4	0.5	15.00	7.50	2	9.500	24.500	1.22	0.61
	U2	Brunel University (BH)	1200	80	15.00	6	0.5	10.00	5.00	2	7.000	22.000	1.36	0.68
	U3	Huxley Close	650	80	8.13	5	0.5	12.00	6.00	2	8.000	16.125	1.86	0.93
	U5	Station Road (BR)	190	80	15.00	5	0.5	12.00	6.00	2	8.000	23.000	1.30	0.65
	U7	Brunel University (BH)	1200	80	15.00	2	0.5	30.00	15.00	2	17.000	32.000	0.94	0.47
	UNDERGROUND	Uxbridge Station	Uxbridge Station	1800	80	22.5	11	1	5.45	2.73	0.75	3.48	25.98	1.15
OVERALL ACCESSIBILITY INDEX													9.07	
PTAL													2	









PTAL Bands:

PTAL	Range of Index		Map Colour	Description
1a	0.01	2.50		Very Poor
1b	2.51	5.00		Very Poor
2	5.01	10.00		Poor
3	10.01	15.00		Moderate
4	15.01	20.00		Good
5	20.01	25.00		Very Good
6a	25.01 - 40.00	40.00		Excellent
6b	40.01	+		Excellent

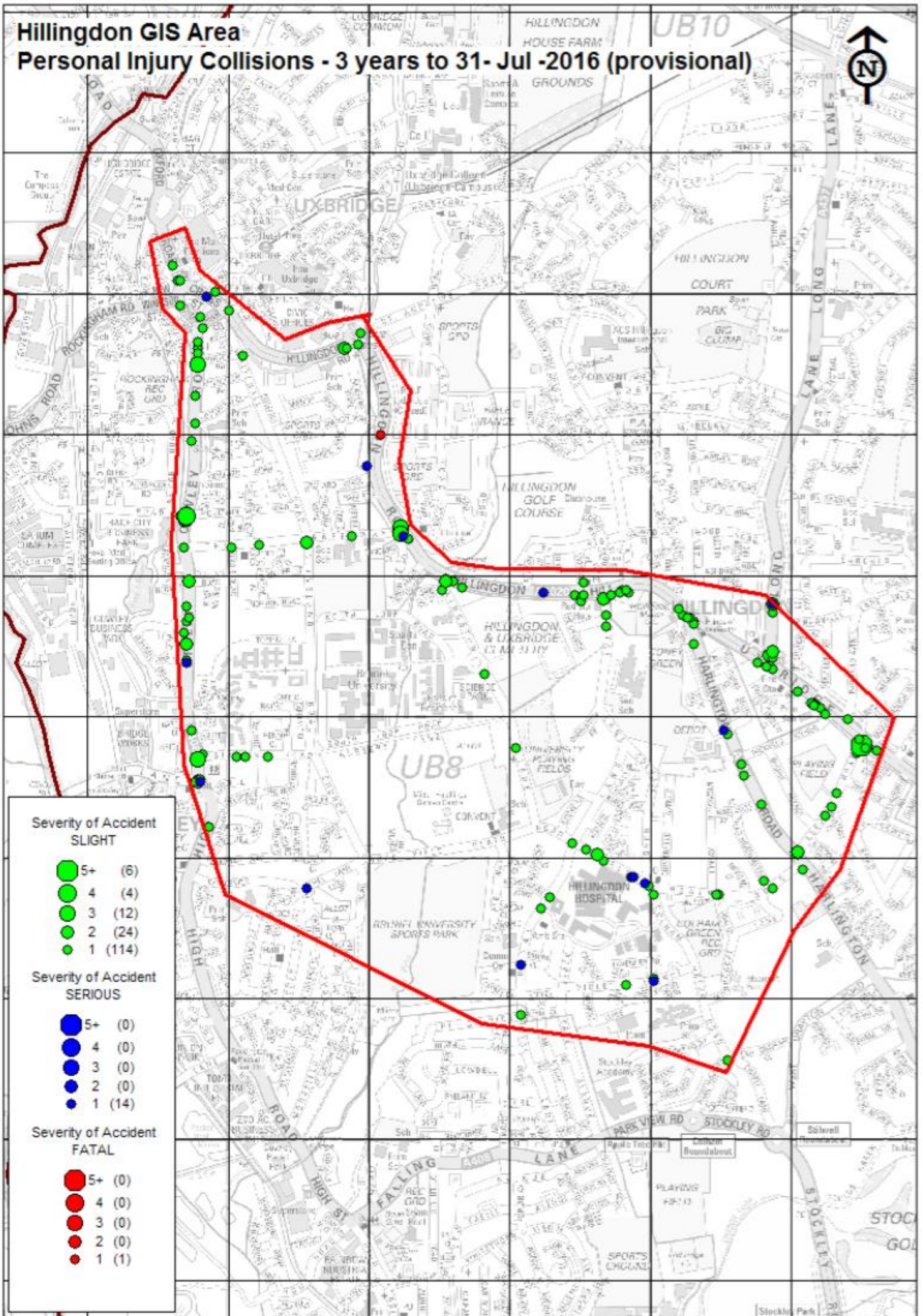
Manual PTAL Calculation

Mode	Route	Stop	Distance (m)	Walk speed (Meters/Min)	Walk time (mins)	Frequency (per hour)	Weight	Headway (mins)	SWT (mins)	Reliability factor	AWT (mins)	Total access time (mins)	EDF	Accessibility index	
BUS	222	Station Road (BS)	300	80	3.75	7	0.5	8.57	4.29	2	6.286	10.036	2.99	1.49	
	427	Brunel University Sports Park (HC)	700	80	8.75	7	0.5	8.57	4.29	2	6.286	15.036	2.00	1.00	
	607	The Greenway (BE)	1200	80	15.00	6	0.5	10.00	5.00	2	7.000	22.000	1.36	0.68	
	A10	The Greenway (BE)	1200	80	15.00	4	0.5	15.00	7.50	2	9.500	24.500	1.22	0.61	
	U1	Brunel University (BH)	800	80	10.00	4	0.5	15.00	7.50	2	9.500	19.500	1.54	0.77	
	U2	Brunel University (BH)	800	80	10.00	6	0.5	10.00	5.00	2	7.000	17.000	1.76	0.88	
	U3	Huxley Close	200	80	2.50	5	0.5	12.00	6.00	2	8.000	10.500	2.86	1.43	
	U5	Cleveland Road (BP)	50	80	0.63	5	0.5	12.00	6.00	2	8.000	8.625	3.48	1.74	
	U7	Brunel University (BH)	800	80	10.00	2	0.5	30.00	15.00	2	17.000	27.000	1.11	0.56	
	UNDERGROUND	Uxbridge Station	Uxbridge Station	2100	80	26.25	11	1	5.45	2.73	0.75	3.48	29.73	1.01	1.01
													OVERALL ACCESSIBILITY INDEX		10.17
													PTAL		3

PTAL Bands:

PTAL	Range of Index		Map Colour	Description
1a	0.01	2.50		Very Poor
1b	2.51	5.00		Very Poor
2	5.01	10.00		Poor
3	10.01	15.00		Moderate
4	15.01	20.00		Good
5	20.01	25.00		Very Good
6a	25.01 - 40.00	40.00		Excellent
6b	40.01	+		Excellent

Hillingdon GIS Area Personal Injury Collisions - 3 years to 31- Jul -2016 (provisional)





Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

Summary of Accidents Selected

Site Reference and Description (zero accident counts shown in bold)	Date Period	Accidents
MD01 GIS AREA Hillingdon1 (P)	36 MTS TO JUL-2016	175

The description of how the accident occurred and the contributory factors are the reporting officer's opinion at the time of reporting and may not be the result of extensive investigation



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)											36 MTS TO JUL-2016 SORTED BY DATE										
	1	2	3	4	5	6	7	8	9	10											
Accident Reference	0113XH30348	0113XH30380	0113XH30369	0113XH30390	0113XH30452	0113XH30433	0113XH30477	0113XH30483	0113XH30455	0113XH30469											
Day	TUESDAY	WEDNESDAY	THURSDAY	SATURDAY	MONDAY	SUNDAY	TUESDAY	TUESDAY	SATURDAY	TUESDAY											
Date	06/08/2013	14/08/2013	15/08/2013	31/08/2013	09/09/2013	15/09/2013	17/09/2013	01/10/2013	05/10/2013	08/10/2013											
Time	13:05	17:30	07:40	14:38	17:10	22:40	20:25	06:44	11:50	12:53											
Light Conditions	LIGHT	LIGHT	LIGHT	LIGHT	LIGHT	DARK	DARK	DARK	LIGHT	LIGHT											
Road Surface	DRY	DRY	DRY	DRY	DRY	WET	WET	DRY	DRY	DRY											
Severity	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SERIOUS	SLIGHT											
Conflict																					
Pedestrian Location	X																				
Contributory Factors (* denotes pre 2005)	802 C001 A 804 C001 A 808 C001 A	405 V001 A 302 V001 A 602 V001 A	310 V001 A 406 V002 A	403 V002 A 405 V002 A 406 V002 A 602 V002 A	509 V004 A 405 V004 A 602 V004 A	307 V001 A 602 V001 A	405 V002 A 301 V002 B 307 V001 B	701 V001 A 705 V001 A	403 V001 B 108 V001 B	406 V002 A 602 V002 A											
Easting/Northing	505320 184050	507510 182020	506540 181440	507150 182840	505390 183750	507110 182860	506120 183150	506830 182920	505990 183390	505910 183810											

Pedestrian	29	17 %
Wet	39	22 %
Dark	56	32 %

Site Diagram



Severity / Months To	12 07/2014	12 07/2015	12 07/2016	Total	Pct
Fatal	0	0	1	1	0.6 %
Serious	5	4	5	14	8.0 %
Slight	42	61	57	160	91.4 %
Total	47	65	63	175	
Pct	26.9 %	37.1 %	36.0 %		



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)										36 MTS TO JUL-2016 SORTED BY DATE
	11	12	13	14	15	16	17	18	19	20
Accident Reference	0113XH30462	0113XH30523	0113XH30541	0113XH30552	0113XH30561	0113XH30574	0114XH30197	0114XH30194	0114XH30028	0114XH30184
Day	SATURDAY	FRIDAY	MONDAY	FRIDAY	THURSDAY	TUESDAY	THURSDAY	MONDAY	TUESDAY	TUESDAY
Date	12/10/2013	18/10/2013	11/11/2013	15/11/2013	21/11/2013	03/12/2013	02/01/2014	13/01/2014	14/01/2014	14/01/2014
Time	09:08	20:59	20:24	21:45	14:25	12:12	08:40	17:26	09:50	13:10
Light Conditions	LIGHT	DARK	DARK	DARK	LIGHT	LIGHT	LIGHT	DARK	LIGHT	LIGHT
Road Surface	WET	DRY	WET	DRY	DRY	DRY	WET	WET	WET	DRY
Severity	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SERIOUS	SLIGHT	SERIOUS
Conflict										
Pedestrian Location										
Contributory Factors (* denotes pre 2005)	401 V001 A 405 V001 A 706 V001 B 601 V001 B	401 V002 A 405 V002 A 601 V002 B 602 V002 A	302 V002 A 602 V002 A 507 V001 A	109 V001 A 408 V001 A 409 V001 A 603 V001 A	405 V002 A 602 V002 A	308 V002 A 405 V002 A 406 V002 A 602 V002 A	706 V002 B 308 V002 B 405 V002 A	103 V001 A 707 V001 A 410 V001 A	302 V001 A 406 V001 A	203 V004 A 505 V004 B
Easting/Northing	506720 182050	507520 182010	506830 182920	507430 182870	505350 183210	507430 182670	507140 182850	506540 181620	507520 182020	506120 183140


Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)										36 MTS TO JUL-2016 SORTED BY DATE
	21	22	23	24	25	26	27	28	29	30
Accident Reference	0114XH30002	0114XH30169	0114XH30258	0114XH30131	0114XH30138	0114XH30209	0114XH30149	0114XH30155	0114XH30225	0114XH30204
Day	THURSDAY	SUNDAY	TUESDAY	THURSDAY	TUESDAY	TUESDAY	SATURDAY	WEDNESDAY	MONDAY	FRIDAY
Date	16/01/2014	19/01/2014	25/02/2014	06/03/2014	11/03/2014	11/03/2014	15/03/2014	19/03/2014	24/03/2014	28/03/2014
Time	08:30	12:05	08:30	17:10	12:45	11:20	12:13	17:05	06:54	08:33
Light Conditions	LIGHT	LIGHT	LIGHT	LIGHT	LIGHT	LIGHT	LIGHT	LIGHT	LIGHT	LIGHT
Road Surface	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
Severity	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT
Conflict										
Pedestrian Location				0						
Contributory Factors (* denotes pre 2005)	403 V001 A 405 V001 A 602 V001 A	405 V001 A 406 V001 A 602 V001 A	403 V001 A 405 V001 A 310 V002 A 405 V002 A	802 C001 A 808 C001 B	701 V001 A 701 V002 A 302 V002 A 403 V002 A	701 V001 B 405 V001 A 602 V001 A	405 V002 A 602 V002 A	403 V002 A 407 V002 A 602 V002 A	706 V002 A 701 V002 A	406 V002 A
Easting/Northing	506270 182990	505350 182760	506910 181550	507320 182330	506840 182820	507420 182720	507010 181870	507099 182882	506730 182930	507380 182690


Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)										36 MTS TO JUL-2016 SORTED BY DATE
	31	32	33	34	35	36	37	38	39	40
Accident Reference	0114XH30219	0114XH30222	0114XH30241	0114XH30262	0114XH30265	0114XH30272	0114XH30284	0114XH30294	0114XH30465	0114XH30348
Day	FRIDAY	MONDAY	MONDAY	SATURDAY	THURSDAY	FRIDAY	THURSDAY	THURSDAY	TUESDAY	WEDNESDAY
Date	04/04/2014	07/04/2014	21/04/2014	26/04/2014	01/05/2014	02/05/2014	08/05/2014	15/05/2014	10/06/2014	11/06/2014
Time	12:59	22:20	15:40	02:50	17:25	17:45	12:20	02:05	07:10	22:15
Light Conditions	LIGHT	DARK	LIGHT	DARK	LIGHT	LIGHT	LIGHT	DARK	LIGHT	DARK
Road Surface	DRY	WET	DRY	WET	WET	DRY	DRY	DRY	DRY	DRY
Severity	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SERIOUS	SLIGHT
Conflict										
Pedestrian Location			0					0		
Contributory Factors (* denotes pre 2005)	410 V001 A 408 V001 A 306 V001 A 602 V001 A	605 V002 A 403 V002 A 405 V002 A	802 C001 A 801 C001 A 808 C001 A 701 V001 A	402 V002 A 403 V002 A 405 V002 A 301 V001 B	509 V001 A 405 V001 A 602 V001 A	603 V001 A	408 V002 A	806 C001 A	405 V002 A 306 V002 A 602 V002 A 403 V002 A	701 V001 A 501 V002 A 307 V002 B 602 V002 A
Easting/Northing	505340 183190	505390 182270	507240 181870	507750 182400	506330 182960	507730 182390	506110 183150	505452 184010	507260 182450	507420 182720


Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)										36 MTS TO JUL-2016 SORTED BY DATE
	41	42	43	44	45	46	47	48	49	50
Accident Reference	0114XH30369	0114XH30353	0114XH30412	0114XH30386	0114XH30432	0114XH30434	0114XH30452	0114XH30595	0114XH30523	0114XH39068
Day	FRIDAY	MONDAY	FRIDAY	SATURDAY	THURSDAY	THURSDAY	FRIDAY	TUESDAY	WEDNESDAY	WEDNESDAY
Date	13/06/2014	16/06/2014	20/06/2014	28/06/2014	03/07/2014	03/07/2014	25/07/2014	05/08/2014	27/08/2014	17/09/2014
Time	16:40	08:47	09:14	15:20	10:20	14:55	18:00	14:49	10:15	19:47
Light Conditions	LIGHT	LIGHT	LIGHT	LIGHT	LIGHT	LIGHT	LIGHT	LIGHT	LIGHT	DARK
Road Surface	DRY	DRY	DRY	WET	DRY	DRY	DRY	DRY	DRY	DRY
Severity	SLIGHT	SERIOUS	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SERIOUS
Conflict										
Pedestrian Location									0	X
Contributory Factors (* denotes pre 2005)	405 V001 A 403 V001 A 308 V001 A	505 V001 A 602 V001 B	308 V002 A	306 V002 B	505 V001 A 410 V001 A	403 V002 A 405 V002 A 602 V002 A	404 V001 B 403 V002 A 406 V002 A 405 V002 A 605 V002 B	405 V001 A 403 V001 A 503 V001 B 602 V001 A	403 V002 A 601 V002 A 602 V002 A	405 V001 A 307 V001 A 602 V001 A
Easting/Northing	505300 184100	506930 181930	505910 183810	505780 181890	506410 182650	506990 181900	506610 181820	507430 182900	507730 182370	507430 182900


Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)										36 MTS TO JUL-2016 SORTED BY DATE
	51	52	53	54	55	56	57	58	59	60
Accident Reference	0114XH30598	0114XH30589	0114XH30592	0114XH30637	0114XH30602	0114XH30683	0114XH30628	0114XH30651	0114XH30678	0114XH30673
Day	MONDAY	THURSDAY	THURSDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	TUESDAY
Date	22/09/2014	25/09/2014	25/09/2014	29/09/2014	30/09/2014	08/10/2014	09/10/2014	17/10/2014	25/10/2014	28/10/2014
Time	11:07	07:40	15:24	20:16	19:58	07:44	16:10	23:20	05:47	13:33
Light Conditions	LIGHT	LIGHT	LIGHT	DARK	DARK	LIGHT	LIGHT	DARK	DARK	LIGHT
Road Surface	DRY	DRY	DRY	DRY	DRY	WET	WET	WET	DRY	DRY
Severity	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT
Conflict										
Pedestrian Location										X
Contributory Factors (* denotes pre 2005)	407 V002 A	403 V001 A 405 V001 A 602 V001 A	406 V002 A 602 V002 A	602 V002 A	406 V002 A	405 V002 A 406 V002 B 405 V001 B	605 V001 A 509 V001 B	602 V001 A 405 V001 A	408 V002 A 406 V001 A 602 V001 A 403 V001 A 501 V001 A	701 V001 A 405 V001 A 801 C002 A 802 C002 A 804 C002 B
Easting/Northing	505390 182280	505330 184050	507330 182290	505390 182350	507750 182400	505400 182270	507150 182760	505610 183110	506110 183170	506520 182390


Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)										36 MTS TO JUL-2016 SORTED BY DATE
	61	62	63	64	65	66	67	68	69	70
Accident Reference	0114XH30691	0114XH30690	0114XH30687	0114XH30712	0114XH30725	0114XH30890	0114XH30739	0114XH30786	0114XH30835	0114XH30852
Day	SATURDAY	SUNDAY	MONDAY	SUNDAY	THURSDAY	THURSDAY	THURSDAY	SATURDAY	WEDNESDAY	WEDNESDAY
Date	01/11/2014	02/11/2014	03/11/2014	09/11/2014	13/11/2014	13/11/2014	20/11/2014	29/11/2014	10/12/2014	17/12/2014
Time	15:30	17:45	11:00	22:02	18:19	14:25	18:35	13:00	18:10	19:49
Light Conditions	LIGHT	DARK	LIGHT	DARK	DARK	LIGHT	DARK	LIGHT	DARK	DARK
Road Surface	DRY	DRY	WET	WET	WET	DRY	DRY	WET	WET	WET
Severity	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT
Conflict										
Pedestrian Location									0	
Contributory Factors (* denotes pre 2005)	408 V001 A 602 V001 A 308 V003 A 405 V003 A	410 V001 A 405 V001 A	999 C001 A	410 V001 A 307 V001 A 103 V001 A 602 V001 B	410 V003 A 308 V003 A	408 V001 A	409 V001 A 403 V003 A 602 V003 A	308 V002 A 405 V002 A 307 V002 A	405 V001 B 802 C001 B 802 C002 B 999 C001 B 999 C002 B	406 V001 A 602 V001 A
Easting/Northing	506940 181930	505640 182360	505390 182350	506900 182950	505350 182760	506810 182010	505350 183190	507150 182830	505390 183810	507620 182150


Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)										36 MTS TO JUL-2016 SORTED BY DATE
	71	72	73	74	75	76	77	78	79	80
Accident Reference	0114XH30869	0114XH30872	0115XH30299	0115XH30312	0115XH30004	0115XH30033	0115XH30039	0115XH30044	0115XH30117	0115XH30053
Day	THURSDAY	SUNDAY	TUESDAY	TUESDAY	MONDAY	THURSDAY	FRIDAY	FRIDAY	THURSDAY	FRIDAY
Date	25/12/2014	28/12/2014	06/01/2015	06/01/2015	12/01/2015	15/01/2015	23/01/2015	23/01/2015	29/01/2015	30/01/2015
Time	01:43	15:50	18:15	08:20	16:56	17:24	10:05	19:00	23:16	23:00
Light Conditions	DARK	LIGHT	DARK	LIGHT	LIGHT	LIGHT	LIGHT	DARK	DARK	DARK
Road Surface	DRY	DRY	WET	DRY	WET	DRY	DRY	DRY	DRY	WET
Severity	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SERIOUS	SLIGHT	SLIGHT	SLIGHT
Conflict										
Pedestrian Location			0	X		0				
Contributory Factors (* denotes pre 2005)	501 V001 A	403 V001 A 405 V001 A 301 V001 A	803 C001 A 808 C001 A	402 V001 A 405 V001 A 407 V001 A 803 C001 A	405 V002 A 302 V002 A 402 V002 A	403 V001 A 309 V001 A 601 V001 A 808 C001 B	401 V001 A 701 V001 A 405 V001 A 304 V001 A	403 V002 A 602 V002 A 601 V002 A 603 V001 B	507 V002 B 703 V001 B 703 V002 B	306 V001 A 403 V001 A 501 V001 A 602 V001 A
Easting/Northing	507750 182400	507750 182400	505390 183830	507230 181870	507270 182440	505370 182450	505420 183990	506300 182980	505408 182369	505920 183810


Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)										36 MTS TO JUL-2016 SORTED BY DATE
	81	82	83	84	85	86	87	88	89	90
Accident Reference	0115XH30058	0115XH30052	0115XH30197	0115XH30067	0115XH30116	0115XH30088	0115XH30087	0115XH30099	0115XH30132	0115XH30152
Day	FRIDAY	MONDAY	TUESDAY	THURSDAY	TUESDAY	SUNDAY	TUESDAY	FRIDAY	TUESDAY	THURSDAY
Date	30/01/2015	02/02/2015	03/02/2015	05/02/2015	10/02/2015	15/02/2015	17/02/2015	20/02/2015	03/03/2015	12/03/2015
Time	21:15	09:23	00:30	19:55	13:10	07:03	15:40	17:30	10:40	08:05
Light Conditions	DARK	LIGHT	DARK	DARK	LIGHT	LIGHT	LIGHT	DARK	LIGHT	LIGHT
Road Surface	DRY	DRY	WET	DRY	DRY	DRY	DRY	DRY	DRY	DRY
Severity	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT
Conflict										
Pedestrian Location							0			
Contributory Factors (* denotes pre 2005)	405 V002 A 403 V002 A	402 V001 A 405 V001 A 310 V002 B	410 V001 A 405 V001 A 602 V001 A	302 V002 A 403 V002 A 405 V002 A	310 V002 A 405 V002 A 405 V001 A	403 V001 A 401 V001 A 302 V001 A 405 V001 A	802 C001 A 808 C001 A 803 C001 A	402 V001 A 402 V002 A 405 V001 A 406 V002 A	410 V001 A 510 V001 A 602 V001 A	301 V002 A 405 V002 A 602 V002 A
Easting/Northing	505350 182890	506920 182940	505410 183880	505340 183100	507600 182530	505960 183820	505340 182800	505780 183120	507390 182190	505350 183210


Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)										36 MTS TO JUL-2016 SORTED BY DATE
	91	92	93	94	95	96	97	98	99	100
Accident Reference	0115XH30157	0115XH30168	0115XH30175	0115XH30255	0115XH30497	0115XH30304	0115XH30315	0115XH30330	0115XH30325	0115XH30345
Day	FRIDAY	WEDNESDAY	FRIDAY	TUESDAY	FRIDAY	WEDNESDAY	SUNDAY	THURSDAY	SATURDAY	SATURDAY
Date	13/03/2015	18/03/2015	20/03/2015	21/04/2015	01/05/2015	06/05/2015	10/05/2015	14/05/2015	16/05/2015	23/05/2015
Time	14:00	10:15	17:10	16:02	11:00	21:50	10:20	13:30	13:50	19:25
Light Conditions	LIGHT	LIGHT	LIGHT	LIGHT	LIGHT	DARK	LIGHT	LIGHT	LIGHT	LIGHT
Road Surface	DRY	DRY	DRY	DRY	DRY	WET	DRY	WET	DRY	DRY
Severity	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SERIOUS	SLIGHT	SLIGHT
Conflict										
Pedestrian Location	X				0					
Contributory Factors (* denotes pre 2005)	602 V002 A	403 V001 A 405 V001 A 503 V001 A 602 V001 A	406 V001 A 406 V002 A	405 V001 A 406 V001 A 308 V001 B 602 V001 A	803 C001 A 602 V001 B	301 V001 B 301 V002 B	410 V001 A	406 V001 A 406 V002 A	701 V001 B 405 V001 B 602 V001 A	602 V001 B
Easting/Northing	507430 182900	507640 182180	506750 182920	505430 182110	507270 181280	506270 182980	505530 182360	505780 181890	505390 182350	506110 183170



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)										
										36 MTS TO JUL-2016 SORTED BY DATE
	101	102	103	104	105	106	107	108	109	110
Accident Reference	0115XH30363	0115XH30374	0115XH30403	0115XH30401	0115XH30473	0115XH30432	0115XH30416	0115XH30467	0115XH30724	0115XH30490
Day	WEDNESDAY	MONDAY	WEDNESDAY	SATURDAY	MONDAY	FRIDAY	SATURDAY	TUESDAY	FRIDAY	MONDAY
Date	03/06/2015	08/06/2015	10/06/2015	13/06/2015	15/06/2015	19/06/2015	20/06/2015	07/07/2015	10/07/2015	13/07/2015
Time	16:09	16:40	17:25	22:38	07:54	18:05	18:20	11:27	19:05	12:30
Light Conditions	LIGHT	LIGHT	LIGHT	DARK	LIGHT	LIGHT	LIGHT	LIGHT	DARK	LIGHT
Road Surface	DRY	DRY	DRY	DRY	DRY	DRY	WET	DRY	DRY	WET
Severity	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SERIOUS	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT
Conflict										
Pedestrian Location	50M				0					
Contributory Factors (* denotes pre 2005)	802 C001 A 808 C001 A	402 V001 A 405 V001 A 302 V001 A	308 V002 A 405 V002 A 408 V001 B	403 V002 A 405 V002 A 602 V002 A	802 C001 A 808 C001 A 405 V001 B	501 V001 A 403 V001 A 602 V001 A 405 V001 A	103 V001 A 109 V001 A 808 U00C A 805 U00C A	509 V001 A 405 V001 A 602 V001 A	306 V002 A 602 V002 A 308 V002 B 405 V002 A	405 V002 A 602 V002 A
Easting/Northing	506640 181860	507430 182710	507770 182400	507750 182400	506620 182940	507520 182020	505390 183790	505350 182700	505940 183140	505500 183940


Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)										36 MTS TO JUL-2016 SORTED BY DATE
	111	112	113	114	115	116	117	118	119	120
Accident Reference	0115XH30534	0115XH30546	0115XH30566	0115XH30585	0115XH30584	0115XH30600	0115TD00106	0115XH30678	0115XH30700	0115XH30714
Day	TUESDAY	THURSDAY	THURSDAY	WEDNESDAY	FRIDAY	MONDAY	FRIDAY	MONDAY	THURSDAY	FRIDAY
Date	21/07/2015	30/07/2015	06/08/2015	12/08/2015	14/08/2015	17/08/2015	21/08/2015	21/09/2015	24/09/2015	02/10/2015
Time	13:15	09:50	12:10	16:49	03:30	12:40	12:23	07:18	06:12	15:30
Light Conditions	LIGHT	LIGHT	LIGHT	LIGHT	DARK	LIGHT	LIGHT	LIGHT	DARK	LIGHT
Road Surface	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	WET	DRY
Severity	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	FATAL	SLIGHT	SLIGHT	SLIGHT
Conflict										
Pedestrian Location					50M	0	0		0	
Contributory Factors (* denotes pre 2005)	403 V002 A 602 V002 A 407 V002 A	405 V002 A 602 V002 A 308 V002 A	403 V001 A 405 V001 A 301 V001 B	405 V001 A 602 V001 A	806 C001 A 802 C001 A 808 C001 A	407 V001 A	701 V001 A 701 V002 A 801 C001 A 802 C001 B	201 V001 A 408 V001 A 405 V002 A 406 V002 A	707 V001 B 999 V001 A 405 V001 B 809 C001 A 803 C001 A	602 V001 B 999 C001 A
Easting/Northing	505390 183750	507620 182510	505390 182270	505780 183120	506110 183170	507400 181920	506040 183500	505510 183100	507010 181570	506890 182940


Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)										36 MTS TO JUL-2016 SORTED BY DATE
	121	122	123	124	125	126	127	128	129	130
Accident Reference	0115XH30746	0115XH30761	0115XH30767	0115XH30776	0115XH30765	0115XH30779	0115XH30797	0115XH30799	0115XH30820	0115XH30821
Day	FRIDAY	TUESDAY	SATURDAY	MONDAY	THURSDAY	FRIDAY	THURSDAY	THURSDAY	FRIDAY	SUNDAY
Date	09/10/2015	20/10/2015	24/10/2015	26/10/2015	29/10/2015	30/10/2015	05/11/2015	05/11/2015	06/11/2015	08/11/2015
Time	14:00	15:27	18:00	07:55	05:10	19:55	00:27	20:15	15:30	07:30
Light Conditions	LIGHT	LIGHT	DARK	LIGHT	DARK	DARK	DARK	DARK	LIGHT	LIGHT
Road Surface	DRY	DRY	WET	DRY	DRY	DRY	WET	WET	DRY	DRY
Severity	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT
Conflict										
Pedestrian Location			0						0	
Contributory Factors (* denotes pre 2005)	999 V001 A	602 V002 A	806 C001 A	405 V002 A 602 V002 A	410 V001 A	405 V001 A 602 V001 A	302 V001 A 405 V001 A 602 V001 A 403 V001 A	409 V001 A 409 V002 A 408 V001 B	403 V001 A 407 V001 A 602 V001 A 803 C001 B	503 V002 A 709 V002 A 403 V002 A 405 V002 A
Easting/Northing	505380 183640	506910 182950	507660 182230	506830 181990	507130 182850	505380 183540	505350 182840	506260 182950	506759 182976	505550 183780


Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)		36 MTS TO JUL-2016 SORTED BY DATE								
	131	132	133	134	135	136	137	138	139	140
Accident Reference	0115XH30801	0115XH30809	0115XH30812	0115XH30849	0115XH30832	0115XH30843	0115XH30854	0115XH30855	0115XH30905	0115XH30870
Day	MONDAY	WEDNESDAY	THURSDAY	SUNDAY	MONDAY	SATURDAY	THURSDAY	THURSDAY	FRIDAY	TUESDAY
Date	09/11/2015	11/11/2015	12/11/2015	22/11/2015	23/11/2015	28/11/2015	03/12/2015	03/12/2015	04/12/2015	08/12/2015
Time	14:32	17:15	14:30	17:40	10:47	00:55	17:00	14:51	18:31	22:37
Light Conditions	LIGHT	LIGHT	LIGHT	DARK	LIGHT	DARK	DARK	LIGHT	DARK	DARK
Road Surface	DRY	DRY	DRY	DRY	DRY	WET	DRY	DRY	DRY	DRY
Severity	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SERIOUS	SLIGHT	SLIGHT	SLIGHT	SLIGHT
Conflict										
Pedestrian Location							50M			0
Contributory Factors (* denotes pre 2005)	403 V001 A 405 V001 A 403 V002 A 602 V002 A	308 V002 A 405 V002 A 602 V002 A	308 V002 A 405 V002 A 602 V002 A	405 V002 A 602 V002 A	308 V001 A 408 V002 B 601 V002 B	507 V002 A 506 V002 A 403 V001 A 405 V001 A	801 C001 A 802 C001 A 803 C001 A 808 C001 A 999 C001 A	203 V001 B 301 V001 A 410 V001 B 603 V001 B 602 V001 B 405 V001 B	405 V002 A 406 V002 A 602 V002 A 601 V002 B	806 C001 B 802 C001 A 803 C001 A 808 C001 A
Easting/Northing	505340 183200	505360 182980	505360 182850	505380 182270	507750 182400	507010 181560	505400 182280	507410 182680	507520 182590	506840 182860


Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)										36 MTS TO JUL-2016 SORTED BY DATE
	141	142	143	144	145	146	147	148	149	150
Accident Reference	0115XH30886	0115XH30932	0115XH30925	0115XH30937	0116XH30062	0116XH30059	0116XH30099	0116XH30017	0116XH30075	0116XH30077
Day	SATURDAY	TUESDAY	FRIDAY	THURSDAY	SUNDAY	WEDNESDAY	WEDNESDAY	FRIDAY	SATURDAY	WEDNESDAY
Date	12/12/2015	22/12/2015	25/12/2015	31/12/2015	10/01/2016	13/01/2016	13/01/2016	22/01/2016	23/01/2016	03/02/2016
Time	23:30	21:45	22:10	12:44	12:12	08:05	12:20	18:00	03:20	09:00
Light Conditions	DARK	DARK	DARK	LIGHT	LIGHT	DARK	LIGHT	DARK	DARK	LIGHT
Road Surface	WET	WET	WET	DRY	DRY	DRY	DRY	DRY	DRY	DRY
Severity	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT
Conflict										
Pedestrian Location			X							
Contributory Factors (* denotes pre 2005)	403 V001 A 406 V001 A 602 V001 A 307 V002 B	308 V002 A 405 V002 A	806 C001 A 808 C001 A 802 C001 A	701 V001 B 701 V002 B 405 V001 A 403 V001 A 602 V001 B	302 V002 A 405 V002 A 406 V002 A 602 V002 A 404 V001 B	403 V002 A 405 V002 A 406 V002 A 602 V002 A 308 V001 B	602 V002 A	405 V001 A 602 V001 A	602 V001 A 602 V002 A	802 U00C A 808 U00C A
Easting/Northing	506110 183150	507800 182380	507760 182390	507580 182550	507540 181960	505560 182360	506860 182930	505350 183230	507570 182550	505330 183960


Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)										36 MTS TO JUL-2016 SORTED BY DATE
	151	152	153	154	155	156	157	158	159	160
Accident Reference	0116XH30105	0116XH30112	0116XH30121	0116XH30122	0116XH30168	0116XH30172	0116XH30182	0116XH30200	0116XH30207	0116XH30331
Day	SATURDAY	SATURDAY	TUESDAY	MONDAY	FRIDAY	SATURDAY	WEDNESDAY	THURSDAY	THURSDAY	TUESDAY
Date	13/02/2016	13/02/2016	16/02/2016	22/02/2016	26/02/2016	12/03/2016	16/03/2016	24/03/2016	31/03/2016	24/05/2016
Time	17:10	17:49	16:39	12:50	11:45	16:35	19:55	08:19	08:53	06:30
Light Conditions	DARK	DARK	LIGHT	LIGHT	LIGHT	LIGHT	DARK	LIGHT	LIGHT	LIGHT
Road Surface	WET	WET	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
Severity	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SERIOUS	SLIGHT	SLIGHT	SLIGHT	SERIOUS	SLIGHT
Conflict										
Pedestrian Location									0	
Contributory Factors (* denotes pre 2005)	403 V001 A 405 V001 A 307 V002 B	602 V002 A	403 V002 A 405 V002 A 406 V001 B	403 V001 A 602 V001 A 405 V001 A	403 V001 B 999 C001 B	301 V002 B 401 V002 A 405 V002 A 405 V001 A	401 V002 A 405 V002 A 402 V001 A 405 V001 A	403 V002 A 405 V002 A 602 V002 A	802 C001 A 808 C001 A	409 V002 A 802 U00C A 808 U00C A 405 V002 B
Easting/Northing	506110 183150	506750 182910	505370 183480	507430 181890	506940 181930	506270 182980	505350 183210	507430 182730	506980 181910	505330 183210



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)		36 MTS TO JUL-2016 SORTED BY DATE								
	161	162	163	164	165	166	167	168	169	170
Accident Reference	0116XH30353	0116XH30372	0116XH30402	0116XH30386	0116XH30392	0116XH30406	0116XH30410	0116XH30418	0116XH30435	0116XH30453
Day	WEDNESDAY	FRIDAY	MONDAY	WEDNESDAY	SATURDAY	TUESDAY	FRIDAY	FRIDAY	FRIDAY	WEDNESDAY
Date	01/06/2016	10/06/2016	13/06/2016	15/06/2016	18/06/2016	21/06/2016	24/06/2016	24/06/2016	01/07/2016	06/07/2016
Time	18:30	07:45	16:45	17:35	12:50	16:30	08:34	20:42	18:05	12:50
Light Conditions	LIGHT	LIGHT	LIGHT	LIGHT	LIGHT	LIGHT	LIGHT	LIGHT	LIGHT	LIGHT
Road Surface	DRY	DRY	WET	DRY	DRY	DRY	DRY	DRY	DRY	DRY
Severity	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SLIGHT	SERIOUS	SLIGHT
Conflict										
Pedestrian Location						X			50M	
Contributory Factors (* denotes pre 2005)	408 V001 A	701 V001 A 701 V002 A 403 V002 B 405 V002 A	405 V002 A 407 V002 A 602 V002 A	408 V001 A 308 V002 A 308 V003 A 308 V001 A	403 V001 A 405 V001 A 602 V001 A	808 C001 A 805 C001 B 406 V001 A	403 V001 A 405 V001 A 407 V001 A	406 V002 A	808 C001 A	405 V001 A 602 V001 A
Easting/Northing	505360 182980	507430 182730	507580 182540	506140 183130	506760 182930	506810 182010	505390 183750	507740 182420	505400 182270	507700 182490


Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)						36 MTS TO JUL-2016 SORTED BY DATE
	171	172	173	174	175	
Accident Reference	0116XH30456	0116XH30471	0116XH30482	0116XH30483	0116XH30486	
Day	THURSDAY	TUESDAY	SATURDAY	SUNDAY	MONDAY	
Date	07/07/2016	19/07/2016	23/07/2016	24/07/2016	25/07/2016	
Time	21:30	11:45	22:04	10:20	20:00	
Light Conditions	LIGHT	LIGHT	DARK	LIGHT	LIGHT	
Road Surface	DRY	DRY	DRY	DRY	DRY	
Severity	SLIGHT	SLIGHT	SERIOUS	SLIGHT	SLIGHT	
Conflict						
Pedestrian Location			0			
Contributory Factors (* denotes pre 2005)	406 V002 A 602 V002 A	410 V001 A	801 C001 A 808 C001 A	406 V001 A 602 V001 A	405 V001 A 406 V002 A	
Easting/Northing	505970 183860	505400 183920	505350 182690	505350 183210	506770 182030	



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

Summary of Accidents Selected

Site Reference and Description (zero accident counts shown in bold)	Date Period	Accidents
MD01 GIS AREA Hillingdon1 (P)	36 MTS TO JUL-2016	175

The description of how the accident occurred and the contributory factors are the reporting officer's opinion at the time of reporting and may not be the result of extensive investigation



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

1 0113XH30348 TUE 06/08/13 13:05 LIGHT OXFORD ROAD, 48 METRES NORTH OF TRUMPER WAY. 26 LINK 145-160 505320 / 184050
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M PELICAN OR SIMILAR
 C.1 CROSSED THE ROAD, IN PATH OF ON-COMING V.1. V.1 HIT PED.
 CASUALTY 001 (001) (17 Yrs - F UB10) SLIGHT PEDESTRIAN CROSSING ROAD ON PED XING E BOUND FROM DRIVERS N/SIDE
 VEHICLE 001 (000) CAR (32 Yrs - F SL3) GOING AHEAD OTHER SE TO NW JNY PART OF WORK
 BT - DRV NOT CONTACTED FRONT HIT FIRST

C001 A 802 (FAILED TO LOOK PROPERLY) C001 A 804 (WRONG USE OF PEDESTRIAN CROSSING FACILITY)
 C001 A 808 (CARELESS/RECKLESS/IN A HURRY)

2 0113XH30380 WED 14/08/13 17:30 LIGHT HARLINGTON ROAD J/W LEES ROAD 26 NODE 103 507510 / 182020

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY ROUNDABOUT GIVE WAY/UNCONT NO XING FACILITY IN 50M
 V1 FAILED TO ACCORD PRECEDENCE AT JUNCTION AND HIT V2
 CASUALTY 001 (002) (50 Yrs - M UB10) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) CAR (32 Yrs - M TW4) GOING AHEAD OTHER NW TO SE COMM TO/FROM WORK JCT MID
 BT - NOT REQUESTED O/S HIT FIRST
 VEHICLE 002 (001) PEDAL CYCLE (50 Yrs - M UB10) TURNING RIGHT SE TO NE COMM TO/FROM WORK JCT MID
 BT - NOT APPLICABLE FRONT HIT FIRST

V001 A 405 (FAILED TO LOOK PROPERLY) V001 A 302 (DISOBEYED GIVE WAY OR STOP SIGN OR MARKINGS)
 V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

3 0113XH30369 THU 15/08/13 07:40 LIGHT ROYAL LANE J/W THE COPPICE 26 LINK 74-110 506540 / 181440

POLICE - OVER COU ROAD-DRY WEATHER-FINE SINGLE CWY CROSSROADS GIVE WAY/UNCONT NO XING FACILITY IN 50M
 RIDER V1 RODE OFF PAVEMENT INTO PATH V2
 CASUALTY 001 (001) (16 Yrs - M UB8) SLIGHT DRIVER/RIDER
 JOURNEY TO/FROM SCHOOL Sch Attended : BISHOPS HOLT
 VEHICLE 001 (002) PEDAL CYCLE (16 Yrs - M UB8) GOING AHEAD OTHER S TO N PUPIL RIDING TO/FROM SCH JCT MID
 BT - NOT APPLICABLE N/S HIT FIRST
 VEHICLE 002 (001) CAR (52 Yrs - F UB8) TURNING LEFT W TO N JCT MID
 BT - DRV NOT CONTACTED FRONT HIT FIRST

V001 A 310 (CYCLIST ENTERING ROAD FROM PAVEMENT) V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

4 0113XH30390 SAT 31/08/13 14:38 LIGHT UXBRIDGE ROAD J/W HARLINGTON ROAD. 26 NODE 128 507150 / 182840
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY T/STAG JUN AUTO SIG PEDN PHASE AT ATS
 V.1 STARTED TO TURN RIGHT, V.2 CUT IN- FRONT OF V.1 & ALSO TURNED RIGHT & BOTH V.S COLLIDED .
 CASUALTY 001 (002) (30 Yrs - M UB3) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) CAR (21 Yrs - M UB3) TURNING RIGHT NW TO S JCT APP
 BT - DRV NOT CONTACTED FRONT HIT FIRST
 VEHICLE 002 (001) PEDAL CYCLE (30 Yrs - M UB3) TURNING RIGHT NW TO S JCT APP
 BT - NOT APPLICABLE BACK HIT FIRST
 V002 A 403 (POOR TURN OR MANOEUVRE) V002 A 405 (FAILED TO LOOK PROPERLY)
 V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED) V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

5 0113XH30452 MON 09/09/13 17:10 LIGHT COWLEY ROAD J/W HINTON ROAD 26 LINK 122-142 505390 / 183750
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M
 V4 HIT REAR OF V3, PUSHING IT INTO REAR OF V2 WHICH THEN HIT V1
 CASUALTY 001 (004) (69 Yrs - M HA4) SLIGHT DRIVER/RIDER
 CASUALTY 002 (003) (12 Yrs - M UB8) SLIGHT PASSENGER FRONT SEAT
 VEHICLE 001 (002) CAR (22 Yrs - M UB8) WAITING TO TURN RIGHT S TO E JCT APP
 BT - NOT REQUESTED BACK HIT FIRST
 VEHICLE 002 (003) CAR (32 Yrs - F HA4) GOING AHEAD HELD UP S TO N JCT APP
 BT - NOT REQUESTED BACK HIT FIRST
 VEHICLE 003 (004) CAR (36 Yrs - F UB8) SLOWING OR STOPPING S TO N JCT APP
 BT - NOT REQUESTED BACK HIT FIRST
 VEHICLE 004 (003) CAR (69 Yrs - M HA4) GOING AHEAD OTHER S TO N JCT APP
 BT - NOT REQUESTED FRONT HIT FIRST
 V004 A 509 (DISTRACTION IN VEHICLE) V004 A 405 (FAILED TO LOOK PROPERLY)
 V004 A 602 (CARELESS/RECKLESS/IN A HURRY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

6 0113XH30433 SUN 15/09/13 22:40 DARK UXBRIDGE ROAD 25M NORTH WEST J/W HARLINGTON ROAD 26 LINK 127-128 507110 / 182860
 POLICE - AT SCENE ROAD-WET RAINING DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M ROADWORKS

DRIVER V1 LOST CONTROL, CROSSED CARRIAGEWAY AND HIT ONCOMING V2

CASUALTY 001 (001) (19 Yrs - M UB1) SLIGHT DRIVER/RIDER

CASUALTY 002 (002) (47 Yrs - M UB4) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (19 Yrs - M UB1) CHANGE LANE TO RIGHT NW TO SE
 BT - NOT REQUESTED SKIDDED BACK HIT FIRST
 LEFT CWY CROSS CENT/RES HIT KERB

VEHICLE 002 (001) BUS/COACH (47 Yrs - M UB4) GOING AHEAD OTHER SE TO NW JNY PART OF WORK
 BT - NOT REQUESTED FRONT HIT FIRST

V001 A 307 (TRAVELLING TOO FAST FOR CONDITIONS)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

7 0113XH30477 TUE 17/09/13 20:25 DARK HILLINGDON ROAD J/W THE GREENWAY 26 NODE 124 506120 / 183150
 POLICE - AT SCENE ROAD-WET RAINING DUAL CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS

V2 TURNED RIGHT ACROSS PATH V1

CASUALTY 001 (001) (20 Yrs - F UB8) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (20 Yrs - F UB8) GOING AHEAD OTHER S TO N JCT MID
 BT - NEGATIVE FRONT HIT FIRST

VEHICLE 002 (001) CAR (57 Yrs - F UB8) TURNING RIGHT N TO W JCT MID
 BT - NEGATIVE N/S HIT FIRST

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 B 301 (DISOBEYED AUTOMATIC TRAFFIC SIGNAL)

V001 B 307 (TRAVELLING TOO FAST FOR CONDITIONS)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

8 0113XH30483 TUE 01/10/13 06:44 DARK UXBRIDGE ROAD J/W ROYAL LANE 26 NODE 89 506830 / 182920
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY T/STAG JUN GIVE WAY/UNCONT PELICAN OR SIMILAR
 V1 MOVING OFF FROM JUNCTION COLLIDED WITH V2

CASUALTY 001 (002) (41 Yrs - M UB8) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (23 Yrs - M SL0) MOVING OFF S TO N JCT MID
 BT - NOT REQUESTED O/S HIT FIRST

VEHICLE 002 (001) PEDAL CYCLE (41 Yrs - M UB8) GOING AHEAD OTHER E TO W JCT MID
 BT - NOT APPLICABLE FRONT HIT FIRST

V001 A 701 (VISION AFFECTED - STATIONARY OR PARKED VEHICLE(S))

V001 A 705 (VISION AFFECTED - DAZZLING HEADLIGHTS)

9 0113XH30455 SAT 05/10/13 11:50 LIGHT HILLINGDON ROAD, 56M NORTH OF JUNCTION WITH ORCHARD WAY 26 LINK 124-147 505990 / 183390
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M
 IT APPEARS THAT RIDER OF V1 BANKED TOO MUCH AS HE TOOK A BEND IN THE ROAD, THE FOOT PEG CAUGHT THE ROAD & V1 FELL

CASUALTY 001 (001) (22 Yrs - M UB8) SERIOUS DRIVER/RIDER

VEHICLE 001 (000) M/C > 500CC (22 Yrs - M UB8) GOING AHEAD RIGHT BEND SE TO NE
 BT - NOT PROVD (MEDCL REASONS) SKIDDED DID NOT IMPACT
 LEFT CWY NEARSIDE HIT LAMP POST

V001 B 403 (POOR TURN OR MANOEUVRE)

V001 B 108 (ROAD LAYOUT (EG BEND, HILL, NARROW CARRIAGEWAY))

10 0113XH30469 TUE 08/10/13 12:53 LIGHT HILLINGDON ROAD 30M WEST J/W HIGH STREET 26 LINK 140-147 505910 / 183810
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M
 V2 HIT REAR V1

CASUALTY 001 (001) (43 Yrs - F UB4) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (43 Yrs - F UB4) GOING AHEAD HELD UP W TO E
 BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - M UNKN) GOING AHEAD OTHER W TO E
 BT - DRV NOT CONTACTED FRONT HIT FIRST

V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)


Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)	36 MTS TO JUL-2016 SORTED BY DATE
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11 0113XH30462 SAT 12/10/13 09:08 LIGHT ROYAL LANE, JUNCTION WITH PIELD HEATH ROAD	26 NODE 110	506720 / 182050
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POLICE - AT SCENE ROAD-WET WEATHER-FINE SINGLE CWY ROUNDABOUT GIVE WAY/UNCONT NO XING FACILITY IN 50M

V1 APPARANTLY WAS DAZZLED BY SUNSHINE & DID NOT SEE ROUNDABOUT IN TIME TO GIVE WAY TO V2, V1 BROKE, SKIDDED & HIT V2

CASUALTY 001 (002) (25 Yrs - F UB8) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) GDS =< 3.5T (25 Yrs - M GU16)	GOING AHEAD OTHER	SW TO NE JNY PART OF WORK	JCT MID
BT - NEGATIVE	SKIDDED	FRONT HIT FIRST	

VEHICLE 002 (001) CAR (25 Yrs - F UB8)	GOING AHEAD OTHER	NW TO SE	JCT MID
BT - NEGATIVE		N/S HIT FIRST	
LEFT CWY OFFSIDE	HIT ROUNDABOUT	HIT RD SIGN/ATS	

V001 A 401 (JUNCTION OVERSHOOT)

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 B 706 (VISION AFFECTED - DAZZLING SUN)

V001 B 601 (AGGRESSIVE DRIVING)

12 0113XH30523 FRI 18/10/13 20:59 DARK HARLINGTON ROAD, JUNCTION WITH LEES ROAD	26 NODE 103	507520 / 182010
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POLICE - AT SCENE ROAD-DRY WEATHER-FINE ROUNDABOUT ROUNDABOUT GIVE WAY/UNCONT NO XING FACILITY IN 50M

V2 DID NOT GIVE WAY AT ROUNDABOUT AND HIT V1 & DROVE OFF FROM SCENE

CASUALTY 001 (001) (46 Yrs - M UB8) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) PEDAL CYCLE (46 Yrs - M UB8)	GOING AHEAD OTHER	NW TO SE COMM TO/FROM WORK	LEAVING R'ABOUT
BT - NOT APPLICABLE		N/S HIT FIRST	

VEHICLE 002 (001) CAR (38 Yrs - M UB8)	TURNING LEFT	NE TO SE	JCT MID
BT - DRV NOT CONTACTED		FRONT HIT FIRST	

V002 A 401 (JUNCTION OVERSHOOT)

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 B 601 (AGGRESSIVE DRIVING)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

13 0113XH30541 MON 11/11/13 20:24 DARK UXBRIDGE ROAD J/W ROYAL LANE 26 NODE 89 506830 / 182920

POLICE - AT SCENE ROAD-WET RAINING DUAL CWY T/STAG JUN GIVE WAY/UNCONT PELICAN OR SIMILAR

V2 TURNED LEFT COLLIDING WITH V1

CASUALTY 001 (001) (41 Yrs - M UB8) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) PEDAL CYCLE (41 Yrs - M UB8) GOING AHEAD OTHER E TO W COMM TO/FROM WORK JCT MID
BT - NOT APPLICABLE N/S HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - U UNKN) TURNING LEFT S TO W JCT MID
BT - DRV NOT CONTACTED FRONT HIT FIRST

V002 A 302 (DISOBEYED GIVE WAY OR STOP SIGN OR MARKINGS)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

V001 A 507 (CYCLIST WEARING DARK CLOTHING AT NIGHT)

14 0113XH30552 FRI 15/11/13 21:45 DARK NFL - LONG LANE, 44M SOUTH OF JUNCTION WITH THE LARCHES 26 LINK 129-152 507430 / 182870

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M ZEBRA

ANIMAL IN CWY (NOT RID-HORSE)

V1 SWERVED & BRAKED SUDDENLY TO AVOID A FOX IN THE ROAD WHICH SHE HIT, V1 WAS THEN HIT IN REAR BY V2

CASUALTY 001 (001) (51 Yrs - F HA4) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (51 Yrs - F HA4) GOING AHEAD OTHER N TO S JNY PART OF WORK
BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 002 (001) CAR (19 Yrs - M UB8) HIT ANIMAL (NOT RID-HORSE) GOING AHEAD OTHER N TO S
BT - NOT REQUESTED FRONT HIT FIRST

V001 A 109 (ANIMAL OR OBJECT IN CARRIAGEWAY)

V001 A 408 (SUDDEN BRAKING)

V001 A 409 (SWERVED)

V001 A 603 (NERVOUS/UNCERTAIN/ PANIC)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

15 0113XH30561 THU 21/11/13 14:25 LIGHT COWLEY ROAD J/W COWLEY MILL ROAD 26 NODE 122 505350 / 183210

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS

V2 TURNED RIGHT COLLIDING WITH V1

CASUALTY 001 (001) (75 Yrs - M UB8) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (75 Yrs - M UB8) GOING AHEAD OTHER S TO N JCT MID
BT - NOT REQUESTED O/S HIT FIRST

VEHICLE 002 (001) CAR (49 Yrs - M LU4) TURNING RIGHT N TO W JCT MID
BT - NOT REQUESTED FRONT HIT FIRST

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

16 0113XH30574 TUE 03/12/13 12:12 LIGHT LONG LANE J/W UXBRIDGE ROAD. 26 NODE 129 507430 / 182670

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN AUTO SIG PEDN PHASE AT ATS

V.1 STOPPED AT A.T.S. , V.2 TRAVELLING BEHIND FAILED TO STOP IN TIME & HIT REAR OF V.1.

CASUALTY 001 (001) (26 Yrs - F C015) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (26 Yrs - F C015) WAITING TO TURN LEFT N TO SE JNY PART OF WORK JCT APP
BT - DRV NOT CONTACTED BACK HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - M UNKN) TURNING LEFT N TO SE JCT APP
BT - DRV NOT CONTACTED FRONT HIT FIRST

V002 A 308 (FOLLOWING TOO CLOSE)

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

17 0114XH30197 THU 02/01/14 08:40 LIGHT UXBRIDGE ROAD, JUNCTION WITH HARLINGTON ROAD 26 NODE 128 507140 / 182850

POLICE - AT SCENE ROAD-WET WEATHER-FINE DUAL CWY T/STAG JUN AUTO SIG PEDN PHASE AT ATS

V2 WAS DISTRACTED BY PULLING DOWN HIS SUN VISOR & HIT REAR OF STATIONARY V1 WHICH WAS THEN PUSHED INTO V3

CASUALTY 001 (001) (52 Yrs - F UB5) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (52 Yrs - F UB5) GOING AHEAD HELD UP NW TO SE JCT APP
BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 002 (001) GDS =< 3.5T (58 Yrs - M UB8) SLOWING OR STOPPING NW TO SE JCT APP
BT - NOT REQUESTED FRONT HIT FIRST

VEHICLE 003 (001) CAR (41 Yrs - M UB8) GOING AHEAD HELD UP NW TO SE JCT APP
BT - DRV NOT CONTACTED BACK HIT FIRST

V002 B 706 (VISION AFFECTED - DAZZLING SUN)

V002 B 308 (FOLLOWING TOO CLOSE)

V002 A 405 (FAILED TO LOOK PROPERLY)

18 0114XH30194 MON 13/01/14 17:26 DARK ROYAL LANE 36M SOUTH J/W BRYONY CLOSE 26 LINK 74-110 506540 / 181620

POLICE - AT SCENE ROAD-WET RAINING SINGLE CWY NO JUN IN 20M CENTRAL REFUGE

DRIVER V1 LOST CONTROL

CASUALTY 001 (001) (78 Yrs - F UB7) SERIOUS DRIVER/RIDER

VEHICLE 001 (000) CAR (78 Yrs - F UB7) GOING AHEAD OTHER S TO N
BT - NOT REQUESTED OVERTURN FRONT HIT FIRST
LEFT CWY OFFSIDE HIT BOLLARD

V001 A 103 (SLIPPERY ROAD (DUE TO WEATHER))

V001 A 707 (VISION AFFECTED - RAIN, SLEET, SNOW, OR FOG)

V001 A 410 (LOSS OF CONTROL)


Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)	36 MTS TO JUL-2016 SORTED BY DATE
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19 0114XH30028 TUE 14/01/14 09:50 LIGHT HARLINGTON ROAD J/W LEES ROAD	26 NODE 103	507520 / 182020
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POLICE - AT SCENE ROAD-WET WEATHER-FINE ROUNDABOUT ROUNDABOUT GIVE WAY/UNCONT NO XING FACILITY IN 50M

V1 FAILED TO ACCORD PRECEDENCE AT JUNCTION AND COLLIDED WITH V2

CASUALTY 001 (002) (64 Yrs - F UB7) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (82 Yrs - F UB10)	TURNING LEFT	NW TO NE	JCT MID
BT - NOT REQUESTED		O/S HIT FIRST	

VEHICLE 002 (001) CAR (64 Yrs - F UB7)	TURNING RIGHT	SE TO NE	JCT MID
BT - NOT REQUESTED		N/S HIT FIRST	

V001 A 302 (DISOBEYED GIVE WAY OR STOP SIGN OR MARKINGS)

V001 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

20 0114XH30184 TUE 14/01/14 13:10 LIGHT NFL HILLINGDON ROAD J/W THE GREENWAY	26 NODE 124	506120 / 183140
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POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS

V4 HIT REAR OF V3, PUSHING IT INTO REAR OF V2 WHICH THEN HIT V1

CASUALTY 001 (004) (72 Yrs - M UB10) SERIOUS DRIVER/RIDER

VEHICLE 001 (002) CAR (69 Yrs - M UB8)	GOING AHEAD HELD UP	S TO N	JCT APP
BT - NOT REQUESTED		BACK HIT FIRST	

VEHICLE 002 (003) CAR (77 Yrs - M UB10)	GOING AHEAD HELD UP	S TO N	JCT APP
BT - NOT REQUESTED		BACK HIT FIRST	

VEHICLE 003 (004) CAR (87 Yrs - M UB8)	GOING AHEAD HELD UP	S TO N	JCT APP
BT - NOT REQUESTED		BACK HIT FIRST	

VEHICLE 004 (003) CAR (72 Yrs - M UB10)	GOING AHEAD OTHER	S TO N	JCT APP
BT - NOT REQUESTED		FRONT HIT FIRST	

V004 A 203 (DEFECTIVE BRAKES)

V004 B 505 (ILLNESS OR DISABILITY, MENTAL OR PHYSICAL)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

21 0114XH30002 THU 16/01/14 08:30 LIGHT HILLINGDON HILL J/W KINGSTON LANE 26 NODE 126 506270 / 182990
 POLICE - OVER COU ROAD-DRY WEATHER-FINE DUAL CWY T/STAG JUN AUTO SIG PEDN PHASE AT ATS
 V1 U-TURNED ACROSS PATH V2

CASUALTY 001 (001) (42 Yrs - M UB8) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (42 Yrs - M UB8) U-TURNING E TO E TAKING PUPIL TO/FROM SC JCT MID
 BT - DRV NOT CONTACTED N/S HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - M UNKN) GOING AHEAD OTHER W TO E JCT MID
 BT - DRV NOT CONTACTED FRONT HIT FIRST

V001 A 403 (POOR TURN OR MANOEUVRE)

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

22 0114XH30169 SUN 19/01/14 12:05 LIGHT COWLEY ROAD, 45 METRES SOUTH OF FERNDAL CRESCENT. 26 LINK 92-123 505350 / 182760

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M

V.2 WAS IN STATIONARY TRAFFIC. V.1 TRAVELLING BEHIND FAILED TO STOP & HIT REAR OF V.2.

CASUALTY 001 (001) (22 Yrs - F HA6) SLIGHT DRIVER/RIDER

CASUALTY 002 (002) (39 Yrs - F UB7) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (22 Yrs - F HA6) GOING AHEAD OTHER S TO N FRONT HIT FIRST
 BT - DRV NOT CONTACTED

VEHICLE 002 (001) CAR (39 Yrs - F UB7) GOING AHEAD HELD UP S TO N BACK HIT FIRST
 BT - DRV NOT CONTACTED

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)


Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)	36 MTS TO JUL-2016 SORTED BY DATE
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23 0114XH30258 TUE 25/02/14 08:30 LIGHT LAVENDER ROAD J/W VIOLET AVENUE.	26 CELL 506500/181500	506910 / 181550
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POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

V.1 REVERSED INTO A SIDE ROAD & HIT V.2 (A CHILD ON A CYCLE) CROSSING THE ROAD.

CASUALTY 001 (002) (7 Yrs - M UB8) SLIGHT DRIVER/RIDER

JOURNEY TO/FROM SCHOOL

Sch Attended : COLM MANOR

VEHICLE 001 (002) GDS =< 3.5T (40 Yrs - M SL01)
BT - NEGATIVE

REVERSING

W TO W JNY PART OF WORK
BACK HIT FIRST

JCT MID

VEHICLE 002 (001) PEDAL CYCLE (7 Yrs - M UB8)
BT - NOT APPLICABLE

GOING AHEAD OTHER

W TO E PUPIL RIDING TO/FROM SCH
FRONT HIT FIRST

JCT MID

V001 A 403 (POOR TURN OR MANOEUVRE)

V001 A 405 (FAILED TO LOOK PROPERLY)

V002 A 310 (CYCLIST ENTERING ROAD FROM PAVEMENT)

V002 A 405 (FAILED TO LOOK PROPERLY)

24 0114XH30131 THU 06/03/14 17:10 LIGHT HARLINGTON ROAD, JUNCTION WITH NICHOLLS AVENUE	26 LINK 103-128	507320 / 182330
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POLICE - AT SCENE ROAD-DRY WEATHER-UNKNOWN SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

C1 WAS LOOKING THE WRONG WAY WHEN HE STEPPED OUT INTO PATH OF V1, V1 SWERVED BUT CLIPPED C1 WITH N/S WING MIRROR

CASUALTY 001 (001) (18 Yrs - M UNKN) SLIGHT PEDESTRIAN CROSSING ROAD (NOT ON XING) SW BOUND FROM DRIVERS N/SIDE

VEHICLE 001 (000) GDS =< 3.5T (41 Yrs - M RM7)
BT - NEGATIVE

GOING AHEAD OTHER

NW TO SE
N/S HIT FIRST

JCT CLEARED

C001 A 802 (FAILED TO LOOK PROPERLY)

C001 B 808 (CARELESS/RECKLESS/IN A HURRY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

25 0114XH30138 TUE 11/03/14 12:45 LIGHT ROYAL LANE J/W THE CHANTRY 26 LINK 89-110 506840 / 182820
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY PRIV DRIVE GIVE WAY/UNCONT NO XING FACILITY IN 50M

V2 TURNED RIGHT INTO PATH OF V1, CAUSING COLLISION.

CASUALTY 001 (001) (57 Yrs - F NW10) SLIGHT DRIVER/RIDER

CASUALTY 002 (002) (18 Yrs - M UB3) SLIGHT PASSENGER BACK SEAT

CASUALTY 003 (002) (17 Yrs - F TW5) SLIGHT PASSENGER BACK SEAT

VEHICLE 001 (002) CAR (57 Yrs - F NW10) GOING AHEAD OTHER N TO S COMM TO/FROM WORK JCT MID
 BT - NOT REQUESTED N/S HIT FIRST

VEHICLE 002 (001) CAR (19 Yrs - M UB6) TURNING RIGHT E TO N ENTERING MAIN RD
 BT - NOT REQUESTED FRONT HIT FIRST

V001 A 701 (VISION AFFECTED - STATIONARY OR PARKED VEHICLE(S))

V002 A 701 (VISION AFFECTED - STATIONARY OR PARKED VEHICLE(S))

V002 A 302 (DISOBEYED GIVE WAY OR STOP SIGN OR MARKINGS)

V002 A 403 (POOR TURN OR MANOEUVRE)

26 0114XH30209 TUE 11/03/14 11:20 LIGHT LONG LANE 40M NORTH J/W UXBRIDGE ROAD 26 LINK 129-152 507420 / 182720
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY PRIV DRIVE GIVE WAY/UNCONT NO XING FACILITY IN 50M

V1 TURNED LEFT INTO PATH V2

CASUALTY 001 (002) (78 Yrs - M HA4) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (32 Yrs - M UB10) TURNING LEFT E TO S JCT MID
 BT - NOT REQUESTED FRONT HIT FIRST

VEHICLE 002 (001) M/C 125-500CC (78 Yrs - M HA4) GOING AHEAD OTHER N TO S JCT MID
 BT - NOT REQUESTED N/S HIT FIRST

V001 B 701 (VISION AFFECTED - STATIONARY OR PARKED VEHICLE(S))

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

27 0114XH30149 SAT 15/03/14 12:13 LIGHT NFL COLHAM GREEN ROAD 28M SOUTH J/W PIELD HEATH ROAD 26 LINK 77-101 507010 / 181870
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY PRIV DRIVE GIVE WAY/UNCONT NO XING FACILITY IN 50M

V2 TURNED RIGHT COLLIDING WITH V1

CASUALTY 001 (001) (40 Yrs - F UB3) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (40 Yrs - F UB3) GOING AHEAD OTHER S TO N JCT MID
 BT - NOT REQUESTED O/S HIT FIRST

VEHICLE 002 (001) GDS =< 3.5T (60 Yrs - M SL2) TURNING RIGHT E TO N JNY PART OF WORK JCT MID
 BT - NOT REQUESTED FRONT HIT FIRST

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

28 0114XH30155 WED 19/03/14 17:05 LIGHT UXBRIDGE ROAD, 50M NORTH WEST OF JUNCTION WITH HARLINGTON ROAD 26 LINK 127-128 507099 / 182882
 POLICE - AT SCENE ROAD-DRY WEATHER-UNKNOWN DUAL CWY NO JUN IN 20M PEDN PHASE AT ATS

V2 INDICATED & MOVED RIGHT, V1 TRIED TO OVERTAKE & HIT RIGHT ARM OF V2 CAUSING V2 TO FALL

CASUALTY 001 (002) (50 Yrs - M KT1) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) OTH MOT VEH (24 Yrs - M SL4) OVERTAKE MOVE VEH O/S NW TO SE N/S HIT FIRST
 BT - NOT REQUESTED

VEHICLE 002 (001) PEDAL CYCLE (50 Yrs - M KT1) CHANGE LANE TO RIGHT NW TO SE O/S HIT FIRST
 BT - NOT APPLICABLE

V002 A 403 (POOR TURN OR MANOEUVRE)

V002 A 407 (PASSING TOO CLOSE TO CYCLIST, HORSE RIDER OR PEDESTRIAN)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

29 0114XH30225 MON 24/03/14 06:54 LIGHT HILLINGDON HILL 25M WEST J/W THE CROSSWAY 26 LINK 89-126 506730 / 182930
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M
 V1 HAD BROKEN DOWN IN OUTSIDE LANE OF DUAL CARRIAGEWAY WHEN IT WAS HIT BY V2

CASUALTY 001 (002) (20 Yrs - M HA4) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) CAR (35 Yrs - M UB10) PARKED P TO P
 BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 002 (001) CAR (20 Yrs - M HA4) GOING AHEAD OTHER W TO E
 BT - NEGATIVE FRONT HIT FIRST
 HIT PARKED VEH

V002 A 706 (VISION AFFECTED - DAZZLING SUN) V002 A 701 (VISION AFFECTED - STATIONARY OR PARKED VEHICLE(S))

30 0114XH30204 FRI 28/03/14 08:33 LIGHT UXBRIDGE ROAD 40M NORTH WEST J/W LONG LANE 26 LINK 128-129 507380 / 182690
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M
 V2 HIT REAR V1

CASUALTY 001 (001) (47 Yrs - F UB10) SLIGHT DRIVER/RIDER
 CASUALTY 002 (001) (24 Yrs - F UNKN) SLIGHT PASSENGER FRONT SEAT
 VEHICLE 001 (002) CAR (47 Yrs - F UB10) GOING AHEAD HELD UP NW TO SE
 BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 002 (001) CAR (18 Yrs - F NG11) SLOWING OR STOPPING NW TO SE
 BT - NOT REQUESTED FRONT HIT FIRST

V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

31 0114XH30219 FRI 04/04/14 12:59 LIGHT COWLEY RD J/W COWLEY MILL RD 26 NODE 122 505340 / 183190

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS

V2 POSSIBLY MANOUEVERED TOWARDS V1. V1 LOST CONTROL, COLLIDING WITH ATS.

CASUALTY 001 (001) (26 Yrs - F UB7) SLIGHT DRIVER/RIDER

VEHICLE 001 (000) CAR (26 Yrs - F UB7) SLOWING OR STOPPING S TO N JCT APP

BT - NEGATIVE SKIDDED O/S HIT FIRST
LEFT CWY OFFSIDE HIT BOLLARD HIT RD SIGN/ATS

VEHICLE 002 (000) CAR (23 Yrs - M UNKN) GOING AHEAD OTHER S TO N JCT APP

BT - NEGATIVE DID NOT IMPACT

V001 A 410 (LOSS OF CONTROL)

V001 A 408 (SUDDEN BRAKING)

V001 A 306 (EXCEEDING SPEED LIMIT)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

32 0114XH30222 MON 07/04/14 22:20 DARK HIGH STREET J/W IVER LANE 26 NODE 93 505390 / 182270

POLICE - AT SCENE ROAD-WET RAINING SINGLE CWY T/STAG JUN AUTO SIG NO XING FACILITY IN 50M

V2 TURNED RIGHT ACROSS PATH OF ONCOMING V1, CAUSING COLLISION.

CASUALTY 001 (001) (23 Yrs - M UNKN) SLIGHT DRIVER/RIDER

CASUALTY 002 (002) (29 Yrs - M SL0) SLIGHT DRIVER/RIDER

CASUALTY 003 (001) (19 Yrs - M UB3) SLIGHT PASSENGER FRONT SEAT

VEHICLE 001 (002) CAR (23 Yrs - M UNKN) GOING AHEAD OTHER S TO N JCT MID

BT - NOT PROVD (MEDCL REASONS) O/S HIT FIRST

VEHICLE 002 (001) CAR (29 Yrs - M SL0) TURNING RIGHT N TO W JCT MID

BT - NOT PROVD (MEDCL REASONS) FRONT HIT FIRST

V002 A 605 (INEXPERIENCED OR LEARNER DRIVER/RIDER)

V002 A 403 (POOR TURN OR MANOEUVRE)

V002 A 405 (FAILED TO LOOK PROPERLY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

33 0114XH30241 MON 21/04/14 15:40 LIGHT PIELD HEATH RD J/W MICAWBER AVENUE 26 LINK 101-103 507240 / 181870

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

PED RAN INTO PATH OF V1, CAUSING COLLISION.

CASUALTY 001 (001) (13 Yrs - F UB7) SLIGHT PEDESTRIAN CROSSING ROAD (NOT ON XING) UNKNOWN

VEHICLE 001 (000) GDS =< 3.5T (29 Yrs - M UB4) GOING AHEAD OTHER W TO E JCT CLEARED
BT - NOT REQUESTED FRONT HIT FIRST

C001 A 802 (FAILED TO LOOK PROPERLY)

C001 A 801 (CROSSED ROAD MASKED BY STATIONARY OR PARKED VEHICLE)

C001 A 808 (CARELESS/RECKLESS/IN A HURRY)

V001 A 701 (VISION AFFECTED - STATIONARY OR PARKED VEHICLE(S))

34 0114XH30262 SAT 26/04/14 02:50 DARK UXBRIDGE RD J/W LEES RD 26 NODE 131 507750 / 182400

POLICE - AT SCENE ROAD-WET RAINING DUAL CWY OTHER JUN AUTO SIG PEDN PHASE AT ATS

V2 TURNED RIGHT, COLLIDING WITH ONCOMING V1.

CASUALTY 001 (001) (24 Yrs - F EN3) SLIGHT DRIVER/RIDER

CASUALTY 002 (002) (23 Yrs - M UB1) SLIGHT PASSENGER FRONT SEAT

VEHICLE 001 (002) CAR (24 Yrs - F EN3) GOING AHEAD OTHER SE TO NW JCT MID
BT - NEGATIVE O/S HIT FIRST

VEHICLE 002 (001) CAR (24 Yrs - M UB3) TURNING RIGHT NW TO S LEAVING MAIN RD
BT - NEGATIVE FRONT HIT FIRST

V002 A 402 (JUNCTION RESTART)

V002 A 403 (POOR TURN OR MANOEUVRE)

V002 A 405 (FAILED TO LOOK PROPERLY)

V001 B 301 (DISOBEYED AUTOMATIC TRAFFIC SIGNAL)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

35 0114XH30265 THU 01/05/14 17:25 LIGHT NFL HILLINGDON HILL 70M EAST J/W KINGSTON LANE 26 LINK 89-126 506330 / 182960
 POLICE - AT SCENE ROAD-WET RAINING DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M

V2 PARKED IN PERMITTED SPACE ON MAIN CARRIAGEWAY AND WAS HIT IN REAR BY V1

CASUALTY 001 (001) (31 Yrs - M UB3) SLIGHT PASSENGER FRONT SEAT
 VEHICLE 001 (002) CAR (30 Yrs - M UB3) GOING AHEAD OTHER E TO W
 BT - NOT REQUESTED FRONT HIT FIRST

HIT PARKED VEH
 VEHICLE 002 (001) CAR (61 Yrs - M UB3) PARKED P TO P
 BT - NOT REQUESTED BACK HIT FIRST

V001 A 509 (DISTRACTION IN VEHICLE) V001 A 405 (FAILED TO LOOK PROPERLY)
 V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

36 0114XH30272 FRI 02/05/14 17:45 LIGHT LEES ROAD J/W UXBRIDGE ROAD 26 NODE 131 507730 / 182390
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN AUTO SIG PEDN PHASE AT ATS

V1 PULLED TO THE SIDE OF ROAD TO ALLOW PASSAGE OF EMERGENCY VEHICLE AND HIT PARKED V2

CASUALTY 001 (002) (24 Yrs - F UB8) SLIGHT DRIVER/RIDER
 CASUALTY 002 (002) (27 Yrs - M UB8) SLIGHT PASSENGER FRONT SEAT
 VEHICLE 001 (002) CAR (37 Yrs - F UB2) SLOWING OR STOPPING S TO N JCT APP
 BT - NOT REQUESTED FRONT HIT FIRST

HIT PARKED VEH
 VEHICLE 002 (001) CAR (24 Yrs - F UB8) PARKED P TO P JCT APP
 BT - NOT REQUESTED O/S HIT FIRST

V001 A 603 (NERVOUS/UNCERTAIN/ PANIC)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

37 0114XH30284 THU 08/05/14 12:20 LIGHT HILLINGDON ROAD J/W THE GREENWAY 26 NODE 124 506110 / 183150
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS
 V2 BRAKED HEAVILY CAUSING REAR WHEEL TO LOCK, V2 THEN HIT REAR V1

CASUALTY 001 (002) (18 Yrs - M HA4) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) CAR (26 Yrs - F HA7) GOING AHEAD HELD UP S TO N JCT APP
 BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 002 (001) M/C 50-125CC (18 Yrs - M HA4) GOING AHEAD OTHER S TO N JCT APP
 BT - NOT REQUESTED FRONT HIT FIRST

V002 A 408 (SUDDEN BRAKING)

38 0114XH30294 THU 15/05/14 02:05 DARK NFL WINDSOR STREET 27M NORTH EAST J/W CROSS STREET 26 CELL 505000/184000 505452 / 184010
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M

DETAILS NOT KNOWN AT TIME OF REPORTING
 CASUALTY 001 (001) (27 Yrs - M UB7) SLIGHT PEDESTRIAN CROSSING ROAD (NOT ON XING) UNKNOWN
 VEHICLE 001 (000) CAR (? Yrs - U UNKN) GOING AHEAD OTHER S TO N FRONT HIT FIRST
 BT - DRV NOT CONTACTED

C001 A 806 (IMPAIRED BY ALCOHOL)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

39 0114XH30465 TUE 10/06/14 07:10 LIGHT HARLINGTON RD J/W SOUTHFIELD CLOSE 26 LINK 103-128 507260 / 182450
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M
 V2 COLLIDED WITH REAR OF STAT V1 WHEN OVERTAKING. V2 THEN HIT ONCOMING V3.

CASUALTY 001 (002) (50 Yrs - M UB3) SERIOUS DRIVER/RIDER

CASUALTY 002 (003) (37 Yrs - M WD24) SERIOUS DRIVER/RIDER

VEHICLE 001 (002) CAR (33 Yrs - F UB8) GOING AHEAD HELD UP S TO N JNY PART OF WORK JCT CLEARED
 BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 002 (001) CAR (50 Yrs - M UB3) OVERTAKE STAT VEH O/S S TO N JNY PART OF WORK JCT CLEARED
 BT - NOT PROVD (MEDCL REASONS) FRONT HIT FIRST

VEHICLE 003 (002) CAR (37 Yrs - M WD24) GOING AHEAD OTHER N TO S JNY PART OF WORK JCT APP
 BT - NOT PROVD (MEDCL REASONS) FRONT HIT FIRST

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 306 (EXCEEDING SPEED LIMIT)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

V002 A 403 (POOR TURN OR MANOEUVRE)

40 0114XH30348 WED 11/06/14 22:15 DARK LONG LANE 39M NORTH J/W UXBRIDGE ROAD 26 LINK 129-152 507420 / 182720

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY PRIV DRIVE GIVE WAY/UNCONT NO XING FACILITY IN 50M

V1 TURNED RIGHT ACROSS PATH V2 WHICH WAS OVERTAKING STATIONARY TRAFFIC ON NEARSIDE

CASUALTY 001 (002) (45 Yrs - F UB8) SLIGHT DRIVER/RIDER

CASUALTY 002 (002) (49 Yrs - M UNKN) SLIGHT PASSENGER FRONT SEAT

CASUALTY 003 (001) (21 Yrs - M UNKN) SLIGHT PASSENGER FRONT SEAT

VEHICLE 001 (002) CAR (25 Yrs - M SL0) TURNING RIGHT S TO E JCT MID
 BT - NEGATIVE N/S HIT FIRST

VEHICLE 002 (001) CAR (45 Yrs - F UB8) OVERTAKING NEARSIDE N TO S JCT MID
 BT - POSITIVE FRONT HIT FIRST

V001 A 701 (VISION AFFECTED - STATIONARY OR PARKED VEHICLE(S))

V002 A 501 (IMPAIRED BY ALCOHOL)

V002 B 307 (TRAVELLING TOO FAST FOR CONDITIONS)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)										36 MTS TO JUL-2016 SORTED BY DATE		
41	0114XH30369	FRI 13/06/14 16:40	LIGHT	OXFORD RD 104M NORTH OF J/W TRUMPER WAY						26	LINK 145-160	505300 / 184100
POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M												
AS V1 AND V2 MOVED OFF V1 HIT V2'S REAR.												
CASUALTY 001 (002) (54 Yrs - M UNKN) SLIGHT DRIVER/RIDER												
VEHICLE	001 (002)	CAR	(44 Yrs - M UNKN)	MOVING OFF	S TO N	COMM TO/FROM WORK						
BT - NEGATIVE FRONT HIT FIRST												
LEFT CWY NEARSIDE												
VEHICLE	002 (001)	M/C > 500CC	(54 Yrs - M UNKN)	MOVING OFF	S TO N	COMM TO/FROM WORK						
BT - NOT REQUESTED BACK HIT FIRST												
LEFT CWY NEARSIDE HIT RD SIGN/ATS												
V001 A 405 (FAILED TO LOOK PROPERLY)						V001 A 403 (POOR TURN OR MANOEUVRE)						
V001 A 308 (FOLLOWING TOO CLOSE)												
42	0114XH30353	MON 16/06/14 08:47	LIGHT	PIELD HEATH ROAD, 83M NW OF J/W COLHAM GREEN ROAD						26	LINK 101-110	506930 / 181930
POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY PRIV DRIVE GIVE WAY/UNCONT ZEBRA												
V1 HAS PASSED OUT AT THE WHEEL ON HER WAY TO THE HOSPITAL, LEFT CARRIAGEWAY N/S, HIT BRICK WALL, PARKED V2 & A BUILDING												
CASUALTY 001 (001) (31 Yrs - F UB8) SERIOUS DRIVER/RIDER												
VEHICLE	001 (002)	CAR	(31 Yrs - F UB8)	GOING AHEAD OTHER	SE TO NW	JCT APP						
BT - NOT PROVD (MEDCL REASONS) FRONT HIT FIRST												
LEFT CWY NEARSIDE HIT KERB HIT RD SIGN/ATS												
VEHICLE	002 (001)	CAR	(? Yrs - U PARKED)	PARKED	P TO P	JCT APP						
BT - DRV NOT CONTACTED O/S HIT FIRST												
FOOTWAY												
V001 A 505 (ILLNESS OR DISABILITY, MENTAL OR PHYSICAL)						V001 B 602 (CARELESS/RECKLESS/IN A HURRY)						



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

43 0114XH30412 FRI 20/06/14 09:14 LIGHT HILLINGDON ROAD 24M SW OF HIGH STREET 26 LINK 140-147 505910 / 183810
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M

V2 WENT INTO THE BACK OF V1

CASUALTY 001 (001) (43 Yrs - F UB3) SLIGHT DRIVER/RIDER

CASUALTY 002 (001) (42 Yrs - F UB3) SLIGHT PASSENGER FRONT SEAT

VEHICLE 001 (000) CAR (43 Yrs - F UB3) SLOWING OR STOPPING SW TO NE
 BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 002 (000) CAR (36 Yrs - F UB4) GOING AHEAD OTHER SW TO NE
 BT - NOT REQUESTED FRONT HIT FIRST

V002 A 308 (FOLLOWING TOO CLOSE)

44 0114XH30386 SAT 28/06/14 15:20 LIGHT PEACHEY LANE 83M N OF IVANHOE CLOSE 26 CELL 505500/181500 505780 / 181890
 POLICE - AT SCENE ROAD-WET RAINING SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M

V2 HIT ONCOMING V1 ON THE BEND

CASUALTY 001 (001) (27 Yrs - M UB3) SLIGHT DRIVER/RIDER

CASUALTY 002 (002) (35 Yrs - F UB8) SLIGHT PASSENGER FRONT SEAT

VEHICLE 001 (000) CAR (27 Yrs - M UB3) GOING AHEAD LEFT BEND NE TO S
 BT - NEGATIVE FRONT HIT FIRST

VEHICLE 002 (000) CAR (63 Yrs - M UB8) GOING AHEAD RIGHT BEND S TO NE
 BT - NEGATIVE FRONT HIT FIRST

V002 B 306 (EXCEEDING SPEED LIMIT)

45 0114XH30432 THU 03/07/14 10:20 LIGHT KINGSTON LANE, 325M SE OF J/W IVY BRIDGE CLOSE 26 LINK 99-126 506410 / 182650
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE ROUNDABOUT ROUNDABOUT GIVE WAY/UNCONT NO XING FACILITY IN 50M

V1 HAS GONE TO BRAKE BUT HIT ACCELERATOR, V1'S LEG LOCKED, V1 HAS VEERED LEFT OFF ROAD HIT A POLE & FLIPPED ONTO ROOF

CASUALTY 001 (001) (86 Yrs - M W5) SLIGHT DRIVER/RIDER

VEHICLE 001 (000) CAR (86 Yrs - M W5) TURNING RIGHT NW TO SW COMM TO/FROM WORK JCT APP
 BT - NOT PROVD (MEDCL REASONS) OVERTURN FRONT HIT FIRST
 LEFT CWY NEARSIDE HIT KERB HIT OTH OBJECT

V001 A 505 (ILLNESS OR DISABILITY, MENTAL OR PHYSICAL)

V001 A 410 (LOSS OF CONTROL)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

46 0114XH30434 THU 03/07/14 14:55 LIGHT PIELD HEATH RD J/W COLHAM GREEN RD 26 NODE 101 506990 / 181900
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY MINI GIVE WAY/UNCONT ZEBRA
 V2 OVERTAKING STAT TRAFFIC, COLLIDED WITH ONCOMING V1.

CASUALTY 001 (001) (45 Yrs - F HA6) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) CAR (45 Yrs - F HA6) GOING AHEAD OTHER SE TO NW JCT CLEARED
 BT - NOT REQUESTED O/S HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - F UNKN) OVERTAKE STAT VEH O/S NW TO SE JNY PART OF WORK JCT APP
 BT - DRV NOT CONTACTED FRONT HIT FIRST

V002 A 403 (POOR TURN OR MANOEUVRE) V002 A 405 (FAILED TO LOOK PROPERLY)
 V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

47 0114XH30452 FRI 25/07/14 18:00 LIGHT ROYAL LANE, 49M SW OF J/W BRADSHAWE WAYE 26 LINK 74-110 506610 / 181820
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY PRIV DRIVE GIVE WAY/UNCONT NO XING FACILITY IN 50M
 V2 THOUGHT V1 WAS HAD STOPPED TO TURN LEFT BUT V1 WAS TURNING RIGHT, V2 OVERTOOK & HIT O/S OF V1 AS IT TURNED

CASUALTY 001 (002) (19 Yrs - M UB4) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) CAR (23 Yrs - M UB8) TURNING RIGHT NE TO NW JCT APP
 BT - NOT REQUESTED O/S HIT FIRST

VEHICLE 002 (001) M/C 50-125CC (19 Yrs - M UB4) OVERTAKE MOVE VEH O/S NE TO SW JCT APP
 BT - NOT REQUESTED FRONT HIT FIRST

V001 B 404 (FAILED TO SIGNAL/ MISLEADING SIGNAL) V002 A 403 (POOR TURN OR MANOEUVRE)
 V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED) V002 A 405 (FAILED TO LOOK PROPERLY)
 V002 B 605 (INEXPERIENCED OR LEARNER DRIVER/RIDER)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

48 0114XH30595 TUE 05/08/14 14:49 LIGHT NFL - LONG LANE, J/W THE LARCHES 26 LINK 129-152 507430 / 182900
POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT PELICAN OR SIMILAR
V1 STATES HE MOVED RIGHT IN SLOW MOVING TRAFFIC TO SEE AHEAD WHEN HE COLLIDED WITH A PEDESTRIAN CROSSING ISLAND
CASUALTY 001 (001) (72 Yrs - M HA1) SLIGHT DRIVER/RIDER
VEHICLE 001 (000) CAR (72 Yrs - M HA1) GOING AHEAD OTHER S TO N JNY PART OF WORK JCT APP
BT - NOT REQUESTED FRONT HIT FIRST
LEFT CWY OFFSIDE HIT BOLLARD HIT OTH OBJECT
V001 A 405 (FAILED TO LOOK PROPERLY) V001 A 403 (POOR TURN OR MANOEUVRE)
V001 B 503 (FATIGUE) V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

49 0114XH30523 WED 27/08/14 10:15 LIGHT LEES RD 47M SOUTH WEST OF J/W UXBRIDGE RD 26 LINK 103-131 507730 / 182370
POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M
FOLLOWING PREVIOUS ALTERCATION V2 MOVED OFF OVERTAKING STAT V1, COLLIDING WITH V1 DRIVER/PED (C1). C1 FELL ONTO V1.
CASUALTY 001 (002) (42 Yrs - M UB8) SLIGHT PEDESTRIAN IN ROAD - NOT CROSSING UNKNOWN
VEHICLE 001 (002) CAR (42 Yrs - M UB8) PARKED P TO P O/S HIT FIRST
BT - NOT REQUESTED
VEHICLE 002 (001) CAR (? Yrs - M UNKN) MOVING OFF NE TO SW N/S HIT FIRST
BT - NOT REQUESTED
V002 A 403 (POOR TURN OR MANOEUVRE) V002 A 601 (AGGRESSIVE DRIVING)
V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

50 0114XH39068 WED 17/09/14 19:47 DARK LONG LANE J/W THE LARCHES 26 LINK 129-152 507430 / 182900
POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT ZEBRA
V1 HIT PEDS ON CROSSING
CASUALTY 001 (001) (28 Yrs - F UB10) SERIOUS PEDESTRIAN CROSSING ROAD ON PED XING E BOUND FROM DRIVERS O/SIDE
CASUALTY 002 (001) (38 Yrs - F UB10) SLIGHT PEDESTRIAN CROSSING ROAD ON PED XING E BOUND FROM DRIVERS O/SIDE
VEHICLE 001 (000) CAR (30 Yrs - M UB10) GOING AHEAD OTHER N TO S JCT APP
BT - NEGATIVE FRONT HIT FIRST
V001 A 405 (FAILED TO LOOK PROPERLY) V001 A 307 (TRAVELLING TOO FAST FOR CONDITIONS)
V001 A 602 (CARELESS/RECKLESS/IN A HURRY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

51 0114XH30598 MON 22/09/14 11:07 LIGHT HIGH STREET J/W IVER LANE 26 NODE 93 505390 / 182280
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M
 V1 STRUCK BY PASSING V2

CASUALTY 001 (001) (92 Yrs - M UB7) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) PEDAL CYCLE (92 Yrs - M UB7) GOING AHEAD OTHER N TO S JCT APP
 BT - NOT APPLICABLE O/S HIT FIRST
 VEHICLE 002 (001) GDS =< 3.5T (26 Yrs - M TW3) OVERTAKE MOVE VEH O/S N TO S JCT APP
 BT - NOT REQUESTED N/S HIT FIRST

V002 A 407 (PASSING TOO CLOSE TO CYCLIST, HORSE RIDER OR PEDESTRIAN)

52 0114XH30589 THU 25/09/14 07:40 LIGHT OXFORD ROAD 50M NORTH J/W TRUMPER WAY 26 LINK 145-160 505330 / 184050
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M
 V1 CHANGED LANE HITTING V2

CASUALTY 001 (001) (35 Yrs - M UB7) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) PEDAL CYCLE (35 Yrs - M UB7) CHANGE LANE TO RIGHT S TO N
 BT - NOT APPLICABLE O/S HIT FIRST
 VEHICLE 002 (001) CAR (52 Yrs - M TW19) GOING AHEAD OTHER S TO N
 BT - NEGATIVE N/S HIT FIRST

V001 A 403 (POOR TURN OR MANOEUVRE)

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

53 0114XH30592 THU 25/09/14 15:24 LIGHT HARLINGTON ROAD 50M SOUTH J/W NICHOLLS AVENUE 26 LINK 103-128 507330 / 182290
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M ZEBRA

V2 HIT REAR V1

CASUALTY 001 (002) (21 Yrs - M WD3) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (51 Yrs - M UB7) SLOWING OR STOPPING S TO N
 BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 002 (001) M/C 50-125CC (21 Yrs - M WD3) GOING AHEAD OTHER S TO N
 BT - NOT REQUESTED FRONT HIT FIRST

V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

54 0114XH30637 MON 29/09/14 20:16 DARK HIGH STREET J/W STATION ROAD 26 NODE 92 505390 / 182350
 POLICE - OVER COU ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN AUTO SIG PEDN PHASE AT ATS
 ROADWORKS

V2 HIT V1 CAUSING PASSENGER IN V1 TO FALL

CASUALTY 001 (001) (? Yrs - F UNKN) SLIGHT PASSENGER SEATED ON PSV

VEHICLE 001 (002) BUS/COACH (59 Yrs - M UB4) MOVING OFF S TO N JNY PART OF WORK JCT MID
 BT - DRV NOT CONTACTED O/S HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - U UNKN) OVERTAKE MOVE VEH O/S S TO N JCT MID
 BT - DRV NOT CONTACTED N/S HIT FIRST

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

55 0114XH30602 TUE 30/09/14 19:58 DARK UXBRIDGE ROAD J/W LEES ROAD 26 NODE 131 507750 / 182400
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY T/STAG JUN AUTO SIG PEDN PHASE AT ATS
 V2 HIT REAR V1

CASUALTY 001 (001) (35 Yrs - M UB8) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (35 Yrs - M UB8) GOING AHEAD HELD UP SE TO NW JCT APP
 BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 002 (001) CAR (23 Yrs - F UB10) GOING AHEAD HELD UP SE TO NW JCT APP
 BT - DRV NOT CONTACTED FRONT HIT FIRST

V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

56 0114XH30683 WED 08/10/14 07:44 LIGHT HIGH STREET J/W IVER LANE 26 NODE 93 505400 / 182270

POLICE - AT SCENE ROAD-WET RAINING SINGLE CWY T/STAG JUN AUTO SIG PEDN PHASE AT ATS
 V2 TURNED RIGHT ACROSS PATH OF ONCOMING V1

CASUALTY 001 (001) (40 Yrs - M UB8) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (40 Yrs - M UB8) GOING AHEAD OTHER S TO N JNY PART OF WORK JCT MID
 BT - NOT REQUESTED O/S HIT FIRST

VEHICLE 002 (001) CAR (25 Yrs - M W13) TURNING RIGHT N TO W JCT MID
 BT - NOT REQUESTED O/S HIT FIRST

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 B 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V001 B 405 (FAILED TO LOOK PROPERLY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

57 0114XH30628 THU 09/10/14 16:10 LIGHT HARLINGTON ROAD 25M S OF J/W CONEY GROVE 26 LINK 103-128 507150 / 182760
 POLICE - AT SCENE ROAD-WET RAINING SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M

V2 BRAKED SHARPLEY DUE TO V1 STOPPING, V2 COLLIDED WITH V1,S REAR

CASUALTY 001 (002) (55 Yrs - M UB3) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (17 Yrs - M UB10) GOING AHEAD OTHER S TO N
 BT - NOT REQUESTED FRONT HIT FIRST

VEHICLE 002 (001) CAR (55 Yrs - M UB3) SLOWING OR STOPPING S TO N
 BT - NOT REQUESTED BACK HIT FIRST

V001 A 605 (INEXPERIENCED OR LEARNER DRIVER/RIDER)

V001 B 509 (DISTRACTION IN VEHICLE)

58 0114XH30651 FRI 17/10/14 23:20 DARK THE GREENWAY J/W ELTHORNE ROAD 26 LINK 123-124 505610 / 183110
 POLICE - AT SCENE ROAD-WET RAINING SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

V1 PULLED OUT TO TURN RIGHT ACROSS PATH OF V2

CASUALTY 001 (001) (22 Yrs - M UB3) SLIGHT DRIVER/RIDER

CASUALTY 002 (002) (30 Yrs - M SL) SLIGHT DRIVER/RIDER

CASUALTY 003 (002) (25 Yrs - M SL2) SLIGHT PASSENGER FRONT SEAT

VEHICLE 001 (002) CAR (22 Yrs - M UB3) TURNING RIGHT S TO E JCT MID
 BT - NEGATIVE O/S HIT FIRST

VEHICLE 002 (001) CAR (30 Yrs - M SL) GOING AHEAD OTHER E TO W JCT MID
 BT - NEGATIVE FRONT HIT FIRST

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

V001 A 405 (FAILED TO LOOK PROPERLY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

59 0114XH30678 SAT 25/10/14 05:47 DARK HARLINGTON ROAD J/W THE GREENWAY 26 NODE 124 506110 / 183170

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN AUTO SIG PEDN PHASE AT ATS

V1 CHANGED LANE TO RIGHT CUTTING ACROSS V2'S PATH, V2 COLLIDED CAUSING INJURY TO C1 AND C2

CASUALTY 001 (002) (23 Yrs - F UB8) SLIGHT PASSENGER SEATED ON PSV

CASUALTY 002 (002) (24 Yrs - M E6) SLIGHT PASSENGER SEATED ON PSV

VEHICLE 001 (002) CAR (25 Yrs - M E4) CHANGE LANE TO RIGHT NW TO SE JCT APP
BT - POSITIVE O/S HIT FIRST

VEHICLE 002 (001) BUS/COACH (64 Yrs - M UB7) GOING AHEAD OTHER NW TO SE JNY PART OF WORK JCT APP
BT - NEGATIVE N/S HIT FIRST

V002 A 408 (SUDDEN BRAKING) V001 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY) V001 A 403 (POOR TURN OR MANOEUVRE)

V001 A 501 (IMPAIRED BY ALCOHOL)

60 0114XH30673 TUE 28/10/14 13:33 LIGHT KINGSTON LANE 300M N OF J/W PIELD HEATH ROAD 26 LINK 99-126 506520 / 182390

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M PELICAN OR SIMILAR

V1 FILTERING ON OFFSIDE OF TRAFFIC AND COLLIDED WITH PED ON CROSSING

CASUALTY 001 (001) (25 Yrs - M SW6) SLIGHT DRIVER/RIDER

CASUALTY 002 (001) (20 Yrs - M UB8) SLIGHT PEDESTRIAN CROSSING ROAD ON PED XING E BOUND FROM DRIVERS N/SIDE MSK

VEHICLE 001 (000) M/C > 500CC (25 Yrs - M SW6) OVERTAKE STAT VEH O/S S TO N FRONT HIT FIRST
BT - NOT REQUESTED

V001 A 701 (VISION AFFECTED - STATIONARY OR PARKED VEHICLE(S)) V001 A 405 (FAILED TO LOOK PROPERLY)

C002 A 801 (CROSSED ROAD MASKED BY STATIONARY OR PARKED VEHICLE) C002 A 802 (FAILED TO LOOK PROPERLY)

C002 B 804 (WRONG USE OF PEDESTRIAN CROSSING FACILITY)


Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)	36 MTS TO JUL-2016 SORTED BY DATE
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61 0114XH30691 SAT 01/11/14 15:30 LIGHT NFL - PIELD HEATH RD 64M NORTH WEST OF J/W COLHAM GREEN RD	26 LINK 101-110	506940 / 181930
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POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY PRIV DRIVE GIVE WAY/UNCONT NO XING FACILITY IN 50M

V1 BRAKED SUDDENLY AND V2 BRAKED BEHIND. V3 HIT V2'S REAR, PUSHING V2 INTO V1.

CASUALTY 001 (001) (40 Yrs - M UB3) SLIGHT DRIVER/RIDER

CASUALTY 002 (003) (41 Yrs - M UB4) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) TAXI (40 Yrs - M UB3)	SLOWING OR STOPPING	SE TO NW JNY PART OF WORK	JCT MID
BT - NOT PROVD (MEDCL REASONS)		BACK HIT FIRST	

VEHICLE 002 (003) CAR (41 Yrs - M UB8)	SLOWING OR STOPPING	SE TO NW	JCT MID
BT - NOT REQUESTED		BACK HIT FIRST	

VEHICLE 003 (002) CAR (41 Yrs - M UB4)	GOING AHEAD OTHER	SE TO NW	JCT MID
BT - NOT REQUESTED		FRONT HIT FIRST	

V001 A 408 (SUDDEN BRAKING)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

V003 A 308 (FOLLOWING TOO CLOSE)

V003 A 405 (FAILED TO LOOK PROPERLY)

62 0114XH30690 SUN 02/11/14 17:45 DARK STATION RD J/W ORCHARD DRIVE	26 LINK 92-99	505640 / 182360
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POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

V1 LOST CONTROL AND FAILED TO LOOK AHEAD, COLLIDING WITH PARKED V2.

CASUALTY 001 (001) (16 Yrs - F UB8) SLIGHT PASSENGER FRONT SEAT

VEHICLE 001 (002) CAR (26 Yrs - M UB8)	GOING AHEAD OTHER	E TO W	JCT APP
BT - NEGATIVE		FRONT HIT FIRST	

HIT PARKED VEH

VEHICLE 002 (001) CAR (? Yrs - U PARKED)	PARKED	P TO P	JCT APP
BT - DRV NOT CONTACTED		BACK HIT FIRST	

V001 A 410 (LOSS OF CONTROL)

V001 A 405 (FAILED TO LOOK PROPERLY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

63 0114XH30687 MON 03/11/14 11:00 LIGHT HIGH STREET J/W STATION RD 26 NODE 92 505390 / 182350
 POLICE - AT SCENE ROAD-WET WEATHER-UNKNOWN SINGLE CWY T/STAG JUN GIVE WAY/UNCONT CENTRAL REFUGE
 AS V1 TURNED LEFT A PASSENGER THAT HAD FALLEN ASLEEP FELL FROM THEIR SEAT. - [C1 ASLEEP AS V1 TURNED & FELL FROM SEAT. (C001)]
 CASUALTY 001 (001) (46 Yrs - F TW13) SLIGHT PASSENGER SEATED ON PSV
 VEHICLE 001 (000) BUS/COACH (? Yrs - M HA4) TURNING LEFT N TO E JNY PART OF WORK LEAVING MAIN RD
 BT - NOT REQUESTED DID NOT IMPACT

C001 A 999 (OTHER FACTOR)

64 0114XH30712 SUN 09/11/14 22:02 DARK UXBRIDGE RD J/W VINE LANE 26 NODE 127 506900 / 182950
 POLICE - AT SCENE ROAD-WET RAINING DUAL CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M
 V1 LOST CONTROL ON WET RD OF A BEND AND COLLIDED WITH A LAMP POST.
 CASUALTY 001 (001) (23 Yrs - M TW5) SLIGHT DRIVER/RIDER
 CASUALTY 002 (001) (17 Yrs - F UB3) SLIGHT PASSENGER FRONT SEAT
 VEHICLE 001 (000) CAR (23 Yrs - M TW5) GOING AHEAD RIGHT BEND SW TO E JCT APP
 BT - NOT REQUESTED SKIDDED N/S HIT FIRST
 LEFT CWY NEARSIDE/REBOUND HIT LAMP POST
 V001 A 410 (LOSS OF CONTROL) V001 A 307 (TRAVELLING TOO FAST FOR CONDITIONS)
 V001 A 103 (SLIPPERY ROAD (DUE TO WEATHER)) V001 B 602 (CARELESS/RECKLESS/IN A HURRY)

65 0114XH30725 THU 13/11/14 18:19 DARK COWLEY RD J/W COWLEY RD SLIP RD 26 LINK 92-123 505350 / 182760
 POLICE - AT SCENE ROAD-WET WEATHER-UNKNOWN SINGLE CWY SLIP ROAD GIVE WAY/UNCONT NO XING FACILITY IN 50M
 V3 LOST CONTROL COLLIDING WITH REAR OF V2, PUSHING V2 INTO V1.
 CASUALTY 001 (002) (47 Yrs - F SL0) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) CAR (48 Yrs - M TW14) SLOWING OR STOPPING N TO S COMM TO/FROM WORK JCT MID
 BT - NOT REQUESTED BACK HIT FIRST
 VEHICLE 002 (003) CAR (47 Yrs - F SL0) SLOWING OR STOPPING N TO S JCT MID
 BT - NOT REQUESTED BACK HIT FIRST
 VEHICLE 003 (002) CAR (25 Yrs - F UB7) GOING AHEAD OTHER N TO S COMM TO/FROM WORK JCT MID
 BT - NOT REQUESTED FRONT HIT FIRST
 V003 A 410 (LOSS OF CONTROL) V003 A 308 (FOLLOWING TOO CLOSE)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

66 0114XH30890 THU 13/11/14 14:25 LIGHT NFL - PIELD HEATH RD 92M SOUTH EAST OF J/W ROYAL LANE 26 LINK 101-110 506810 / 182010
 POLICE - OVER COU ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M ZEBRA
 AS V1 BRAKED SUDDENLY C1 FELL DOWN BUS STAIRS.
 CASUALTY 001 (001) (4 Yrs - F UB10) SLIGHT PASSENGER STANDING ON PSV
 VEHICLE 001 (000) BUS/COACH (? Yrs - M UNKN) SLOWING OR STOPPING NW TO SE JNY PART OF WORK
 BT - DRV NOT CONTACTED DID NOT IMPACT

V001 A 408 (SUDDEN BRAKING)

67 0114XH30739 THU 20/11/14 18:35 DARK COWLEY RD J/W COWLEY MILL RD 26 NODE 122 505350 / 183190

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS
 V3 OVERTOOK V1 ON N/S, CAUSING COLLISION. V1 SWERVED & HIT ONCOMING V2. V2'S WHEEL ROLLED INTO STAT V4.
 CASUALTY 001 (001) (32 Yrs - M UB8) SLIGHT DRIVER/RIDER
 VEHICLE 001 (003) GDS =< 3.5T (32 Yrs - M UB8) GOING AHEAD OTHER N TO S JCT CLEARED
 BT - NOT REQUESTED N/S HIT FIRST
 VEHICLE 002 (001) CAR (47 Yrs - M WD17) GOING AHEAD OTHER S TO N JCT APP
 BT - NOT REQUESTED O/S HIT FIRST
 VEHICLE 003 (001) CAR (? Yrs - U UNKN) OVERTAKING NEARSIDE N TO S JCT CLEARED
 BT - DRV NOT CONTACTED O/S HIT FIRST
 VEHICLE 004 (002) CAR (33 Yrs - M UB7) GOING AHEAD HELD UP S TO N JCT APP
 BT - NOT REQUESTED FRONT HIT FIRST

V001 A 409 (SWERVED)

V003 A 403 (POOR TURN OR MANOEUVRE)

V003 A 602 (CARELESS/RECKLESS/IN A HURRY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

68 0114XH30786 SAT 29/11/14 13:00 LIGHT UXBRIDGE RD J/W HARLINGTON RD 26 NODE 128 507150 / 182830

POLICE - AT SCENE ROAD-WET WEATHER-FINE DUAL CWY T/STAG JUN AUTO SIG PEDN PHASE AT ATS

V1 CAME TO A STOP. V2 COLLIDED WITH V1'S REAR.

CASUALTY 001 (001) (19 Yrs - M HA4) SLIGHT DRIVER/RIDER

CASUALTY 002 (001) (16 Yrs - M HA4) SLIGHT PASSENGER

VEHICLE 001 (002) M/C 125-500CC (19 Yrs - M HA4) GOING AHEAD HELD UP SE TO NW JCT APP
BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 002 (001) CAR (41 Yrs - M TW3) SLOWING OR STOPPING SE TO NW JCT APP
BT - NOT REQUESTED FRONT HIT FIRST

V002 A 308 (FOLLOWING TOO CLOSE)

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 307 (TRAVELLING TOO FAST FOR CONDITIONS)

69 0114XH30835 WED 10/12/14 18:10 DARK COWLEY ROAD, J/W WELLINGTON ROAD 26 LINK 122-142 505390 / 183810

POLICE - AT SCENE ROAD-WET WEATHER-OTHER SINGLE CWY PRIV DRIVE GIVE WAY/UNCONT NO XING FACILITY IN 50M

C1 & C2 CLAIM V1 HIT C2 & RAN OVER FOOT OF C1 AS V1 EXITED CAR PARK, V1 STATES THIS IS FALSE, RO ALSO BELIEVES FALSE - [POSSIBLE FALSE CLAIM (C001) - POSSIBLE FALSE CLAIM (C002)]

CASUALTY 001 (001) (34 Yrs - M UB7) SLIGHT PEDESTRIAN ON FOOTPATH - VERGE N BOUND

CASUALTY 002 (001) (49 Yrs - F UB8) SLIGHT PEDESTRIAN ON FOOTPATH - VERGE N BOUND

VEHICLE 001 (000) CAR (58 Yrs - F UB8) WAITING TO TURN LEFT E TO S COMM TO/FROM WORK JCT MID
BT - NOT REQUESTED N/S HIT FIRST

FOOTWAY

V001 B 405 (FAILED TO LOOK PROPERLY)

C001 B 802 (FAILED TO LOOK PROPERLY)

C002 B 802 (FAILED TO LOOK PROPERLY)

C001 B 999 (OTHER FACTOR)

C002 B 999 (OTHER FACTOR)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

70 0114XH30852 WED 17/12/14 19:49 DARK LEES ROAD J/W BARTRAM CLOSE 26 LINK 103-131 507620 / 182150
 POLICE - AT SCENE ROAD-WET RAINING SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

V1 HIT REAR OF V2, PUSHING IT INTO REAR OF V3

CASUALTY 001 (002) (19 Yrs - M UB7) SLIGHT DRIVER/RIDER

CASUALTY 002 (002) (17 Yrs - F UB10) SLIGHT PASSENGER FRONT SEAT

CASUALTY 003 (002) (17 Yrs - F HA4) SLIGHT PASSENGER BACK SEAT

VEHICLE 001 (002) CAR (38 Yrs - M TW15) GOING AHEAD OTHER S TO N JCT APP
 BT - NOT REQUESTED SKIDDED FRONT HIT FIRST

VEHICLE 002 (001) CAR (19 Yrs - M UB7) SLOWING OR STOPPING S TO N JCT APP
 BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 003 (002) CAR (57 Yrs - F UNKN) GOING AHEAD HELD UP S TO N JCT APP
 BT - DRV NOT CONTACTED BACK HIT FIRST

V001 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

71 0114XH30869 THU 25/12/14 01:43 DARK UXBRIDGE ROAD J/W LEES ROAD 26 NODE 131 507750 / 182400

POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY T/STAG JUN AUTO SIG PEDN PHASE AT ATS

V1 TURNED RIGHT ACROSS PATH V2

CASUALTY 001 (001) (? Yrs - M UNKN) SLIGHT PASSENGER FRONT SEAT

CASUALTY 002 (002) (24 Yrs - F UB10) SLIGHT PASSENGER FRONT SEAT

VEHICLE 001 (002) CAR (24 Yrs - M W4) TURNING RIGHT NW TO S JCT MID
 BT - POSITIVE FRONT HIT FIRST

VEHICLE 002 (001) CAR (56 Yrs - F UB10) GOING AHEAD OTHER SE TO NW JCT MID
 BT - NEGATIVE O/S HIT FIRST

V001 A 501 (IMPAIRED BY ALCOHOL)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)											36 MTS TO JUL-2016 SORTED BY DATE	
72	0114XH30872	SUN 28/12/14 15:50	LIGHT	UXBRIDGE RD J/W LEES RD	26	NODE 131						507750 / 182400
POLICE - AT SCENE ROAD-DRY			WEATHER-FINE	DUAL CWY	T/STAG JUN	AUTO SIG	NO XING FACILITY IN 50M					
V1 TURNED RIGHT ACROSS PATH OF ONCOMING V2, CAUSING COLLISION.												
CASUALTY	001 (001)	(62 Yrs - M UB8)	SLIGHT	DRIVER/RIDER								
CASUALTY	002 (002)	(21 Yrs - F UB10)	SLIGHT	DRIVER/RIDER								
CASUALTY	003 (002)	(31 Yrs - M UB7)	SLIGHT	PASSENGER			FRONT SEAT					
CASUALTY	004 (002)	(4 Yrs - F UB10)	SLIGHT	PASSENGER			BACK SEAT					
VEHICLE	001 (002)	CAR	(62 Yrs - M UB8)	TURNING RIGHT			NW TO S		LEAVING MAIN RD			
				BT - NOT REQUESTED			N/S HIT FIRST					
VEHICLE	002 (001)	CAR	(21 Yrs - F UB10)	GOING AHEAD OTHER			SE TO NW		JCT MID			
				BT - NOT REQUESTED			FRONT HIT FIRST					
V001 A 403 (POOR TURN OR MANOEUVRE)						V001 A 405 (FAILED TO LOOK PROPERLY)						
V001 A 301 (DISOBEYED AUTOMATIC TRAFFIC SIGNAL)												
73	0115XH30299	TUE 06/01/15 18:15	DARK	COWLEY ROAD, J/W WELLINGTON ROAD	26	LINK 122-142						505390 / 183830
POLICE - AT SCENE ROAD-WET			WEATHER-FINE	SINGLE CWY	T/STAG JUN	GIVE WAY/UNCONT	NO XING FACILITY IN 50M					
C1 HAS CROSSED ROAD, HESITATED & TRIED TO RUN IN FRONT OF V1 & WAS HIT, C1 STATES HE MIS-JUDGED SPEED OF V1												
CASUALTY	001 (001)	(40 Yrs - M UB8)	SLIGHT	PEDESTRIAN		CROSSING ROAD (NOT ON XING)		E BOUND		FROM DRIVERS O/SIDE		
VEHICLE	001 (000)	CAR	(29 Yrs - M UB8)	GOING AHEAD OTHER			N TO S		JCT CLEARED			
				BT - NOT REQUESTED			O/S HIT FIRST					
C001 A 803 (FAILED TO JUDGE VEHICLE'S PATH OR SPEED)						C001 A 808 (CARELESS/RECKLESS/IN A HURRY)						
74	0115XH30312	TUE 06/01/15 08:20	LIGHT	FIELD HEATH RD J/W MICAWBER AVENUE	26	LINK 101-103						507230 / 181870
POLICE - OVER COU ROAD-DRY			WEATHER-FINE	SINGLE CWY	T/STAG JUN	GIVE WAY/UNCONT	ZEBRA					
V1 MOVED OFF COLLIDING WITH PED ON ZEBRA CROSSING.												
CASUALTY	001 (001)	(15 Yrs - M UB8)	SLIGHT	PEDESTRIAN		CROSSING ROAD ON PED XING		UNKNOWN				
				JOURNEY TO/FROM SCHOOL			Sch Attended : STOCKLEY ACADEMY					
VEHICLE	001 (000)	CAR	(45 Yrs - F SL3)	MOVING OFF			E TO W		COMM TO/FROM WORK		JCT APP	
				BT - DRV NOT CONTACTED			FRONT HIT FIRST					
V001 A 402 (JUNCTION RESTART)						V001 A 405 (FAILED TO LOOK PROPERLY)						
V001 A 407 (PASSING TOO CLOSE TO CYCLIST, HORSE RIDER OR PEDESTRIAN)												
						C001 A 803 (FAILED TO JUDGE VEHICLE'S PATH OR SPEED)						



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

75 0115XH30004 MON 12/01/15 16:56 LIGHT HARLINGTON RD J/W SOUTHFIELD CLOSE 26 LINK 103-128 507270 / 182440
 POLICE - AT SCENE ROAD-WET RAINING/HIGH WINDS SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M
 V2 MOVED OFF INTO PATH OF V1, CAUSING COLLISION.

CASUALTY 001 (001) (56 Yrs - M UB10) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) M/C > 500CC (56 Yrs - M UB10) GOING AHEAD OTHER NW TO SE JCT MID
 BT - NOT REQUESTED FRONT HIT FIRST

VEHICLE 002 (001) CAR (26 Yrs - F UB7) MOVING OFF NE TO SW COMM TO/FROM WORK ENTERING MAIN RD
 BT - NOT REQUESTED O/S HIT FIRST

V002 A 405 (FAILED TO LOOK PROPERLY) V002 A 302 (DISOBEYED GIVE WAY OR STOP SIGN OR MARKINGS)
 V002 A 402 (JUNCTION RESTART)

76 0115XH30033 THU 15/01/15 17:24 LIGHT HIGH STREET 25M SOUTH OF J/W BARCHESTER CLOSE 26 LINK 92-123 505370 / 182450
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M
 V1 MOUNTED THE PAVEMENT RUNNING OVER PED.

CASUALTY 001 (001) (39 Yrs - M UNKN) SLIGHT PEDESTRIAN ON FOOTPATH - VERGE UNKNOWN

VEHICLE 001 (000) CAR (? Yrs - F UNKN) MOVING OFF S TO N FRONT HIT FIRST

FOOTWAY

V001 A 403 (POOR TURN OR MANOEUVRE) V001 A 309 (VEHICLE TRAVELLING ALONG PAVEMENT)
 V001 A 601 (AGGRESSIVE DRIVING) C001 B 808 (CARELESS/RECKLESS/IN A HURRY)

77 0115XH30039 FRI 23/01/15 10:05 LIGHT CROSS STREET J/W WINDSOR STREET 26 LINK 140-145 505420 / 183990
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY OTHER JUN AUTO SIG PEDN PHASE AT ATS
 V1 OVERSHOT THE JUNCTION, COLLIDING WITH V2 (MOBILITY SCOOTER) ON CROSSING.

CASUALTY 001 (002) (72 Yrs - F UB8) SERIOUS DRIVER/RIDER

VEHICLE 001 (002) CAR (41 Yrs - F UB8) GOING AHEAD OTHER NW TO SE JCT APP
 BT - NEGATIVE FRONT HIT FIRST

VEHICLE 002 (001) OTH MOT VEH (72 Yrs - F UB8) GOING AHEAD OTHER SW TO NE JCT APP
 BT - NOT REQUESTED N/S HIT FIRST

V001 A 401 (JUNCTION OVERSHOOT) V001 A 701 (VISION AFFECTED - STATIONARY OR PARKED VEHICLE(S))
 V001 A 405 (FAILED TO LOOK PROPERLY) V001 A 304 (DISOBEYED PEDESTRIAN CROSSING FACILITY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

78 0115XH30044 FRI 23/01/15 19:00 DARK HILLINGDON HILL 30M SOUTH EAST OF J/W KINGSTON LANE 26 LINK 89-126 506300 / 182980

POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M

V2 OVERTOOK BETWEEN 2 MOTORBIKES. V1 MOVED OVER TO AVOID V2, CLIPPING THE KERB AND HITTING A TREE.

CASUALTY 001 (001) (17 Yrs - M UB4) SLIGHT DRIVER/RIDER

VEHICLE 001 (000) M/C 50-125CC (17 Yrs - M UB4) GOING AHEAD OTHER NW TO SE
BT - NOT REQUESTED FRONT HIT FIRST

LEFT CWY ONTO CENTRAL RES HIT KERB HIT TREE

VEHICLE 002 (000) CAR (? Yrs - U UNKN) OVERTAKING NEARSIDE NW TO SE
BT - DRV NOT CONTACTED DID NOT IMPACT

V002 A 403 (POOR TURN OR MANOEUVRE)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

V002 A 601 (AGGRESSIVE DRIVING)

V001 B 603 (NERVOUS/UNCERTAIN/ PANIC)

79 0115XH30117 THU 29/01/15 23:16 DARK HIGH STREET SLIP RD 45M SOUTH OF J/W HIGH STREET 26 CELL 505000/182000 505408 / 182369

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SLIP RD NO JUN IN 20M NO XING FACILITY IN 50M

V1 AND V2 COLLIDED HEAD ON ON A BEND.

CASUALTY 001 (002) (19 Yrs - M UB8) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (20 Yrs - M SM1) GOING AHEAD RIGHT BEND E TO N
BT - NOT REQUESTED FRONT HIT FIRST

VEHICLE 002 (001) PEDAL CYCLE (19 Yrs - M UB8) GOING AHEAD LEFT BEND N TO E
BT - NOT APPLICABLE FRONT HIT FIRST

V002 B 507 (CYCLIST WEARING DARK CLOTHING AT NIGHT)

V001 B 703 (VISION AFFECTED - ROAD LAYOUT (EG. BEND, WINDING ROAD, HILL CREST))

V002 B 703 (VISION AFFECTED - ROAD LAYOUT (EG. BEND, WINDING ROAD, HILL CREST))



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)										36 MTS TO JUL-2016 SORTED BY DATE	
80	0115XH30053	FRI 30/01/15 23:00	DARK	HILLINGDON RD J/W HIGH STREET	26	NODE 147				505920 / 183810	
POLICE - AT SCENE ROAD-WET SNOWING DUAL CWY ROUNDABOUT GIVE WAY/UNCONT FOOTBRIDGE OR SUBWAY											
INTOXICATED V1 MOUNTED THE RESERVATION, COLLIDING WITH A LAMP POST.											
CASUALTY 001 (001) (25 Yrs - F UB4) SLIGHT DRIVER/RIDER											
CASUALTY 002 (001) (29 Yrs - F UB8) SLIGHT PASSENGER FRONT SEAT											
VEHICLE 001 (000) CAR (25 Yrs - F UB4) TURNING LEFT SW TO N JCT APP											
BT - POSITIVE FRONT HIT FIRST											
LEFT CWY ONTO CENTRAL RES HIT KERB HIT LAMP POST											
V001 A 306 (EXCEEDING SPEED LIMIT)						V001 A 403 (POOR TURN OR MANOEUVRE)					
V001 A 501 (IMPAIRED BY ALCOHOL)						V001 A 602 (CARELESS/RECKLESS/IN A HURRY)					
81	0115XH30058	FRI 30/01/15 21:15	DARK	COWLEY RD 52M N OF COWLEY RD	26	LINK 92-123				505350 / 182890	
POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M											
V2 TURNED RIGHT AND GOT HIT BY V1											
CASUALTY 001 (001) (41 Yrs - M UB8) SLIGHT DRIVER/RIDER											
VEHICLE 001 (002) M/C 50-125CC (41 Yrs - M UB8) GOING AHEAD OTHER S TO N											
BT - NEGATIVE FRONT HIT FIRST											
VEHICLE 002 (001) GDS =< 3.5T (23 Yrs - M UB7) TURNING RIGHT N TO W JNY PART OF WORK											
BT - NEGATIVE N/S HIT FIRST											
V002 A 405 (FAILED TO LOOK PROPERLY)						V002 A 403 (POOR TURN OR MANOEUVRE)					
82	0115XH30052	MON 02/02/15 09:23	LIGHT	UXBRIDGE RD J/W VINE LANE	26	NODE 127				506920 / 182940	
POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M											
V1 MOVED OFF INTO PATH OF V2, CAUSING COLLISION.											
CASUALTY 001 (002) (35 Yrs - F UB10) SLIGHT DRIVER/RIDER											
VEHICLE 001 (002) CAR (55 Yrs - M UB10) MOVING OFF N TO S ENTERING MAIN RD											
BT - NEGATIVE FRONT HIT FIRST											
VEHICLE 002 (001) PEDAL CYCLE (35 Yrs - F UB10) GOING AHEAD OTHER E TO W JCT MID											
BT - NOT APPLICABLE O/S HIT FIRST											
V001 A 402 (JUNCTION RESTART)						V001 A 405 (FAILED TO LOOK PROPERLY)					
V002 B 310 (CYCLIST ENTERING ROAD FROM PAVEMENT)											



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)							36 MTS TO JUL-2016 SORTED BY DATE		
83	0115XH30197	TUE 03/02/15 00:30	DARK	COWLEY RD J/W TRUMPER WAY	26	NODE 142	505410 / 183880		
POLICE - AT SCENE ROAD-WET SNOWING ROUNDABOUT ROUNDABOUT AUTO SIG NO XING FACILITY IN 50M									
V1 LOOKING FOR SOMEONE FOLLOWING BEHIND. V1 HIT N/S BARRIER.									
CASUALTY 001 (001) (22 Yrs - M UB7) SLIGHT DRIVER/RIDER									
VEHICLE	001 (000)	CAR	(22 Yrs - M UB7)	GOING AHEAD OTHER	NE TO SW	JCT MID			
				BT - NOT REQUESTED	FRONT HIT FIRST				
				LEFT CWY NEARSIDE	HIT NR/OFF BAR				
V001	A	410 (LOSS OF CONTROL)					V001	A	405 (FAILED TO LOOK PROPERLY)
V001	A	602 (CARELESS/RECKLESS/IN A HURRY)							
84	0115XH30067	THU 05/02/15 19:55	DARK	COWLEY ROAD J/W THE GREENWAY	26	NODE 123	505340 / 183100		
POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M									
V2 TURNED RIGHT INTO THE PATH OF V1									
CASUALTY 001 (001) (45 Yrs - M E6) SLIGHT DRIVER/RIDER									
VEHICLE	001 (002)	M/C > 500CC	(45 Yrs - M E6)	GOING AHEAD OTHER	N TO S	JCT MID			
				BT - NOT REQUESTED	FRONT HIT FIRST				
VEHICLE	002 (001)	CAR	(24 Yrs - M SL2)	TURNING RIGHT	E TO N	ENTERING MAIN RD			
				BT - NOT REQUESTED	O/S HIT FIRST				
V002	A	302 (DISOBEYED GIVE WAY OR STOP SIGN OR MARKINGS)					V002	A	403 (POOR TURN OR MANOEUVRE)
V002	A	405 (FAILED TO LOOK PROPERLY)							
85	0115XH30116	TUE 10/02/15 13:10	LIGHT	UXBRIDGE RD 27M SOUTH EAST OF J/W DENZILOE AVENUE	26	LINK 129-131	507600 / 182530		
POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY PRIV DRIVE GIVE WAY/UNCONT PELICAN OR SIMILAR									
V2 RODE FROM PAVEMENT INTO PATH OF V1 WHO WAS ENTERING THE MAIN RD FROM A PRIVATE EXIT, CAUSING COLLISION.									
CASUALTY 001 (002) (36 Yrs - M UB10) SLIGHT DRIVER/RIDER									
VEHICLE	001 (002)	CAR	(33 Yrs - F HA4)	GOING AHEAD OTHER	SW TO NE	ENTERING MAIN RD			
				BT - NOT REQUESTED	TAKING PUPIL TO/FROM SC				
					N/S HIT FIRST				
VEHICLE	002 (001)	PEDAL CYCLE	(36 Yrs - M UB10)	GOING AHEAD OTHER	NW TO SE	ENTERING MAIN RD			
				BT - NOT APPLICABLE	COMM TO/FROM WORK				
					FRONT HIT FIRST				
V002	A	310 (CYCLIST ENTERING ROAD FROM PAVEMENT)					V002	A	405 (FAILED TO LOOK PROPERLY)
V001	A	405 (FAILED TO LOOK PROPERLY)							



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)							36 MTS TO JUL-2016 SORTED BY DATE	
86	0115XH30088	SUN 15/02/15 07:03	LIGHT	HILLINGDON RD J/W HILLINGDON RD	26	NODE 147	505960 / 183820	
POLICE - AT SCENE ROAD-DRY			WEATHER-FINE	ROUNDAABOUT ROUNDAABOUT	GIVE WAY/UNCONT NO XING FACILITY IN 50M			
V1 ENTERED THE ROUNDAABOUT THAT V2 WAS ON, CAUSING COLLISION.								
CASUALTY 001 (002) (43 Yrs - M UB6)			SLIGHT	DRIVER/RIDER				
VEHICLE	001 (002)	CAR	(? Yrs - M UB10)	TURNING LEFT	SE TO W	JCT MID		
BT - DRV NOT CONTACTED			O/S HIT FIRST					
VEHICLE	002 (001)	PEDAL CYCLE	(43 Yrs - M UB6)	GOING AHEAD RIGHT BEND	NE TO W	JCT MID		
BT - NOT APPLICABLE			FRONT HIT FIRST					
V001 A 403 (POOR TURN OR MANOEUVRE)				V001 A 401 (JUNCTION OVERSHOOT)				
V001 A 302 (DISOBEYED GIVE WAY OR STOP SIGN OR MARKINGS)				V001 A 405 (FAILED TO LOOK PROPERLY)				
87	0115XH30087	TUE 17/02/15 15:40	LIGHT	COWLEY RD J/W FERNDALE CRESCENT	26	LINK 92-123	505340 / 182800	
POLICE - AT SCENE ROAD-DRY			WEATHER-FINE	SINGLE CWY T/STAG JUN	GIVE WAY/UNCONT NO XING FACILITY IN 50M			
PED RAN INTO PATH OF V1, CAUSING COLLISION.								
CASUALTY 001 (001) (8 Yrs - M UB8)			SLIGHT	PEDESTRIAN	CROSSING ROAD (NOT ON XING)	W BOUND	FROM DRIVERS N/SIDE	
VEHICLE	001 (000)	GDS =< 3.5T	(48 Yrs - M N9)	SLOWING OR STOPPING	N TO S	JNY PART OF WORK	JCT CLEARED	
BT - NOT REQUESTED			BACK HIT FIRST					
C001 A 802 (FAILED TO LOOK PROPERLY)				C001 A 808 (CARELESS/RECKLESS/IN A HURRY)				
C001 A 803 (FAILED TO JUDGE VEHICLE'S PATH OR SPEED)								
88	0115XH30099	FRI 20/02/15 17:30	DARK	THE GREENWAY J/W WHITEHALL RD	26	LINK 123-124	505780 / 183120	
POLICE - AT SCENE ROAD-DRY			WEATHER-FINE	SINGLE CWY CROSSROADS	GIVE WAY/UNCONT ZEBRA			
V1 AND V2 COLLIDED AT A CROSSROADS.								
CASUALTY 001 (002) (24 Yrs - M SL2)			SLIGHT	DRIVER/RIDER				
VEHICLE	001 (002)	GDS =< 3.5T	(29 Yrs - M UB8)	MOVING OFF	N TO S	JCT MID		
BT - NOT REQUESTED			FRONT HIT FIRST					
VEHICLE	002 (001)	M/C 50-125CC	(24 Yrs - M SL2)	MOVING OFF	E TO W	JCT MID		
BT - NOT REQUESTED			O/S HIT FIRST					
LEFT CWY NEARSIDE								
V001 A 402 (JUNCTION RESTART)				V002 A 402 (JUNCTION RESTART)				
V001 A 405 (FAILED TO LOOK PROPERLY)				V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)				



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

89 0115XH30132 TUE 03/03/15 10:40 LIGHT HARLINGTON ROAD J/W ST MARGARETS AVENUE 26 LINK 103-128 507390 / 182190
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M
 DRIVER V1 LOST CONTROL

CASUALTY 001 (001) (20 Yrs - M UB10) SLIGHT DRIVER/RIDER
 VEHICLE 001 (000) CAR (20 Yrs - M UB10) GOING AHEAD OTHER N TO S JCT CLEARED
 BT - NOT REQUESTED OVERTURN FRONT HIT FIRST
 HIT PARKED VEH

V001 A 410 (LOSS OF CONTROL) V001 A 510 (DISTRACTION OUTSIDE VEHICLE)
 V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

90 0115XH30152 THU 12/03/15 08:05 LIGHT COWLEY ROAD, J/W COWLEY MILL ROAD 26 NODE 122 505350 / 183210
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS
 IT APPEARS V2 HAS RAN A RED ATS & HIT V1 AS V1 TURNED RIGHT AT JCN

CASUALTY 001 (001) (27 Yrs - M UB10) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) CAR (27 Yrs - M UB10) TURNING RIGHT N TO W COMM TO/FROM WORK JCT MID
 BT - NOT REQUESTED FRONT HIT FIRST

VEHICLE 002 (001) CAR (42 Yrs - F UB8) GOING AHEAD OTHER S TO N COMM TO/FROM WORK JCT MID
 BT - NOT REQUESTED O/S HIT FIRST

V002 A 301 (DISOBEYED AUTOMATIC TRAFFIC SIGNAL) V002 A 405 (FAILED TO LOOK PROPERLY)
 V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

91 0115XH30157 FRI 13/03/15 14:00 LIGHT LONG LANE J/W LONG LANE 26 LINK 129-152 507430 / 182900
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT ZEBRA
 DRIVER V2 APPLIED ACCELERATOR INSTEAD OF BRAKE AND HIT V1 PUSHING V1 INTO PED

CASUALTY 001 (001) (93 Yrs - F UB10) SLIGHT PASSENGER BACK SEAT
 CASUALTY 002 (001) (18 Yrs - F UB8) SLIGHT PEDESTRIAN CROSSING ROAD ON PED XING E BOUND FROM DRIVERS O/SIDE
 VEHICLE 001 (002) CAR (67 Yrs - F UB4) GOING AHEAD HELD UP N TO S JCT APP
 BT - NEGATIVE BACK HIT FIRST

VEHICLE 002 (001) CAR (52 Yrs - M UB4) GOING AHEAD OTHER N TO S JCT APP
 BT - NEGATIVE FRONT HIT FIRST

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

92 0115XH30168 WED 18/03/15 10:15 LIGHT LEES RD J/W BARTRAM CLOSE 26 LINK 103-131 507640 / 182180
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M
 V1 DRIFTED INTO PATH OF ONCOMING V2, CAUSING COLLISION.

CASUALTY 001 (002) (51 Yrs - M UB3) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) CAR (59 Yrs - M UB10) GOING AHEAD OTHER SW TO NE JCT CLEARED
 BT - NEGATIVE N/S HIT FIRST

VEHICLE 002 (001) GDS =< 3.5T (51 Yrs - M UB3) GOING AHEAD OTHER NE TO SW JNY PART OF WORK JCT APP
 BT - NEGATIVE N/S HIT FIRST

V001 A 403 (POOR TURN OR MANOEUVRE) V001 A 405 (FAILED TO LOOK PROPERLY)
 V001 A 503 (FATIGUE) V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

93 0115XH30175 FRI 20/03/15 17:10 LIGHT UXBRIDGE ROAD J/W THE CROSSWAY 26 LINK 89-126 506750 / 182920

POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY CROSSROADS GIVE WAY/UNCONT NO XING FACILITY IN 50M
 VEHICLES 1 AND 2 COLLIDED AT JUNCTION

CASUALTY 001 (002) (39 Yrs - M HA3) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) GDS 3.5-7.5T (39 Yrs - M NW2) U-TURNING E TO E JNY PART OF WORK JCT MID
 BT - NOT REQUESTED N/S HIT FIRST

VEHICLE 002 (001) CAR (39 Yrs - M HA3) TURNING RIGHT E TO N JCT MID
 BT - NOT REQUESTED O/S HIT FIRST

V001 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED) V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

94 0115XH30255 TUE 21/04/15 16:02 LIGHT HIGH STREET, 52M SW OF J/W DELLFIELD CRESCENT 26 LINK 93-96 505430 / 182110
 POLICE - AT SCENE ROAD-DRY WEATHER-OTHER SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M
 V1 FAILED TO NOTICE STOPPED TRAFFIC & HIT REAR OF V2, PUSHING V2 INTO V3 & V3 INTO V4

CASUALTY 001 (001) (26 Yrs - M UB5) SLIGHT DRIVER/RIDER
 CASUALTY 002 (002) (44 Yrs - F UB8) SLIGHT DRIVER/RIDER
 CASUALTY 003 (003) (48 Yrs - M LU3) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (26 Yrs - M UB5) GOING AHEAD OTHER SW TO NE
 BT - NOT REQUESTED FRONT HIT FIRST

VEHICLE 002 (001) CAR (44 Yrs - F UB8) GOING AHEAD HELD UP SW TO NE
 BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 003 (002) CAR (48 Yrs - M LU3) GOING AHEAD HELD UP SW TO NE
 BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 004 (003) CAR (40 Yrs - F HA4) GOING AHEAD HELD UP SW TO NE
 BT - NOT REQUESTED BACK HIT FIRST

V001 A 405 (FAILED TO LOOK PROPERLY) V001 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)
 V001 B 308 (FOLLOWING TOO CLOSE) V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

95 0115XH30497 FRI 01/05/15 11:00 LIGHT NFL PARK VIEW ROAD J/W COLHAM GREEN ROAD 26 NODE 77 507270 / 181280

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT CENTRAL REFUGE
 PED CROSSED ROAD INTO PATH OF V1

CASUALTY 001 (001) (12 Yrs - M UB7) SLIGHT PEDESTRIAN CROSSING ROAD (NOT ON XING) N BOUND FROM DRIVERS N/SIDE
 JOURNEY TO/FROM SCHOOL Sch Attended : STOCKLEY ACADEMY

VEHICLE 001 (000) CAR (? Yrs - U UNKN) GOING AHEAD LEFT BEND NE TO S JCT CLEARED
 BT - DRV NOT CONTACTED N/S HIT FIRST

C001 A 803 (FAILED TO JUDGE VEHICLE'S PATH OR SPEED) V001 B 602 (CARELESS/RECKLESS/IN A HURRY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

96 0115XH30304 WED 06/05/15 21:50 DARK HILLINGDON HILL J/W KINGSTON LANE 26 NODE 126 506270 / 182980
 POLICE - AT SCENE ROAD-WET WEATHER-OTHER DUAL CWY T/STAG JUN AUTO SIG PEDN PHASE AT ATS
 VEHICLES 1 AND 2 COLLIDED AT JUNCTION

CASUALTY 001 (002) (22 Yrs - M IG9) SLIGHT DRIVER/RIDER
 CASUALTY 002 (002) (19 Yrs - M UB8) SLIGHT PASSENGER FRONT SEAT
 VEHICLE 001 (002) CAR (43 Yrs - M SL1) GOING AHEAD OTHER SE TO NW JCT MID
 BT - NEGATIVE FRONT HIT FIRST
 VEHICLE 002 (001) CAR (22 Yrs - M IG9) TURNING RIGHT NW TO S JCT MID
 BT - NOT REQUESTED N/S HIT FIRST

V001 B 301 (DISOBEYED AUTOMATIC TRAFFIC SIGNAL) V002 B 301 (DISOBEYED AUTOMATIC TRAFFIC SIGNAL)

97 0115XH30315 SUN 10/05/15 10:20 LIGHT NFL STATION ROAD J/W ISAMBARD CLOSE 26 LINK 92-99 505530 / 182360
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M
 DRIVER V1 LOST CONTROL

CASUALTY 001 (001) (18 Yrs - F UB10) SLIGHT DRIVER/RIDER
 VEHICLE 001 (000) CAR (18 Yrs - F UB10) GOING AHEAD OTHER W TO E JCT CLEARED
 BT - NEGATIVE N/S HIT FIRST
 HIT PARKED VEH

V001 A 410 (LOSS OF CONTROL)

98 0115XH30330 THU 14/05/15 13:30 LIGHT PEACHEY LANE 84M NORTH J/W IVANHOE CLOSE 26 CELL 505500/181500 505780 / 181890
 POLICE - AT SCENE ROAD-WET RAINING SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M
 VEHICLES 1 AND 2 COLLIDED AT BEND IN ROAD

CASUALTY 001 (001) (57 Yrs - F UB10) SERIOUS DRIVER/RIDER
 CASUALTY 002 (002) (32 Yrs - F UB8) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) CAR (57 Yrs - F UB10) GOING AHEAD RIGHT BEND S TO NE FRONT HIT FIRST
 BT - NOT REQUESTED
 VEHICLE 002 (001) CAR (32 Yrs - F UB8) GOING AHEAD LEFT BEND NE TO S FRONT HIT FIRST
 BT - NOT REQUESTED

V001 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED) V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)	36 MTS TO JUL-2016 SORTED BY DATE
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99 0115XH30325 SAT 16/05/15 13:50 LIGHT HIGH STREET J/W STATION ROAD	26 NODE 92	505390 / 182350
POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M		
V1 TURNED RIGHT ACROSS PATH V2		

CASUALTY 001 (002) (19 Yrs - M SW11) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (35 Yrs - M UB8)	TURNING RIGHT	E TO N	JCT MID
BT - NOT REQUESTED		FRONT HIT FIRST	

VEHICLE 002 (001) M/C 50-125CC (19 Yrs - M SW11)	GOING AHEAD OTHER	N TO S	JCT MID
BT - NOT REQUESTED		N/S HIT FIRST	

V001 B 701 (VISION AFFECTED - STATIONARY OR PARKED VEHICLE(S))

V001 B 405 (FAILED TO LOOK PROPERLY)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

100 0115XH30345 SAT 23/05/15 19:25 LIGHT NFL HILLINGDON ROAD J/W THE GREENWAY	26 NODE 124	506110 / 183170
POLICE - OVER COU ROAD-DRY WEATHER-FINE DUAL CWY T/STAG JUN AUTO SIG PEDN PHASE AT ATS		
PASSENGER FELL DOWN STAIRS OF V1 AS V1 ACCELERATED		

CASUALTY 001 (001) (37 Yrs - F UB8) SLIGHT PASSENGER STANDING ON PSV

VEHICLE 001 (000) BUS/COACH (? Yrs - M UNKN)	MOVING OFF	S TO N	JNY PART OF WORK	JCT CLEARED
BT - DRV NOT CONTACTED		DID NOT IMPACT		

V001 B 602 (CARELESS/RECKLESS/IN A HURRY)

101 0115XH30363 WED 03/06/15 16:09 LIGHT ROYAL LANE J/W BRADSHAWE WAYE	26 LINK 74-110	506640 / 181860
POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY MINI GIVE WAY/UNCONT ZEBRA		
PED STEPPED INTO PATH OF V1, CAUSING COLLISION.		

CASUALTY 001 (001) (14 Yrs - M UB8) SLIGHT PEDESTRIAN CROSSING ROAD WITHIN 50M XING E BOUND FROM DRIVERS N/SIDE

VEHICLE 001 (000) CAR (25 Yrs - M UB10)	GOING AHEAD OTHER	SW TO NE	JCT MID
BT - NOT REQUESTED		N/S HIT FIRST	

C001 A 802 (FAILED TO LOOK PROPERLY)

C001 A 808 (CARELESS/RECKLESS/IN A HURRY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

102 0115XH30374 MON 08/06/15 16:40 LIGHT LONG LANE J/W UXBRIDGE RD 26 NODE 129 507430 / 182710

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY PRIV DRIVE GIVE WAY/UNCONT PEDN PHASE AT ATS

V1 MOVED OFF FROM A PETROL STATION INTO PATH OF V2, CAUSING COLLISION.

CASUALTY 001 (001) (42 Yrs - F UB10) SLIGHT DRIVER/RIDER

CASUALTY 002 (002) (28 Yrs - M W7) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (42 Yrs - F UB10) MOVING OFF E TO W ENTERING MAIN RD
BT - NOT REQUESTED FRONT HIT FIRST

VEHICLE 002 (001) GDS =< 3.5T (28 Yrs - M W7) GOING AHEAD OTHER N TO S JCT MID
BT - NOT REQUESTED N/S HIT FIRST

V001 A 402 (JUNCTION RESTART)

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 A 302 (DISOBEYED GIVE WAY OR STOP SIGN OR MARKINGS)

103 0115XH30403 WED 10/06/15 17:25 LIGHT NFL - UXBRIDGE RD J/W MARLBOROUGH RD 26 NODE 131 507770 / 182400

POLICE - OVER COU ROAD-DRY WEATHER-FINE DUAL CWY T/STAG JUN AUTO SIG NO XING FACILITY IN 50M

V2 COLLIDED WITH REAR OF STAT V1.

CASUALTY 001 (001) (24 Yrs - F SL2) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (24 Yrs - F SL2) GOING AHEAD HELD UP NW TO SE COMM TO/FROM WORK JCT APP
BT - DRV NOT CONTACTED BACK HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - M UNKN) MOVING OFF NW TO SE JCT APP
BT - DRV NOT CONTACTED FRONT HIT FIRST

V002 A 308 (FOLLOWING TOO CLOSE)

V002 A 405 (FAILED TO LOOK PROPERLY)

V001 B 408 (SUDDEN BRAKING)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

104 0115XH30401 SAT 13/06/15 22:38 DARK UXBRIDGE RD J/W LEES RD 26 NODE 131 507750 / 182400
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY T/STAG JUN AUTO SIG PEDN PHASE AT ATS

V2 TURNED RIGHT INTO PATH OF ONCOMING V1, CAUSING COLLISION.

CASUALTY 001 (001) (19 Yrs - M HA4) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) M/C 50-125CC (19 Yrs - M HA4) GOING AHEAD OTHER SE TO NW JCT MID
 BT - NOT REQUESTED FRONT HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - M UNKN) TURNING RIGHT NW TO SW LEAVING MAIN RD
 BT - DRV NOT CONTACTED N/S HIT FIRST

V002 A 403 (POOR TURN OR MANOEUVRE)

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

105 0115XH30473 MON 15/06/15 07:54 LIGHT HILLINGDON HILL 59M EAST OF J/W THE FAIRWAY 26 LINK 89-126 506620 / 182940
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M

PED STEPPED INTO PATH OF V1, CAUSING COLLISION.

CASUALTY 001 (001) (43 Yrs - F UNKN) SERIOUS PEDESTRIAN CROSSING ROAD (NOT ON XING) UNKNOWN

VEHICLE 001 (000) PEDAL CYCLE (? Yrs - M UNKN) GOING AHEAD OTHER W TO E
 BT - NOT APPLICABLE FRONT HIT FIRST

CYCLE LANE (ON CWY)

C001 A 802 (FAILED TO LOOK PROPERLY)

C001 A 808 (CARELESS/RECKLESS/IN A HURRY)

V001 B 405 (FAILED TO LOOK PROPERLY)

106 0115XH30432 FRI 19/06/15 18:05 LIGHT LEES RD J/W HARLINGTON RD 26 NODE 103 507520 / 182020
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE ROUNDABOUT ROUNDABOUT GIVE WAY/UNCONT CENTRAL REFUGE

INTOXICATED V1 TURNED LEFT HITTING A BOLLARD AND A LAMP POST.

CASUALTY 001 (001) (55 Yrs - M UB8) SLIGHT DRIVER/RIDER

VEHICLE 001 (000) CAR (55 Yrs - M UB8) TURNING LEFT NW TO NE LEAVING MAIN RD
 BT - DRV NOT CONTACTED FRONT HIT FIRST
 LEFT CWY NEARSIDE HIT BOLLARD HIT LAMP POST

V001 A 501 (IMPAIRED BY ALCOHOL)

V001 A 403 (POOR TURN OR MANOEUVRE)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

V001 A 405 (FAILED TO LOOK PROPERLY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

107 0115XH30416 SAT 20/06/15 18:20 LIGHT COWLEY RD 44M NORTH OF J/W HINTON RD 26 LINK 122-142 505390 / 183790
 POLICE - AT SCENE ROAD-WET RAINING SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M
 OTHER OBJECT IN CWY

PED KICKED FOOTBALL INTO RD WHICH HIT V1. V1 LOST CONTROL.

CASUALTY 001 (001) (21 Yrs - M UB7) SLIGHT DRIVER/RIDER

VEHICLE 001 (000) M/C 50-125CC (21 Yrs - M UB7) GOING AHEAD OTHER N TO S COMM TO/FROM WORK
 BT - NOT REQUESTED SKIDDED BACK HIT FIRST

V001 A 103 (SLIPPERY ROAD (DUE TO WEATHER))

V001 A 109 (ANIMAL OR OBJECT IN CARRIAGEWAY)

U000 A 808 (CARELESS/RECKLESS/IN A HURRY)

U000 A 805 (DANGEROUS ACTION IN CARRIAGEWAY (EG PLAYING))

108 0115XH30467 TUE 07/07/15 11:27 LIGHT COWLEY ROAD J/W FERNDALE CRESCENT 26 LINK 92-123 505350 / 182700

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT PELICAN OR SIMILAR

V1 HIT REAR OF V2, PUSHING IT INTO REAR OF V3

CASUALTY 001 (002) (36 Yrs - M UB8) SLIGHT DRIVER/RIDER

CASUALTY 002 (003) (37 Yrs - M CR0) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (29 Yrs - M CB5) GOING AHEAD HELD UP S TO N JCT CLEARED
 BT - NOT REQUESTED FRONT HIT FIRST

VEHICLE 002 (001) CAR (36 Yrs - M UB8) GOING AHEAD HELD UP S TO N JCT CLEARED
 BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 003 (002) GDS =< 3.5T (37 Yrs - M CR0) GOING AHEAD HELD UP S TO N JCT CLEARED
 BT - NOT REQUESTED BACK HIT FIRST

V001 A 509 (DISTRACTION IN VEHICLE)

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

109 0115XH30724 FRI 10/07/15 19:05 DARK THE GREENWAY J/W MERRYFIELDS 26 LINK 123-124 505940 / 183140
 POLICE - OVER COU ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT PELICAN OR SIMILAR
 AS V1 BRAKED V2 HIT V1'S REAR.

CASUALTY 001 (001) (42 Yrs - M HA4) SLIGHT DRIVER/RIDER
 CASUALTY 002 (001) (46 Yrs - F UB5) SLIGHT PASSENGER FRONT SEAT
 VEHICLE 001 (002) CAR (42 Yrs - M HA4) SLOWING OR STOPPING W TO E JCT APP
 BT - DRV NOT CONTACTED BACK HIT FIRST
 VEHICLE 002 (001) CAR (? Yrs - M UNKN) SLOWING OR STOPPING W TO E JCT APP
 BT - DRV NOT CONTACTED SKIDDED FRONT HIT FIRST

V002 A 306 (EXCEEDING SPEED LIMIT) V002 A 602 (CARELESS/RECKLESS/IN A HURRY)
 V002 B 308 (FOLLOWING TOO CLOSE) V002 A 405 (FAILED TO LOOK PROPERLY)

110 0115XH30490 MON 13/07/15 12:30 LIGHT HILLINGDON RD J/W VINE STREET 26 NODE 140 505500 / 183940
 POLICE - AT SCENE ROAD-WET RAINING DUAL CWY T/STAG JUN GIVE WAY/UNCONT PELICAN OR SIMILAR
 V2 COLLIDED WITH REAR OF STAT V1.

CASUALTY 001 (001) (29 Yrs - F UB1) SLIGHT DRIVER/RIDER
 CASUALTY 002 (002) (30 Yrs - M UB1) SLIGHT PASSENGER FRONT SEAT
 VEHICLE 001 (002) CAR (29 Yrs - F UB1) GOING AHEAD HELD UP NW TO SE JCT APP
 BT - NOT REQUESTED BACK HIT FIRST
 VEHICLE 002 (001) CAR (39 Yrs - M UB10) GOING AHEAD OTHER NW TO SE JCT APP
 BT - NOT REQUESTED FRONT HIT FIRST

V002 A 405 (FAILED TO LOOK PROPERLY) V002 A 602 (CARELESS/RECKLESS/IN A HURRY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

111 0115XH30534 TUE 21/07/15 13:15 LIGHT COWLEY RD J/W HINTON RD 26 LINK 122-142 505390 / 183750
 POLICE - OVER COU ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

V2 ATTEMPTED TO OVERTAKE V1 WHILE TURNING RIGHT AS V1 TURNED RIGHT ALSO, CAUSING COLLISION.

CASUALTY 001 (001) (41 Yrs - M UB7) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) PEDAL CYCLE (41 Yrs - M UB7) TURNING RIGHT S TO E LEAVING MAIN RD
 BT - NOT APPLICABLE FRONT HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - U UNKN) TURNING RIGHT S TO E LEAVING MAIN RD
 BT - DRV NOT CONTACTED N/S HIT FIRST

V002 A 403 (POOR TURN OR MANOEUVRE)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

V002 A 407 (PASSING TOO CLOSE TO CYCLIST, HORSE RIDER OR PEDESTRIAN)

112 0115XH30546 THU 30/07/15 09:50 LIGHT UXBRIDGE RD 34M NORTH WEST OF J/W NICHOLLS AVENUE 26 LINK 129-131 507620 / 182510

POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY NO JUN IN 20M PELICAN OR SIMILAR

V2 COLLIDED WITH REAR OF V1. V1 HIT A METAL FENCE ON THE RESERVATION.

CASUALTY 001 (001) (34 Yrs - F UB3) SLIGHT DRIVER/RIDER

CASUALTY 002 (002) (35 Yrs - F UB3) SLIGHT DRIVER/RIDER

CASUALTY 003 (001) (32 Yrs - M UB3) SLIGHT PASSENGER FRONT SEAT

VEHICLE 001 (002) CAR (34 Yrs - F UB3) SLOWING OR STOPPING SE TO NW
 BT - NOT REQUESTED BACK HIT FIRST
 LEFT CWY ONTO CENTRAL RES HIT CENTRAL BAR

VEHICLE 002 (001) CAR (35 Yrs - F UB3) GOING AHEAD OTHER SE TO NW
 BT - NOT REQUESTED FRONT HIT FIRST

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

V002 A 308 (FOLLOWING TOO CLOSE)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

113 0115XH30566 THU 06/08/15 12:10 LIGHT HIGH STREET J/W IVER LANE 26 NODE 93 505390 / 182270
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN AUTO SIG NO XING FACILITY IN 50M
 V1 TURNED RIGHT ACROSS PATH OF ONCOMING V2, CAUSING COLLISION.

CASUALTY 001 (001) (21 Yrs - F UB9) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) CAR (21 Yrs - F UB9) TURNING RIGHT N TO W JCT MID
 BT - NOT REQUESTED FRONT HIT FIRST

VEHICLE 002 (001) CAR (52 Yrs - F UB7) GOING AHEAD OTHER S TO N JCT MID
 BT - NOT REQUESTED FRONT HIT FIRST

V001 A 403 (POOR TURN OR MANOEUVRE) V001 A 405 (FAILED TO LOOK PROPERLY)
 V001 B 301 (DISOBEYED AUTOMATIC TRAFFIC SIGNAL)

114 0115XH30585 WED 12/08/15 16:49 LIGHT THE GREENWAY J/W CLEVELAND ROAD 26 LINK 123-124 505780 / 183120
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY CROSSROADS GIVE WAY/UNCONT NO XING FACILITY IN 50M

V1 CROSSED JUNCTION HITTING V2
 CASUALTY 001 (001) (26 Yrs - F UB3) SLIGHT DRIVER/RIDER
 CASUALTY 002 (002) (52 Yrs - M UB8) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) CAR (26 Yrs - F UB3) GOING AHEAD OTHER N TO S JCT MID
 BT - NOT REQUESTED N/S HIT FIRST

VEHICLE 002 (001) CAR (52 Yrs - M UB8) GOING AHEAD OTHER E TO W JCT MID
 BT - NOT REQUESTED FRONT HIT FIRST

V001 A 405 (FAILED TO LOOK PROPERLY) V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

115 0115XH30584 FRI 14/08/15 03:30 DARK HILLINGDON ROAD, J/W THE GREENWAY 26 NODE 124 506110 / 183170
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS

DRUNK C1 ARGUED WITH FRIENDS & RAN ACROSS ROAD & INTO N/S OF PASSING V1
 CASUALTY 001 (001) (17 Yrs - F UB3) SLIGHT PEDESTRIAN CROSSING ROAD WITHIN 50M XING SW BOUND FROM DRIVERS N/SIDE
 VEHICLE 001 (000) GDS =< 3.5T (44 Yrs - M WF6) GOING AHEAD OTHER NW TO SE COMM TO/FROM WORK JCT APP
 BT - NEGATIVE N/S HIT FIRST

C001 A 806 (IMPAIRED BY ALCOHOL) C001 A 802 (FAILED TO LOOK PROPERLY)
 C001 A 808 (CARELESS/RECKLESS/IN A HURRY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

116 0115XH30600 MON 17/08/15 12:40 LIGHT NFL PIELD HEATH AVENUE 37M NORTH J/W PIELD HEATH ROAD 26 CELL 507000/181500 507400 / 181920
 POLICE - OVER COU ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M
 PED HIT BY NEARSIDE WING MIRROR OF V1
 CASUALTY 001 (001) (18 Yrs - M SW11) SLIGHT PEDESTRIAN ON FOOTPATH - VERGE UNKNOWN
 VEHICLE 001 (000) BUS/COACH (61 Yrs - F SW6) GOING AHEAD OTHER N TO S JNY PART OF WORK
 BT - DRV NOT CONTACTED N/S HIT FIRST

V001 A 407 (PASSING TOO CLOSE TO CYCLIST, HORSE RIDER OR PEDESTRIAN)

117 0115TD00106 FRI 21/08/15 12:23 LIGHT HILLINGDON ROAD, 29M SOUTH OF J/W MANOR WAY 26 LINK 124-147 506040 / 183500
 POLICE - AT SCENE ROAD-DRY WEATHER-UNKNOWN DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M
 VEH STOPPED IN LANE 1 AS C1 WAS CROSSING, V1 IN LANE 2 THEN CLIPPED C1 CAUSING C1 TO SPIN, V2 THEN ALSO HIT C1
 CASUALTY 001 (001) (91 Yrs - M UB10) FATAL PEDESTRIAN CROSSING ROAD (NOT ON XING) W BOUND FROM DRIVERS N/SIDE MSK
 VEHICLE 001 (000) CAR (45 Yrs - M UB8) GOING AHEAD OTHER N TO S
 BT - NEGATIVE N/S HIT FIRST
 VEHICLE 002 (000) CAR (42 Yrs - M HA4) GOING AHEAD OTHER N TO S
 BT - NEGATIVE N/S HIT FIRST

V001 A 701 (VISION AFFECTED - STATIONARY OR PARKED VEHICLE(S)) V002 A 701 (VISION AFFECTED - STATIONARY OR PARKED VEHICLE(S))
 C001 A 801 (CROSSED ROAD MASKED BY STATIONARY OR PARKED VEHICLE) C001 B 802 (FAILED TO LOOK PROPERLY)

118 0115XH30678 MON 21/09/15 07:18 LIGHT THE GREENWAY J/W KING'S ROAD 26 LINK 123-124 505510 / 183100
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT CENTRAL REFUGE
 V2 EDGED INTI MAIN ROAD WITH VIEW PARTLY BLOCKED BY VEHICLES; V2 W/B COLLIDED
 CASUALTY 001 (001) (30 Yrs - M UB1) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) M/C 50-125CC (30 Yrs - M UB1) TURNING RIGHT S TO E JNY PART OF WORK JCT MID
 BT - NOT REQUESTED O/S HIT FIRST
 VEHICLE 002 (001) CAR (46 Yrs - M W14) GOING AHEAD OTHER E TO W JCT MID
 BT - NOT REQUESTED FRONT HIT FIRST

V001 A 201 (TYRES ILLEGAL, DEFECTIVE OR UNDER INFLATED) V001 A 408 (SUDDEN BRAKING)
 V002 A 405 (FAILED TO LOOK PROPERLY) V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)


Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)	36 MTS TO JUL-2016 SORTED BY DATE
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119 0115XH30700 THU 24/09/15 06:12 DARK LAVENDER ROAD J/W VIOLET AVENUE	26 CELL 507000/181500	507010 / 181570
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POLICE - AT SCENE ROAD-WET RAINING SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

PED WEARING DARK CLOTHES CROSSED ROAD AS V1 WAS TURNING RIGHT & THERE WERE NO STREET LIGHTS ON - [NO STREET LIGHTS (V001)]

CASUALTY 001 (001) (35 Yrs - F UB10) SLIGHT PEDESTRIAN CROSSING ROAD (NOT ON XING) E BOUND FROM DRIVERS N/SIDE

VEHICLE 001 (000) CAR (50 Yrs - M UB4) TURNING RIGHT E TO N JCT MID
BT - NOT REQUESTED FRONT HIT FIRST

V001 B 707 (VISION AFFECTED - RAIN, SLEET, SNOW, OR FOG)

V001 A 999 (OTHER FACTOR)

V001 B 405 (FAILED TO LOOK PROPERLY)

C001 A 809 (PEDESTRIAN WEARING DARK CLOTHING AT NIGHT)

C001 A 803 (FAILED TO JUDGE VEHICLE'S PATH OR SPEED)

120 0115XH30714 FRI 02/10/15 15:30 LIGHT UXBRIDGE ROAD 33M WEST J/W VINE STREET	26 LINK 89-127	506890 / 182940
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POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M

DRIVER CLOSED DOORS V1 AS PASSENGER TRIED TO BOARD - [C1 HAD BEEN TOLD DOORS WERE ABOUT TO CLOSE (C001)]

CASUALTY 001 (001) (42 Yrs - F UB4) SLIGHT PASSENGER BOARDING PSV

VEHICLE 001 (000) BUS/COACH (45 Yrs - M W14) PARKED P TO P JNY PART OF WORK
BT - NOT REQUESTED O/S HIT FIRST

V001 B 602 (CARELESS/RECKLESS/IN A HURRY)

C001 A 999 (OTHER FACTOR)

121 0115XH30746 FRI 09/10/15 14:00 LIGHT COWLEY ROAD 31M SOUTH J/W MYDDLETON ROAD	26 LINK 122-142	505380 / 183640
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POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M

V1 HIT PARKED VEHICLE - [NO DETAILS GIVEN (V001)]

CASUALTY 001 (001) (81 Yrs - F UB8) SLIGHT DRIVER/RIDER

VEHICLE 001 (000) CAR (81 Yrs - F UB8) GOING AHEAD OTHER N TO S
BT - NOT REQUESTED OVERTURN HIT PARKED VEH
FRONT HIT FIRST

V001 A 999 (OTHER FACTOR)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

122 0115XH30761 TUE 20/10/15 15:27 LIGHT UXBRIDGE ROAD J/W VINE STREET 26 NODE 127 506910 / 182950
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY T/STAG JUN AUTO SIG PEDN PHASE AT ATS
 V2 HIT REAR V1

CASUALTY 001 (001) (21 Yrs - M HA1) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) CAR (21 Yrs - M HA1) GOING AHEAD HELD UP W TO E JCT APP
 BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - U UNKN) GOING AHEAD OTHER W TO E JCT APP
 BT - DRV NOT CONTACTED FRONT HIT FIRST

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

123 0115XH30767 SAT 24/10/15 18:00 DARK NFL LEES ROAD 39M SOUTH J/W WIDMORE ROAD 26 LINK 103-131 507660 / 182230
 POLICE - AT SCENE ROAD-WET RAINING SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M
 PED STEPPED OFF PAVEMENT COLLIDING WITH V1

CASUALTY 001 (001) (27 Yrs - M UB8) SLIGHT PEDESTRIAN IN ROAD - NOT CROSSING UNKNOWN
 VEHICLE 001 (000) CAR (67 Yrs - M UB10) GOING AHEAD OTHER S TO N N/S HIT FIRST
 BT - NOT REQUESTED

C001 A 806 (IMPAIRED BY ALCOHOL)

124 0115XH30776 MON 26/10/15 07:55 LIGHT PIELD HEATH ROAD J/W CRISPIN WAY 26 LINK 101-110 506830 / 181990
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS
 V2 U TURNED ACROSS PATH V1

CASUALTY 001 (001) (25 Yrs - M UB6) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) M/C > 500CC (25 Yrs - M UB6) GOING AHEAD OTHER SE TO NW JCT MID
 BT - NOT REQUESTED FRONT HIT FIRST

VEHICLE 002 (001) GDS =< 3.5T (55 Yrs - M HA3) U-TURNING NW TO NW JCT MID
 BT - NOT REQUESTED N/S HIT FIRST

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)							36 MTS TO JUL-2016 SORTED BY DATE	
125	0115XH30765	THU 29/10/15 05:10	DARK	UXBRIDGE ROAD J/W HARLINGTON ROAD	26	NODE 128	507130 / 182850	
POLICE - AT SCENE ROAD-DRY			WEATHER-FINE	DUAL CWY	T/STAG JUN	AUTO SIG	PEDN PHASE AT ATS	
DRIVER V1 LOST CONTROL								
CASUALTY 001 (001) (40 Yrs - M UB10)			SLIGHT	DRIVER/RIDER				
VEHICLE	001 (000)	CAR	(40 Yrs - M UB10)	GOING AHEAD OTHER	NW TO SE	JCT APP		
			BT - NEGATIVE		FRONT HIT FIRST			
			LEFT CWY NEARSIDE	HIT KERB	HIT OTH OBJECT			
V001 A 410 (LOSS OF CONTROL)								
126	0115XH30779	FRI 30/10/15 19:55	DARK	COWLEY ROAD J/W COTSWOLD CLOSE	26	LINK 122-142	505380 / 183540	
POLICE - AT SCENE ROAD-DRY			WEATHER-FINE	SINGLE CWY	T/STAG JUN	GIVE WAY/UNCONT ZEBRA		
V1 HIT REAR OF V2, PUSHING IT INTO REAR OF V3								
CASUALTY 001 (001) (73 Yrs - F UB7)			SLIGHT	PASSENGER	FRONT SEAT			
CASUALTY 002 (002) (21 Yrs - M TW15)			SLIGHT	DRIVER/RIDER				
CASUALTY 003 (002) (21 Yrs - M TW17)			SLIGHT	PASSENGER	FRONT SEAT			
CASUALTY 004 (002) (22 Yrs - M KT14)			SLIGHT	PASSENGER	BACK SEAT			
VEHICLE	001 (002)	CAR	(77 Yrs - M UB7)	OVERTAKE STAT VEH O/S	S TO N	JCT APP		
			BT - NOT REQUESTED		FRONT HIT FIRST			
VEHICLE	002 (001)	CAR	(21 Yrs - M TW15)	GOING AHEAD HELD UP	S TO N	JCT APP		
			BT - NOT REQUESTED		BACK HIT FIRST			
VEHICLE	003 (002)	CAR	(21 Yrs - M SE18)	GOING AHEAD HELD UP	S TO N	JCT APP		
			BT - NOT REQUESTED		BACK HIT FIRST			
V001 A 405 (FAILED TO LOOK PROPERLY)				V001 A 602 (CARELESS/RECKLESS/IN A HURRY)				


Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)							36 MTS TO JUL-2016 SORTED BY DATE	
127	0115XH30797	THU 05/11/15 00:27	DARK	COWLEY RD J/W COWLEY RD SLIP RD	26	LINK 92-123	505350 / 182840	
POLICE - AT SCENE ROAD-WET			RAINING	SINGLE CWY SLIP ROAD	GIVE WAY/UNCONT NO XING FACILITY IN 50M			
V1 TURNED RIGHT INTO PATH OF V2, CAUSING COLLISION. V2 SPAN AND HIT A WALL.								
CASUALTY 001 (002) (19 Yrs - M UB8)			SLIGHT	DRIVER/RIDER				
CASUALTY 002 (002) (21 Yrs - F UB8)			SLIGHT	PASSENGER FRONT SEAT				
VEHICLE	001 (002)	TAXI	(27 Yrs - M WD18)	TURNING RIGHT	W TO S	JNY PART OF WORK	ENTERING MAIN RD	
			BT - NEGATIVE	FRONT HIT FIRST				
VEHICLE	002 (001)	CAR	(19 Yrs - M UB8)	GOING AHEAD OTHER	S TO N	JCT MID		
			BT - NEGATIVE	N/S HIT FIRST				
			LEFT CWY OFFSIDE	HIT OTH OBJECT				
V001	A	302 (DISOBEYED GIVE WAY OR STOP SIGN OR MARKINGS)			V001	A	405 (FAILED TO LOOK PROPERLY)	
V001	A	602 (CARELESS/RECKLESS/IN A HURRY)			V001	A	403 (POOR TURN OR MANOEUVRE)	
128	0115XH30799	THU 05/11/15 20:15	DARK	KINGSTON LANE J/W IVY BRIDGE CLOSE	26	LINK 99-126	506260 / 182950	
POLICE - AT SCENE ROAD-WET			RAINING	SINGLE CWY T/STAG JUN	GIVE WAY/UNCONT PEDN PHASE AT ATS			
V1 & V2 BOTH SWERVED ON A BEND TO AVOID AN UNKNOWN ONCOMING VEHICLE DRIVING IN THE WRONG LANE. V1 & V2 COLLIDED.								
CASUALTY 001 (001) (67 Yrs - M LU2)			SLIGHT	DRIVER/RIDER				
VEHICLE	001 (002)	CAR	(67 Yrs - M LU2)	GOING AHEAD LEFT BEND	N TO SE	JNY PART OF WORK	JCT APP	
			BT - NOT REQUESTED	BACK HIT FIRST				
VEHICLE	002 (001)	CAR	(26 Yrs - M B78)	GOING AHEAD LEFT BEND	N TO SE	COMM TO/FROM WORK	JCT APP	
			BT - NOT REQUESTED	FRONT HIT FIRST				
V001	A	409 (SWERVED)			V002	A	409 (SWERVED)	
V001	B	408 (SUDDEN BRAKING)						



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

129 0115XH30820 FRI 06/11/15 15:30 LIGHT THE CROSSWAY 35M NORTH OF J/W HILLINGDON HILL 26 CELL 506500/182500 506759 / 182976
 POLICE - OVER COU ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M

V1 MOVED OFF, COLLIDING WITH PED CROSSING RD.

CASUALTY 001 (001) (11 Yrs - M UB3) SLIGHT PEDESTRIAN CROSSING ROAD (NOT ON XING) W BOUND FROM DRIVERS O/SIDE

VEHICLE 001 (000) GDS =< 3.5T (? Yrs - M UNKN) MOVING OFF S TO N
 BT - DRV NOT CONTACTED FRONT HIT FIRST

V001 A 403 (POOR TURN OR MANOEUVRE)

V001 A 407 (PASSING TOO CLOSE TO CYCLIST, HORSE RIDER OR PEDESTRIAN)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

C001 B 803 (FAILED TO JUDGE VEHICLE'S PATH OR SPEED)

130 0115XH30821 SUN 08/11/15 07:30 LIGHT NFL - HINTON RD J/W WHITEHALL RD 26 CELL 505500/183500 505550 / 183780
 POLICE - OVER COU ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

V2 WITH A CLOUDY WINDSCREEN TURNED LEFT AS V1 ON N/S, CAUSING COLLISION.

CASUALTY 001 (001) (60 Yrs - F UB8) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) PEDAL CYCLE (60 Yrs - F UB8) GOING AHEAD OTHER S TO N JCT MID
 BT - NOT APPLICABLE O/S HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - F UNKN) TURNING LEFT S TO W COMM TO/FROM WORK JCT MID
 BT - DRV NOT CONTACTED N/S HIT FIRST

V002 A 503 (FATIGUE)

V002 A 709 (VISION AFFECTED - VISOR OR WINDSCREEN DIRTY OR SCRATCHED)

V002 A 403 (POOR TURN OR MANOEUVRE)

V002 A 405 (FAILED TO LOOK PROPERLY)

131 0115XH30801 MON 09/11/15 14:32 LIGHT COWLEY RD J/W COWLEY MILL RD 26 NODE 122 505340 / 183200
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY CROSSROADS AUTO SIG NO XING FACILITY IN 50M

V1 TURNED LEFT WITH V2 RIDING ON N/S, CAUSING COLLISION.

CASUALTY 001 (002) (33 Yrs - F UB8) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (34 Yrs - F UB8) TURNING LEFT S TO W LEAVING MAIN RD
 BT - NOT REQUESTED N/S HIT FIRST

VEHICLE 002 (001) PEDAL CYCLE (33 Yrs - F UB8) OVERTAKING NEARSIDE S TO N JCT MID
 BT - NOT APPLICABLE FRONT HIT FIRST

V001 A 403 (POOR TURN OR MANOEUVRE)

V001 A 405 (FAILED TO LOOK PROPERLY)

V002 A 403 (POOR TURN OR MANOEUVRE)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

132 0115XH30809 WED 11/11/15 17:15 LIGHT COWLEY RD J/W QUEEN'S RD 26 LINK 92-123 505360 / 182980
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M
 V2 COLLIDED WITH REAR OF STAT V1.

CASUALTY 001 (001) (26 Yrs - F SL3) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (26 Yrs - F SL3) GOING AHEAD HELD UP N TO S JCT APP
 BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - M UNKN) GOING AHEAD OTHER N TO S JCT APP
 BT - DRV NOT CONTACTED FRONT HIT FIRST

V002 A 308 (FOLLOWING TOO CLOSE)

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

133 0115XH30812 THU 12/11/15 14:30 LIGHT NFL - COWLEY RD J/W COWLEY RD SLIP RD 26 LINK 92-123 505360 / 182850

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY SLIP ROAD GIVE WAY/UNCONT NO XING FACILITY IN 50M

AS V1 BRAKED V2 HIT V1'S REAR.

CASUALTY 001 (001) (64 Yrs - F SL3) SLIGHT PASSENGER BACK SEAT

VEHICLE 001 (002) CAR (69 Yrs - F SL3) SLOWING OR STOPPING N TO S JCT APP
 BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - M UNKN) GOING AHEAD OTHER N TO S JCT APP
 BT - DRV NOT CONTACTED FRONT HIT FIRST

V002 A 308 (FOLLOWING TOO CLOSE)

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

134 0115XH30849 SUN 22/11/15 17:40 DARK IVER LANE J/W HIGH STREET 26 NODE 93 505380 / 182270
 POLICE - OVER COU ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN AUTO SIG PEDN PHASE AT ATS
 V2 COLLIDED WITH REAR OF STAT V1.

CASUALTY 001 (001) (21 Yrs - F UB3) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) CAR (21 Yrs - F UB3) GOING AHEAD HELD UP W TO E COMM TO/FROM WORK JCT APP
 BT - DRV NOT CONTACTED BACK HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - F UNKN) GOING AHEAD OTHER W TO E JCT APP
 BT - DRV NOT CONTACTED FRONT HIT FIRST

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

135 0115XH30832 MON 23/11/15 10:47 LIGHT UXBRIDGE RD J/W LEES RD 26 NODE 131 507750 / 182400
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY OTHER JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M
 AS V2 BRAKED V1 TURNED RIGHT, COLLIDING WITH V2'S REAR.

CASUALTY 001 (001) (50 Yrs - M HA4) SLIGHT DRIVER/RIDER
 CASUALTY 002 (001) (37 Yrs - F HA4) SLIGHT PASSENGER FRONT SEAT
 VEHICLE 001 (002) CAR (50 Yrs - M HA4) TURNING RIGHT NW TO SW LEAVING MAIN RD
 BT - NEGATIVE FRONT HIT FIRST

VEHICLE 002 (001) GDS 3.5-7.5T (? Yrs - M UNKN) SLOWING OR STOPPING NE TO SW JCT MID
 BT - DRV NOT CONTACTED BACK HIT FIRST

V001 A 308 (FOLLOWING TOO CLOSE)

V002 B 408 (SUDDEN BRAKING)

V002 B 601 (AGGRESSIVE DRIVING)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

136 0115XH30843 SAT 28/11/15 00:55 DARK VIOLET AVENUE J/W LAVENDER RD 26 CELL 507000/181500 507010 / 181560

POLICE - AT SCENE ROAD-WET WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

AS V1 TURNED AROUND IN THE JUNCTION V1 COLLIDED WITH V2 WHO WAS NOT DISPLAYING LIGHTS AT NIGHT.

CASUALTY 001 (002) (? Yrs - M UB7) SERIOUS DRIVER/RIDER

VEHICLE 001 (002) CAR (? Yrs - M UNKN) U-TURNING NE TO NE JCT MID
BT - DRV NOT CONTACTED FRONT HIT FIRST

VEHICLE 002 (001) PEDAL CYCLE (? Yrs - M UB7) GOING AHEAD OTHER NE TO SW JCT MID
BT - NOT APPLICABLE O/S HIT FIRST

V002 A 507 (CYCLIST WEARING DARK CLOTHING AT NIGHT)

V002 A 506 (NOT DISPLAYING LIGHTS AT NIGHT OR IN POOR VISIBILITY)

V001 A 403 (POOR TURN OR MANOEUVRE)

V001 A 405 (FAILED TO LOOK PROPERLY)

137 0115XH30854 THU 03/12/15 17:00 DARK HIGH STREET, J/W IVER LANE 26 NODE 93 505400 / 182280

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN AUTO SIG PEDN PHASE AT ATS

C1 ON MOBILE PHONE HAS CROSSED THROUGH TRAFFIC WAITING TO TURN RIGHT & INTO PATH OF V1 GOING AHEAD & HIT O/S OF V1 - [PED DISTRACTED BY MOBILE PHONE (C001)]

CASUALTY 001 (001) (62 Yrs - M RM2) SLIGHT PEDESTRIAN CROSSING ROAD WITHIN 50M XING E BOUND FROM DRIVERS O/SIDE MSK

VEHICLE 001 (000) CAR (31 Yrs - F TW3) GOING AHEAD OTHER N TO S COMM TO/FROM WORK JCT APP
BT - NOT REQUESTED O/S HIT FIRST

C001 A 801 (CROSSED ROAD MASKED BY STATIONARY OR PARKED VEHICLE)

C001 A 802 (FAILED TO LOOK PROPERLY)

C001 A 803 (FAILED TO JUDGE VEHICLE'S PATH OR SPEED)

C001 A 808 (CARELESS/RECKLESS/IN A HURRY)

C001 A 999 (OTHER FACTOR)


Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)							36 MTS TO JUL-2016 SORTED BY DATE	
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138	0115XH30855	THU 03/12/15 14:51	LIGHT	UXBRIDGE ROAD, J/W LONG LANE	26	NODE 129	507410 / 182680	
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POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY OTHER JUN AUTO SIG PEDN PHASE AT ATS

V1 STATES BRAKES FAILED ON APPROACH TO ATS TURNING RED, V1 PASSED ATS & HIT O/S OF V2, PUSHING V2 INTO V3

CASUALTY 001 (001) (62 Yrs - F HA4) SLIGHT DRIVER/RIDER

CASUALTY 002 (002) (55 Yrs - M UB7) SLIGHT DRIVER/RIDER

VEHICLE	001 (002)	CAR	(62 Yrs - F HA4)	SLOWING OR STOPPING	NE TO SW	JCT MID
			BT - NOT REQUESTED		FRONT HIT FIRST	

VEHICLE	002 (001)	CAR	(55 Yrs - M UB7)	GOING AHEAD OTHER	NW TO SE COMM TO/FROM WORK	JCT MID
			BT - NOT REQUESTED		O/S HIT FIRST	

VEHICLE	003 (002)	BUS/COACH	(52 Yrs - M UB4)	GOING AHEAD OTHER	NW TO SE JNY PART OF WORK	JCT MID
			BT - NOT REQUESTED		N/S HIT FIRST	

V001 B 203 (DEFECTIVE BRAKES)

V001 A 301 (DISOBEYED AUTOMATIC TRAFFIC SIGNAL)

V001 B 410 (LOSS OF CONTROL)

V001 B 603 (NERVOUS/UNCERTAIN/ PANIC)

V001 B 602 (CARELESS/RECKLESS/IN A HURRY)

V001 B 405 (FAILED TO LOOK PROPERLY)

139	0115XH30905	FRI 04/12/15 18:31	DARK	UXBRIDGE ROAD, J/W BRAMBLES FARM DRIVE	26	LINK 129-131	507520 / 182590	
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POLICE - OVER COU ROAD-DRY WEATHER-FINE DUAL CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

V1 WAS IN STATIONARY TRAFFIC ABOUT TO MOVE OFF WHEN V2 HAS HIT REAR OF V1, V2 BECAME ABUSIVE & F.T.S

CASUALTY 001 (001) (51 Yrs - M UB4) SLIGHT DRIVER/RIDER

VEHICLE	001 (002)	CAR	(51 Yrs - M UB4)	GOING AHEAD HELD UP	SE TO NW	JCT APP
			BT - DRV NOT CONTACTED		BACK HIT FIRST	

VEHICLE	002 (001)	CAR	(? Yrs - M UNKN)	MOVING OFF	SE TO NW	JCT APP
			BT - DRV NOT CONTACTED		FRONT HIT FIRST	

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

V002 B 601 (AGGRESSIVE DRIVING)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

140 0115XH30870 TUE 08/12/15 22:37 DARK ROYAL LANE (N-S) J/W ROYAL LANE (SW-NE) 26 LINK 89-110 506840 / 182860
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M
 IT APPEARS C1 HAS CROSSED ROAD WITHOUT LOOKING & BEEN HIT BY PASSING V1
 CASUALTY 001 (001) (? Yrs - M UB8) SLIGHT PEDESTRIAN CROSSING ROAD (NOT ON XING) W BOUND FROM DRIVERS N/SIDE
 VEHICLE 001 (000) CAR (34 Yrs - F UB8) GOING AHEAD OTHER N TO S COMM TO/FROM WORK JCT APP
 BT - NEGATIVE FRONT HIT FIRST

C001 B 806 (IMPAIRED BY ALCOHOL) C001 A 802 (FAILED TO LOOK PROPERLY)
 C001 A 803 (FAILED TO JUDGE VEHICLE'S PATH OR SPEED) C001 A 808 (CARELESS/RECKLESS/IN A HURRY)

141 0115XH30886 SAT 12/12/15 23:30 DARK HILLINGDON ROAD, J/W THE GREENWAY 26 NODE 124 506110 / 183150

POLICE - AT SCENE ROAD-WET RAINING DUAL CWY OTHER JUN AUTO SIG PEDN PHASE AT ATS
 V1 THOUGHT THERE WAS ENOUGH TIME TO TURN ACROSS ONCOMING TRAFFIC, V2 HAS THEN COLLIDED WITH N/S OF V1
 CASUALTY 001 (002) (28 Yrs - M SL9) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) CAR (38 Yrs - M SL9) TURNING RIGHT NW TO W JCT MID
 BT - NOT REQUESTED N/S HIT FIRST
 VEHICLE 002 (001) CAR (28 Yrs - M SL9) GOING AHEAD OTHER SE TO NW JCT MID
 BT - NOT REQUESTED FRONT HIT FIRST

V001 A 403 (POOR TURN OR MANOEUVRE) V001 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)
 V001 A 602 (CARELESS/RECKLESS/IN A HURRY) V002 B 307 (TRAVELLING TOO FAST FOR CONDITIONS)

142 0115XH30932 TUE 22/12/15 21:45 DARK UXBRIDGE RD J/W MARLBOROUGH RD 26 LINK 131-369 507800 / 182380

POLICE - OVER COU ROAD-WET RAINING DUAL CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M
 V2 COLLIDED WITH REAR OF V1.
 CASUALTY 001 (001) (20 Yrs - M UB8) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) CAR (20 Yrs - M UB8) SLOWING OR STOPPING NW TO SE JCT CLEARED
 BT - DRV NOT CONTACTED BACK HIT FIRST
 VEHICLE 002 (001) CAR (? Yrs - M UNKN) SLOWING OR STOPPING NW TO SE JCT CLEARED
 BT - DRV NOT CONTACTED FRONT HIT FIRST

V002 A 308 (FOLLOWING TOO CLOSE) V002 A 405 (FAILED TO LOOK PROPERLY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

143 0115XH30925 FRI 25/12/15 22:10 DARK UXBRIDGE RD J/W LEES RD 26 NODE 131 507760 / 182390
 POLICE - AT SCENE ROAD-WET RAINING DUAL CWY OTHER JUN AUTO SIG PEDN PHASE AT ATS
 V1 RAN OVER FOOT OF INTOXICATED PED.

CASUALTY 001 (001) (31 Yrs - M UB2) SLIGHT PEDESTRIAN CROSSING ROAD ON PED XING UNKNOWN FROM DRIVERS N/SIDE
 VEHICLE 001 (000) CAR (? Yrs - U UNKN) GOING AHEAD OTHER SE TO NW JCT APP
 BT - DRV NOT CONTACTED N/S HIT FIRST

C001 A 806 (IMPAIRED BY ALCOHOL) C001 A 808 (CARELESS/RECKLESS/IN A HURRY)
 C001 A 802 (FAILED TO LOOK PROPERLY)

144 0115XH30937 THU 31/12/15 12:44 LIGHT UXBRIDGE ROAD, J/W DENZILOE AVENUE 26 LINK 129-131 507580 / 182550
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY OTHER JUN GIVE WAY/UNCONT PELICAN OR SIMILAR
 VEH'S TURNING INTO JCN V1 WAS TURNING OUT OF, V1 TURNED INTO PATH OF V2 ON OUTSIDE LANE, V2 HAS HIT O/S OF V1

CASUALTY 001 (002) (31 Yrs - M UB10) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) CAR (30 Yrs - M UB9) TURNING RIGHT NE TO NW JCT MID
 BT - NOT REQUESTED O/S HIT FIRST
 VEHICLE 002 (001) M/C 125-500CC (31 Yrs - M UB10) GOING AHEAD OTHER NW TO SE JCT MID
 BT - NOT REQUESTED FRONT HIT FIRST

V001 B 701 (VISION AFFECTED - STATIONARY OR PARKED VEHICLE(S)) V002 B 701 (VISION AFFECTED - STATIONARY OR PARKED VEHICLE(S))
 V001 A 405 (FAILED TO LOOK PROPERLY) V001 A 403 (POOR TURN OR MANOEUVRE)
 V001 B 602 (CARELESS/RECKLESS/IN A HURRY)


Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P)

36 MTS TO JUL-2016 SORTED BY DATE

145 0116XH30062 SUN 10/01/16 12:12 LIGHT HARLINGTON ROAD, J/W FIELD HEATH ROAD 26 NODE 103 507540 / 181960

POLICE - AT SCENE ROAD-DRY WEATHER-UNKNOWN ROUNDABOUT ROUNDABOUT GIVE WAY/UNCONT NO XING FACILITY IN 50M

V2 HAS FAILED TO GIVE WAY AT R/A & HIT N/S OF V1 ALREADY ON R/A, V2 F.T.S

CASUALTY 001 (001) (20 Yrs - F UB8) SLIGHT DRIVER/RIDER

CASUALTY 002 (001) (18 Yrs - M UB8) SLIGHT PASSENGER FRONT SEAT

CASUALTY 003 (001) (6 Yrs - F UB8) SLIGHT PASSENGER BACK SEAT

VEHICLE 001 (002) CAR (20 Yrs - F UB8) TURNING RIGHT NW TO SW JCT MID
BT - NOT REQUESTED N/S HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - F UNKN) GOING AHEAD OTHER SE TO NW JCT MID
BT - DRV NOT CONTACTED FRONT HIT FIRST

V002 A 302 (DISOBEYED GIVE WAY OR STOP SIGN OR MARKINGS)

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

V001 B 404 (FAILED TO SIGNAL/ MISLEADING SIGNAL)

146 0116XH30059 WED 13/01/16 08:05 DARK STATION ROAD, 43M WEST OF J/W THE AVENUE 26 LINK 92-99 505560 / 182360

POLICE - AT SCENE ROAD-DRY WEATHER-UNKNOWN SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M

V2 HAS TRIED TO OVERTAKE V1, V1 HAS THEN CLIPPED REAR OF V2 CAUSING V2 TO FALL

CASUALTY 001 (002) (18 Yrs - M UB4) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (43 Yrs - F SL3) GOING AHEAD OTHER E TO W FRONT HIT FIRST
BT - NOT REQUESTED

VEHICLE 002 (001) M/C 50-125CC (18 Yrs - M UB4) OVERTAKE MOVE VEH O/S E TO W BACK HIT FIRST
BT - NOT REQUESTED

V002 A 403 (POOR TURN OR MANOEUVRE)

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

V001 B 308 (FOLLOWING TOO CLOSE)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

147 0116XH30099 WED 13/01/16 12:20 LIGHT UXBRIDGE ROAD J/W ROYAL LANE 26 NODE 89 506860 / 182930
 POLICE - OVER COU ROAD-DRY WEATHER-FINE DUAL CWY T/STAG JUN GIVE WAY/UNCONT PELICAN OR SIMILAR
 V2 TURNED LEFT ACROSS PATH V1

CASUALTY 001 (001) (48 Yrs - M UB4) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) PEDAL CYCLE (48 Yrs - M UB4) GOING AHEAD OTHER E TO W COMM TO/FROM WORK JCT MID
 BT - NOT APPLICABLE FRONT HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - F UNKN) TURNING LEFT E TO S JCT MID
 BT - DRV NOT CONTACTED N/S HIT FIRST

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

148 0116XH30017 FRI 22/01/16 18:00 DARK COWLEY ROAD J/W COWLEY MILL ROAD 26 NODE 122 505350 / 183230
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS
 V1 U TURNED ACROSS PATH V2

CASUALTY 001 (001) (36 Yrs - M HA2) SLIGHT DRIVER/RIDER
 CASUALTY 002 (002) (52 Yrs - F UB6) SLIGHT PASSENGER FRONT SEAT
 VEHICLE 001 (002) TAXI (36 Yrs - M HA2) U-TURNING N TO N JCT APP
 BT - NEGATIVE O/S HIT FIRST

VEHICLE 002 (001) CAR (50 Yrs - M UB6) GOING AHEAD OTHER N TO S JCT APP
 BT - NEGATIVE N/S HIT FIRST

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

149 0116XH30075 SAT 23/01/16 03:20 DARK NFL UXBRIDGE ROAD 65M SOUTH EAST J/W BRAMBLES FARM DRIVE 26 LINK 129-131 507570 / 182550
 POLICE - OVER COU ROAD-DRY WEATHER-FINE DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M
 V1 CHANGED LANE HITTING V2, V2 THEN CHASED AFTER V1 LOSING CONTROL AND HITTING LAMP POST
 CASUALTY 001 (002) (25 Yrs - F UB5) SLIGHT PASSENGER BACK SEAT
 CASUALTY 002 (002) (30 Yrs - F UB5) SLIGHT PASSENGER BACK SEAT
 VEHICLE 001 (002) BUS/COACH (? Yrs - U UNKN) OVERTAKE STAT VEH O/S SE TO NW JNY PART OF WORK
 BT - DRV NOT CONTACTED O/S HIT FIRST

 VEHICLE 002 (001) TAXI (? Yrs - M UNKN) GOING AHEAD OTHER SE TO NW JNY PART OF WORK
 BT - DRV NOT CONTACTED N/S HIT FIRST
 LEFT CWY NEARSIDE HIT KERB HIT LAMP POST
 V001 A 602 (CARELESS/RECKLESS/IN A HURRY) V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

150 0116XH30077 WED 03/02/16 09:00 LIGHT TRUMPER WAY J/W NEW WINDSOR STREET 26 NODE 143 505330 / 183960
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE ROUNDABOUT ROUNDABOUT AUTO SIG PEDN PHASE AT ATS
 UNINJURED PED RAN INTO V1'S PATH, CAUSING COLLISION. PED IN CWY - NOT INJ
 CASUALTY 001 (001) (38 Yrs - F UB7) SLIGHT DRIVER/RIDER
 VEHICLE 001 (000) CAR (38 Yrs - F UB7) GOING AHEAD RIGHT BEND SE TO N JCT MID
 BT - NOT REQUESTED FRONT HIT FIRST
 U000 A 802 (FAILED TO LOOK PROPERLY) U000 A 808 (CARELESS/RECKLESS/IN A HURRY)

151 0116XH30105 SAT 13/02/16 17:10 DARK HILLINGDON RD J/W THE GREENWAY 26 NODE 124 506110 / 183150
 POLICE - AT SCENE ROAD-WET RAINING DUAL CWY T/STAG JUN AUTO SIG PEDN PHASE AT ATS
 V1 TURNED RIGHT ACROSS PATH OF ONCOMING V2, CAUSING COLLISION. V1 THEN HIT A BOLLARD.
 CASUALTY 001 (002) (? Yrs - M HA4) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) CAR (23 Yrs - M UNKN) TURNING RIGHT NW TO W LEAVING MAIN RD
 BT - NOT REQUESTED N/S HIT FIRST

 VEHICLE 002 (001) CAR (? Yrs - M HA4) GOING AHEAD OTHER SE TO NW JCT MID
 BT - NOT REQUESTED FRONT HIT FIRST
 V001 A 403 (POOR TURN OR MANOEUVRE) V001 A 405 (FAILED TO LOOK PROPERLY)
 V002 B 307 (TRAVELLING TOO FAST FOR CONDITIONS)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

152 0116XH30112 SAT 13/02/16 17:49 DARK HILLINGDON HILL J/W THE CROSSWAY 26 LINK 89-126 506750 / 182910

POLICE - OVER COU ROAD-WET RAINING DUAL CWY CROSSROADS GIVE WAY/UNCONT NO XING FACILITY IN 50M

V2 TURNED RIGHT INTO PATH V1

CASUALTY 001 (001) (21 Yrs - M UB3) SLIGHT DRIVER/RIDER

CASUALTY 002 (002) (? Yrs - M UB10) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (21 Yrs - M UB3) GOING AHEAD OTHER E TO W JCT MID
BT - DRV NOT CONTACTED FRONT HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - M UB10) TURNING RIGHT N TO W JCT MID
BT - DRV NOT CONTACTED N/S HIT FIRST

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

153 0116XH30121 TUE 16/02/16 16:39 LIGHT COWLEY RD J/W COWLEY RD SLIP RD 26 LINK 122-142 505370 / 183480

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY SLIP ROAD GIVE WAY/UNCONT NO XING FACILITY IN 50M

V2 TURNED RIGHT FROM STAT TRAFFIC THAT V1 WAS OVERTAKING, CAUSING COLLISION.

CASUALTY 001 (001) (22 Yrs - M UNKN) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) M/C > 500CC (22 Yrs - M UNKN) OVERTAKE MOVE VEH O/S S TO N JNY PART OF WORK JCT MID
BT - NOT REQUESTED N/S HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - F UB8) TURNING RIGHT S TO E LEAVING MAIN RD
BT - NOT REQUESTED O/S HIT FIRST

V002 A 403 (POOR TURN OR MANOEUVRE)

V002 A 405 (FAILED TO LOOK PROPERLY)

V001 B 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

154 0116XH30122 MON 22/02/16 12:50 LIGHT PIELD HEATH RD J/W PIELD HEATH AVENUE 26 LINK 101-103 507430 / 181890
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M
 V1 OVERTOOK ANOTHER VEHICLE, COLLIDING WITH REAR OF V2, PUSHING V2 INTO REAR OF V3.

CASUALTY 001 (003) (36 Yrs - F UB3) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (43 Yrs - M N19) OVERTAKE STAT VEH O/S NE TO SW JCT APP
 BT - NOT REQUESTED FRONT HIT FIRST

VEHICLE 002 (001) CAR (32 Yrs - F UB4) GOING AHEAD HELD UP NE TO SW JCT APP
 BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 003 (002) CAR (36 Yrs - F UB3) WAITING TO TURN RIGHT NE TO NW JCT MID
 BT - NOT REQUESTED BACK HIT FIRST

V001 A 403 (POOR TURN OR MANOEUVRE) V001 A 602 (CARELESS/RECKLESS/IN A HURRY)
 V001 A 405 (FAILED TO LOOK PROPERLY)

155 0116XH30168 FRI 26/02/16 11:45 LIGHT PIELD HEATH RD 66M NORTH WEST OF J/W COLHAM RD 26 LINK 101-110 506940 / 181930
 POLICE - OVER COU ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M
 AS V1 MOVED OFF PASSENGER FELL OVER AND HIT A BAR ON THE BUS. - [C1 POSSIBLY BOT HOLDING ON. (C001)]

CASUALTY 001 (001) (88 Yrs - F UNKN) SERIOUS PASSENGER STANDING ON PSV

VEHICLE 001 (000) BUS/COACH (? Yrs - M UNKN) MOVING OFF NW TO SE JNY PART OF WORK
 BT - DRV NOT CONTACTED DID NOT IMPACT

V001 B 403 (POOR TURN OR MANOEUVRE) C001 B 999 (OTHER FACTOR)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

156 0116XH30172 SAT 12/03/16 16:35 LIGHT HILLINGDON HILL J/W KINGSTON LANE 26 NODE 126 506270 / 182980
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY T/STAG JUN AUTO SIG NO XING FACILITY IN 50M
 V2 DISOBEYED THE ATS COLLIDING WITH ONCOMING V1 WHO WAS TURNING RIGHT.

CASUALTY 001 (002) (13 Yrs - M UB10) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) CAR (22 Yrs - F TW5) TURNING RIGHT NW TO S LEAVING MAIN RD
 BT - NOT REQUESTED N/S HIT FIRST

VEHICLE 002 (001) PEDAL CYCLE (13 Yrs - M UB10) GOING AHEAD OTHER SE TO NW JCT MID
 BT - NOT APPLICABLE FRONT HIT FIRST

V002 B 301 (DISOBEYED AUTOMATIC TRAFFIC SIGNAL) V002 A 401 (JUNCTION OVERSHOOT)
 V002 A 405 (FAILED TO LOOK PROPERLY) V001 A 405 (FAILED TO LOOK PROPERLY)

157 0116XH30182 WED 16/03/16 19:55 DARK COWLEY RD J/W COWLEY MILL RD 26 NODE 122 505350 / 183210
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS
 V2 OVERSHOT THE JUNCTION, COLLIDING WITH V1.

CASUALTY 001 (002) (58 Yrs - M UB8) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) CAR (31 Yrs - F UB8) MOVING OFF W TO E COMM TO/FROM WORK ENTERING MAIN RD
 BT - NOT REQUESTED FRONT HIT FIRST

VEHICLE 002 (001) PEDAL CYCLE (58 Yrs - M UB8) GOING AHEAD OTHER S TO N JCT MID
 BT - NOT APPLICABLE N/S HIT FIRST

V002 A 401 (JUNCTION OVERSHOOT) V002 A 405 (FAILED TO LOOK PROPERLY)
 V001 A 402 (JUNCTION RESTART) V001 A 405 (FAILED TO LOOK PROPERLY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

158 0116XH30200 THU 24/03/16 08:19 LIGHT LONG LANE 50M NORTH OF J/W UXBRIDGE RD 26 LINK 129-152 507430 / 182730

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY PRIV DRIVE GIVE WAY/UNCONT PEDN PHASE AT ATS

V2 TURNED RIGHT ACROSS PATH OF ONCOMING V1, CAUSING COLLISION.

CASUALTY 001 (001) (54 Yrs - F UB3) SLIGHT DRIVER/RIDER

CASUALTY 002 (002) (26 Yrs - F UNKN) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (54 Yrs - F UB3) SLOWING OR STOPPING N TO S COMM TO/FROM WORK JCT MID
BT - NEGATIVE FRONT HIT FIRST

VEHICLE 002 (001) CAR (26 Yrs - F UNKN) TURNING RIGHT S TO E JNY PART OF WORK LEAVING MAIN RD
BT - NEGATIVE N/S HIT FIRST

V002 A 403 (POOR TURN OR MANOEUVRE)

V002 A 405 (FAILED TO LOOK PROPERLY)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)

159 0116XH30207 THU 31/03/16 08:53 LIGHT PIELD HEATH RD J/W COLHAM RD 26 NODE 101 506980 / 181910

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY MINI GIVE WAY/UNCONT NO XING FACILITY IN 50M

PED STEPPED INTO PATH OF V1, CAUSING COLLISION.

CASUALTY 001 (001) (52 Yrs - F UB7) SERIOUS PEDESTRIAN CROSSING ROAD (NOT ON XING) UNKNOWN FROM DRIVERS N/SIDE

VEHICLE 001 (000) CAR (22 Yrs - F UB8) GOING AHEAD OTHER NW TO SE JNY PART OF WORK JCT APP
BT - NOT REQUESTED N/S HIT FIRST

C001 A 802 (FAILED TO LOOK PROPERLY)

C001 A 808 (CARELESS/RECKLESS/IN A HURRY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

160 0116XH30331 TUE 24/05/16 06:30 LIGHT COWLEY MILL RD J/W COWLEY RD 26 NODE 122 505330 / 183210
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS
PED IN CWY - NOT INJ

V2 SWERVED TO AVOID AN UNINJURED PED AND COLLIDED WITH V1.

CASUALTY 001 (002) (49 Yrs - M UB10) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (33 Yrs - M UB8) SLOWING OR STOPPING W TO E COMM TO/FROM WORK JCT APP
 BT - NOT REQUESTED FRONT HIT FIRST

VEHICLE 002 (001) PEDAL CYCLE (49 Yrs - M UB10) GOING AHEAD OTHER E TO W JNY PART OF WORK JCT CLEARED
 BT - NOT APPLICABLE FRONT HIT FIRST

V002 A 409 (SWERVED)

U000 A 802 (FAILED TO LOOK PROPERLY)

U000 A 808 (CARELESS/RECKLESS/IN A HURRY)

V002 B 405 (FAILED TO LOOK PROPERLY)

161 0116XH30353 WED 01/06/16 18:30 LIGHT COWLEY RD J/W QUEEN'S RD 26 LINK 92-123 505360 / 182980
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

V1 BRAKED SUDDENLY CAUSING PASSENGER TO FALL OVER.

CASUALTY 001 (001) (32 Yrs - F UB8) SLIGHT PASSENGER STANDING ON PSV

VEHICLE 001 (000) BUS/COACH (31 Yrs - M TW2) SLOWING OR STOPPING N TO S JNY PART OF WORK JCT APP
 BT - NOT REQUESTED DID NOT IMPACT

V001 A 408 (SUDDEN BRAKING)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

162 0116XH30372 FRI 10/06/16 07:45 LIGHT LONG LANE 51M NORTH OF J/W UXBRIDGE RD 26 LINK 129-152 507430 / 182730
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY PRIV DRIVE GIVE WAY/UNCONT PEDN PHASE AT ATS
 V2 TURNED RIGHT ACROSS PATH OF ONCOMING V1, CAUSING COLLISION.

CASUALTY 001 (002) (43 Yrs - F UNKN) SLIGHT DRIVER/RIDER
 CASUALTY 002 (002) (15 Yrs - F UB4) SLIGHT PASSENGER FRONT SEAT
 VEHICLE 001 (002) CAR (32 Yrs - M AL7) SLOWING OR STOPPING N TO S COMM TO/FROM WORK JCT MID
 BT - NOT REQUESTED FRONT HIT FIRST
 VEHICLE 002 (001) CAR (43 Yrs - F UNKN) TURNING RIGHT S TO E TAKING PUPIL TO/FROM SC LEAVING MAIN RD
 BT - NOT REQUESTED N/S HIT FIRST

V001 A 701 (VISION AFFECTED - STATIONARY OR PARKED VEHICLE(S)) V002 A 701 (VISION AFFECTED - STATIONARY OR PARKED VEHICLE(S))
 V002 B 403 (POOR TURN OR MANOEUVRE) V002 A 405 (FAILED TO LOOK PROPERLY)

163 0116XH30402 MON 13/06/16 16:45 LIGHT UXBRIDGE RD J/W DENZILOE AVENUE 26 LINK 129-131 507580 / 182540
 POLICE - OVER COU ROAD-WET WEATHER-FINE DUAL CWY OTHER JUN AUTO SIG PEDN PHASE AT ATS
 V2 COLLIDED WITH O/S OF V1.

CASUALTY 001 (001) (41 Yrs - M UB8) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) PEDAL CYCLE (41 Yrs - M UB8) GOING AHEAD OTHER SE TO NW COMM TO/FROM WORK JCT MID
 BT - NOT APPLICABLE O/S HIT FIRST
 LEFT CWY NEARSIDE HIT KERB
 VEHICLE 002 (001) GDS 3.5-7.5T (? Yrs - U UNKN) GOING AHEAD OTHER SE TO NW JCT MID
 BT - DRV NOT CONTACTED N/S HIT FIRST

V002 A 405 (FAILED TO LOOK PROPERLY) V002 A 407 (PASSING TOO CLOSE TO CYCLIST, HORSE RIDER OR PEDESTRIAN)
 V002 A 602 (CARELESS/RECKLESS/IN A HURRY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

164 0116XH30386 WED 15/06/16 17:35 LIGHT HILLINGDON RD J/W TURNPIKE LANE 26 LINK 124-126 506140 / 183130

POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY SLIP ROAD GIVE WAY/UNCONT PEDN PHASE AT ATS

AS V1 BRAKED SUDDENLY V2 HIT V1'S REAR. V3 THEN HIT V2'S REAR.

CASUALTY 001 (003) (29 Yrs - F UB4) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (? Yrs - M UNKN) SLOWING OR STOPPING NW TO SE JCT MID
BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 002 (001) CAR (40 Yrs - F UB4) SLOWING OR STOPPING NW TO SE COMM TO/FROM WORK JCT MID
BT - NOT REQUESTED FRONT HIT FIRST

VEHICLE 003 (002) CAR (29 Yrs - F UB4) SLOWING OR STOPPING NW TO SE COMM TO/FROM WORK JCT MID
BT - NOT REQUESTED FRONT HIT FIRST

V001 A 408 (SUDDEN BRAKING)

V002 A 308 (FOLLOWING TOO CLOSE)

V003 A 308 (FOLLOWING TOO CLOSE)

V001 A 308 (FOLLOWING TOO CLOSE)

165 0116XH30392 SAT 18/06/16 12:50 LIGHT UXBRIDGE RD J/W THE CROSSWAY 26 LINK 89-126 506760 / 182930

POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY OTHER JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

V1 TURNED RIGHT INTO PATH OF V2, CAUSING COLLISION.

CASUALTY 001 (002) (35 Yrs - M UB10) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (59 Yrs - M UNKN) TURNING RIGHT S TO E JNY PART OF WORK JCT MID
BT - NOT REQUESTED N/S HIT FIRST

VEHICLE 002 (001) CAR (35 Yrs - M UB10) GOING AHEAD OTHER W TO E JCT MID
BT - NOT REQUESTED O/S HIT FIRST

V001 A 403 (POOR TURN OR MANOEUVRE)

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

166 0116XH30406 TUE 21/06/16 16:30 LIGHT PIELD HEATH RD 91M SOUTH EAST OF J/W ROYAL LANE 26 LINK 101-110 506810 / 182010
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M ZEBRA
 PED STEPPED INTO PATH OF V1, CAUSING COLLISION.
 CASUALTY 001 (001) (37 Yrs - M HA6) SLIGHT PEDESTRIAN CROSSING ROAD ON PED XING UNKNOWN FROM DRIVERS O/SIDE
 VEHICLE 001 (000) BUS/COACH (34 Yrs - M UB8) GOING AHEAD OTHER SE TO NW JNY PART OF WORK
 BT - NOT REQUESTED FRONT HIT FIRST

C001 A 808 (CARELESS/RECKLESS/IN A HURRY) C001 B 805 (DANGEROUS ACTION IN CARRIAGEWAY (EG PLAYING))
 V001 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

167 0116XH30410 FRI 24/06/16 08:34 LIGHT COWLEY RD J/W HINTON RD 26 LINK 122-142 505390 / 183750
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE ONE-WAY ST T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

V1 TURNED LEFT AS V2 ON THE N/S, CAUSING COLLISION.
 CASUALTY 001 (002) (66 Yrs - M HA4) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) CAR (22 Yrs - F WD24) TURNING LEFT N TO NE JNY PART OF WORK LEAVING MAIN RD
 BT - NOT REQUESTED N/S HIT FIRST
 VEHICLE 002 (001) PEDAL CYCLE (66 Yrs - M HA4) GOING AHEAD OTHER N TO S JCT MID
 BT - NOT APPLICABLE FRONT HIT FIRST
 CYCLE LANE (ON CWY)

V001 A 403 (POOR TURN OR MANOEUVRE) V001 A 405 (FAILED TO LOOK PROPERLY)
 V001 A 407 (PASSING TOO CLOSE TO CYCLIST, HORSE RIDER OR PEDESTRIAN)

168 0116XH30418 FRI 24/06/16 20:42 LIGHT UXBRIDGE ROAD J/W LEES ROAD 26 NODE 131 507740 / 182420
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY T/STAG JUN AUTO SIG PEDN PHASE AT ATS

V2 HIT REAR V1
 CASUALTY 001 (001) (30 Yrs - F HA5) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) CAR (30 Yrs - F HA5) GOING AHEAD HELD UP NW TO SE JCT APP
 BT - NOT REQUESTED BACK HIT FIRST
 VEHICLE 002 (001) CAR (27 Yrs - F UB8) MOVING OFF NW TO SE JCT APP
 BT - NOT REQUESTED FRONT HIT FIRST

V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

169 0116XH30435 FRI 01/07/16 18:05 LIGHT HIGH STREET J/W IVER LANE 26 NODE 93 505400 / 182270
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN AUTO SIG PEDN PHASE AT ATS
 PED CROSSED ROAD INTO PATH OF V1
 CASUALTY 001 (001) (61 Yrs - M SL2) SERIOUS PEDESTRIAN CROSSING ROAD WITHIN 50M XING W BOUND FROM DRIVERS O/SIDE
 VEHICLE 001 (000) CAR (80 Yrs - M TW5) GOING AHEAD OTHER S TO N JCT APP
 BT - NEGATIVE FRONT HIT FIRST

C001 A 808 (CARELESS/RECKLESS/IN A HURRY)

170 0116XH30453 WED 06/07/16 12:50 LIGHT UXBRIDGE ROAD SERVICE ROAD J/W PARKFIELD AVENUE 26 CELL 507500/182000 507700 / 182490
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M
 V1 TURNED RIGHT HITTING V2
 CASUALTY 001 (002) (23 Yrs - M UB10) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) CAR (19 Yrs - M UB4) TURNING RIGHT N TO NW JCT MID
 BT - NEGATIVE FRONT HIT FIRST
 VEHICLE 002 (001) CAR (23 Yrs - M UB10) GOING AHEAD OTHER SE TO NW JCT MID
 BT - NEGATIVE O/S HIT FIRST

V001 A 405 (FAILED TO LOOK PROPERLY)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)

171 0116XH30456 THU 07/07/16 21:30 LIGHT PARK ROAD J/W HILLINGDON ROAD 26 NODE 147 505970 / 183860
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY ROUNDABOUT GIVE WAY/UNCONT NO XING FACILITY IN 50M
 V2 HIT REAR V1
 CASUALTY 001 (001) (23 Yrs - F HA5) SLIGHT DRIVER/RIDER
 VEHICLE 001 (002) CAR (23 Yrs - F HA5) SLOWING OR STOPPING N TO S JCT APP
 BT - NOT REQUESTED BACK HIT FIRST
 VEHICLE 002 (001) CAR (30 Yrs - M TW4) GOING AHEAD OTHER N TO S JCT APP
 BT - NOT REQUESTED FRONT HIT FIRST

V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V002 A 602 (CARELESS/RECKLESS/IN A HURRY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)

MD01 GIS AREA Hillingdon1 (P) 36 MTS TO JUL-2016 SORTED BY DATE

172 0116XH30471 TUE 19/07/16 11:45 LIGHT WINDSOR STREET J/W CHAPEL STREET 26 CELL 505000/183500 505400 / 183920
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE ONE-WAY ST OTHER JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M
 ROADWORKS

DRIVER V1, TIPPER TRUCK, LOST CONTROL

CASUALTY 001 (001) (30 Yrs - M SL3) SLIGHT DRIVER/RIDER

VEHICLE 001 (000) OTH MOT VEH (30 Yrs - M SL3) GOING AHEAD LEFT BEND NW TO NE JNY PART OF WORK JCT CLEARED
 BT - NOT REQUESTED OVERTURN N/S HIT FIRST

V001 A 410 (LOSS OF CONTROL)

173 0116XH30482 SAT 23/07/16 22:04 DARK COWLEY ROAD J/W FERNDALE CRESCENT 26 LINK 92-123 505350 / 182690
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M
 PED CROSSED ROAD INTO PATH OF V1 MASKED BY STATIONARY VEHICLE

CASUALTY 001 (001) (26 Yrs - F RM9) SERIOUS PEDESTRIAN CROSSING ROAD (NOT ON XING) W BOUND FROM DRIVERS O/SIDE MSK

VEHICLE 001 (000) CAR (58 Yrs - F GU12) OVERTAKE STAT VEH O/S S TO N JCT MID
 BT - NEGATIVE O/S HIT FIRST

C001 A 801 (CROSSED ROAD MASKED BY STATIONARY OR PARKED VEHICLE)

C001 A 808 (CARELESS/RECKLESS/IN A HURRY)

174 0116XH30483 SUN 24/07/16 10:20 LIGHT COWLEY ROAD J/W CHILTERN VIEW ROAD 26 NODE 122 505350 / 183210
 POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS
 V1 TURNED RIGHT ACROSS PATH V2

CASUALTY 001 (001) (23 Yrs - M UB8) SLIGHT DRIVER/RIDER

CASUALTY 002 (002) (52 Yrs - M WD3) SLIGHT DRIVER/RIDER

CASUALTY 003 (002) (48 Yrs - F WD3) SLIGHT PASSENGER FRONT SEAT

VEHICLE 001 (002) CAR (23 Yrs - M UB8) TURNING RIGHT S TO E JCT MID
 BT - NOT REQUESTED N/S HIT FIRST

VEHICLE 002 (001) CAR (52 Yrs - M WD3) GOING AHEAD OTHER N TO S JCT MID
 BT - NOT REQUESTED FRONT HIT FIRST

V001 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)

V001 A 602 (CARELESS/RECKLESS/IN A HURRY)



Hillingdon GIS Area Collisions - 3 years to 31- Jul -2016 (provisional)


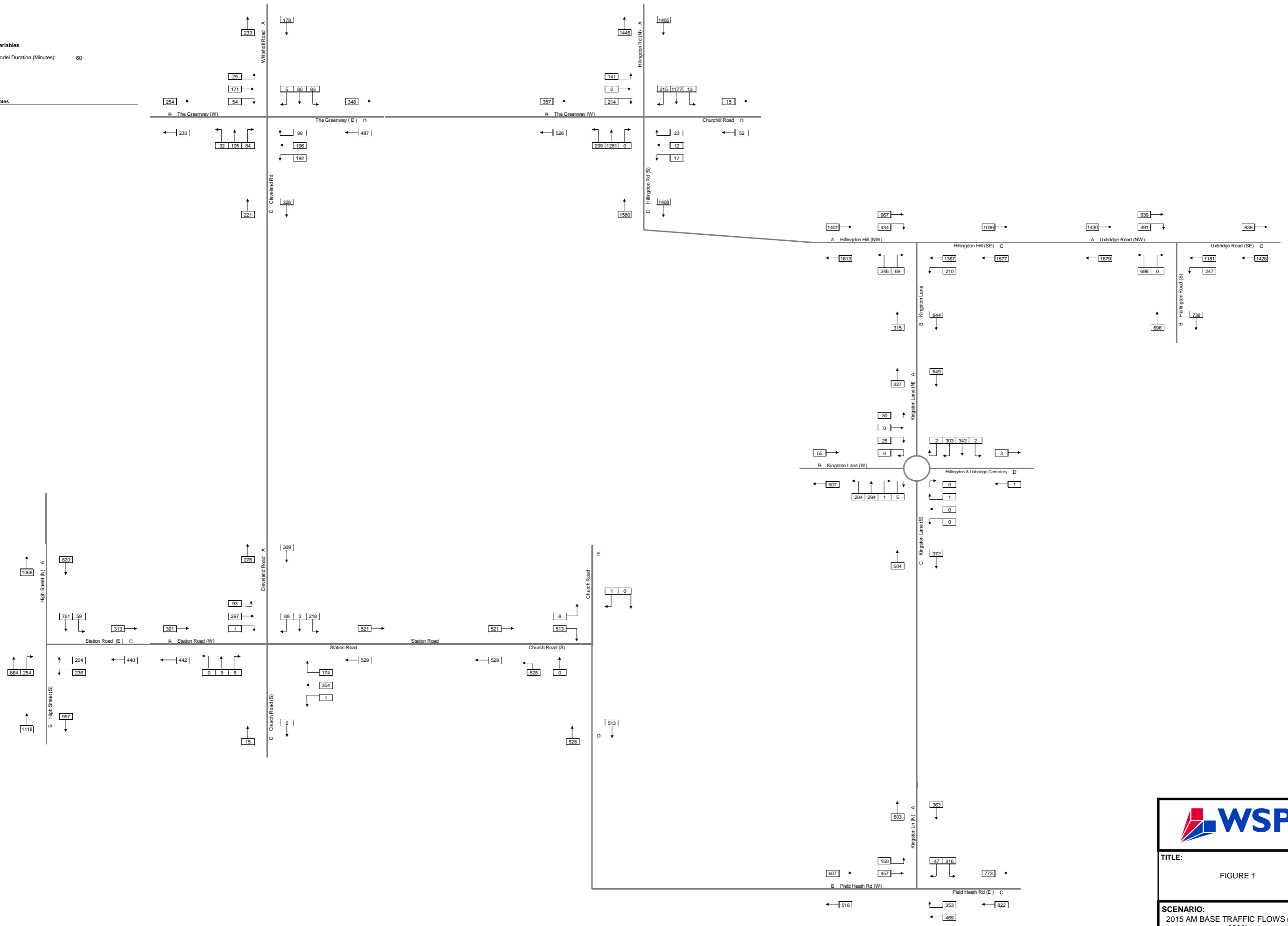
MD01 GIS AREA Hillingdon1 (P)		36 MTS TO JUL-2016 SORTED BY DATE	
175	0116XH30486	MON 25/07/16 20:00	LIGHT PIELD HEATH ROAD 45M SOUTH EAST J/W ROYAL LANE
			26 LINK 101-110 506770 / 182030
POLICE - AT SCENE ROAD-DRY		WEATHER-FINE	SINGLE CWY NO JUN IN 20M
V1 PULLED OUT TO OVERTAKE STATIONARY VEHICLE AS V2 WAS OVERTAKING		NO XING FACILITY IN 50M	
CASUALTY 001 (002) (19 Yrs - M UB7)		SLIGHT	DRIVER/RIDER
VEHICLE	001 (002)	GDS =< 3.5T (30 Yrs - M UB7)	OVERTAKE STAT VEH O/S SE TO NW
		BT - NOT REQUESTED	O/S HIT FIRST
VEHICLE	002 (001)	M/C <= 50CC (19 Yrs - M UB7)	OVERTAKE MOVE VEH O/S SE TO NW
		BT - NOT REQUESTED	N/S HIT FIRST
V001 A 405 (FAILED TO LOOK PROPERLY)		V002 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)	

End of Accidents for MD01 GIS AREA Hillingdon1 (P)

End of Report

Variables
Model Duration (Minutes): 60

Notes




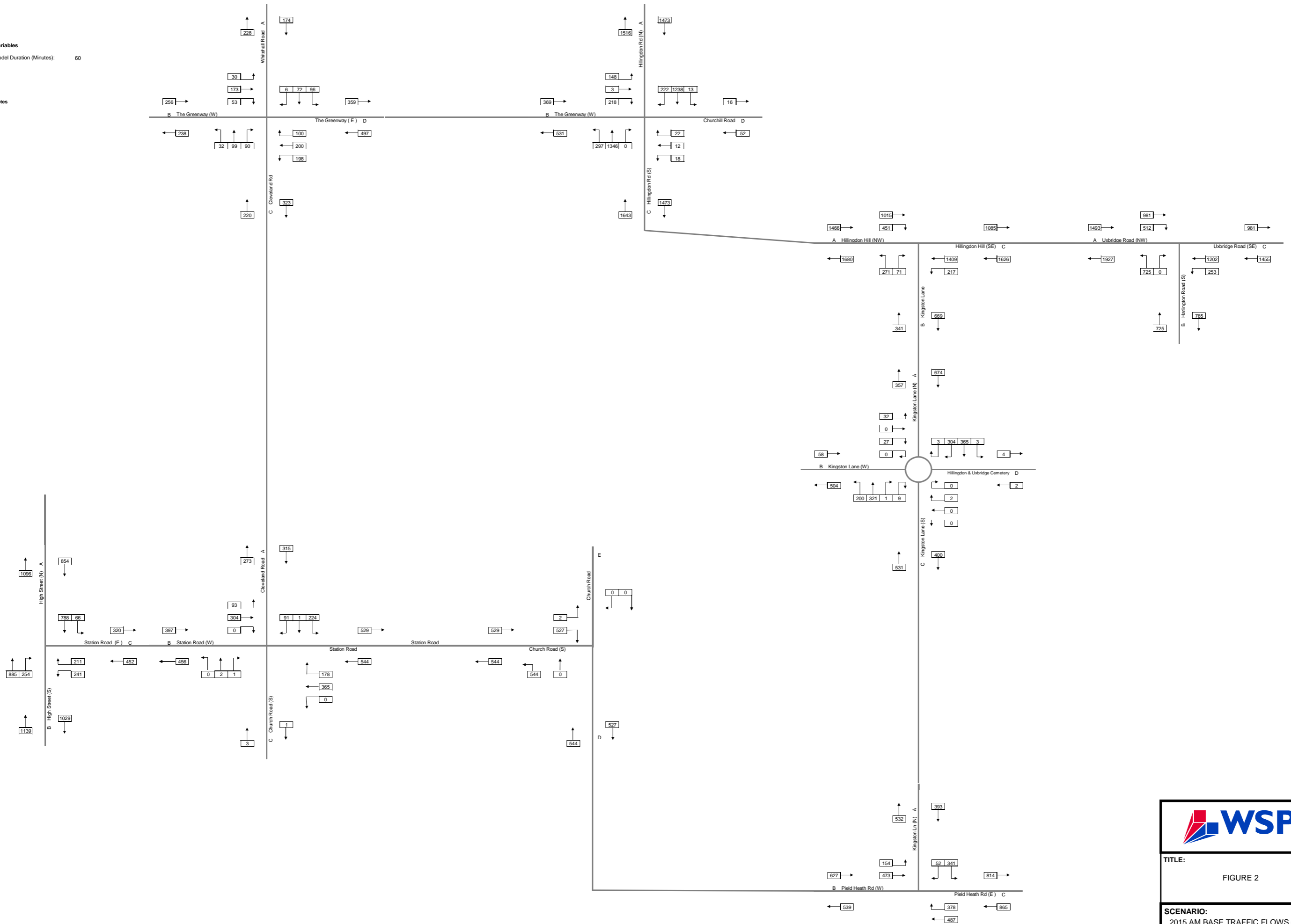
TITLE:
FIGURE 1

SCENARIO:
2015 AM BASE TRAFFIC FLOWS (0800-0900)

Variables

Model Duration (Minutes): 60

Notes

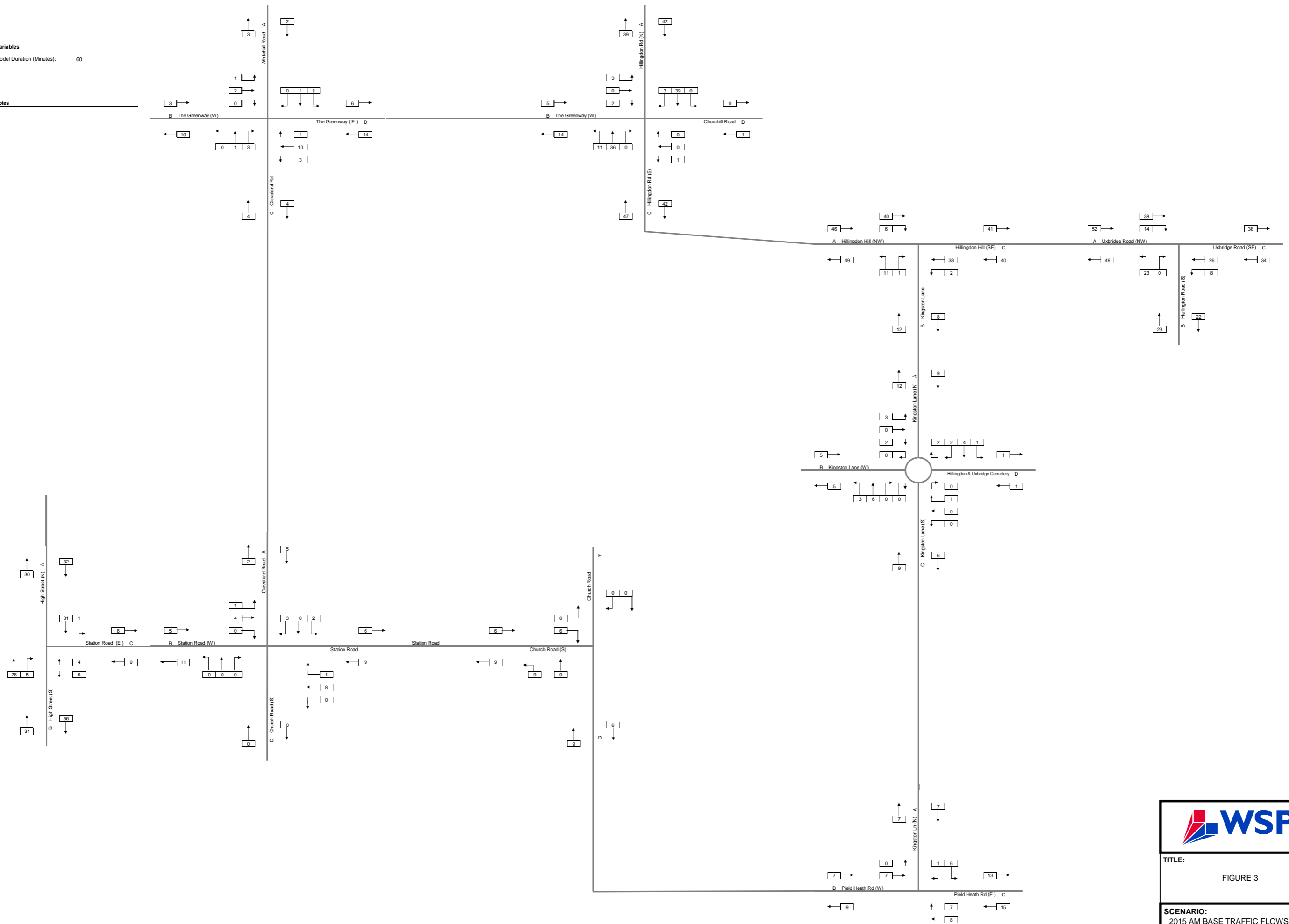



TITLE:
FIGURE 2

SCENARIO:
2015 AM BASE TRAFFIC FLOWS (0800-0900) (PCU)

Variables
 Model Duration (Minutes): 60

Notes

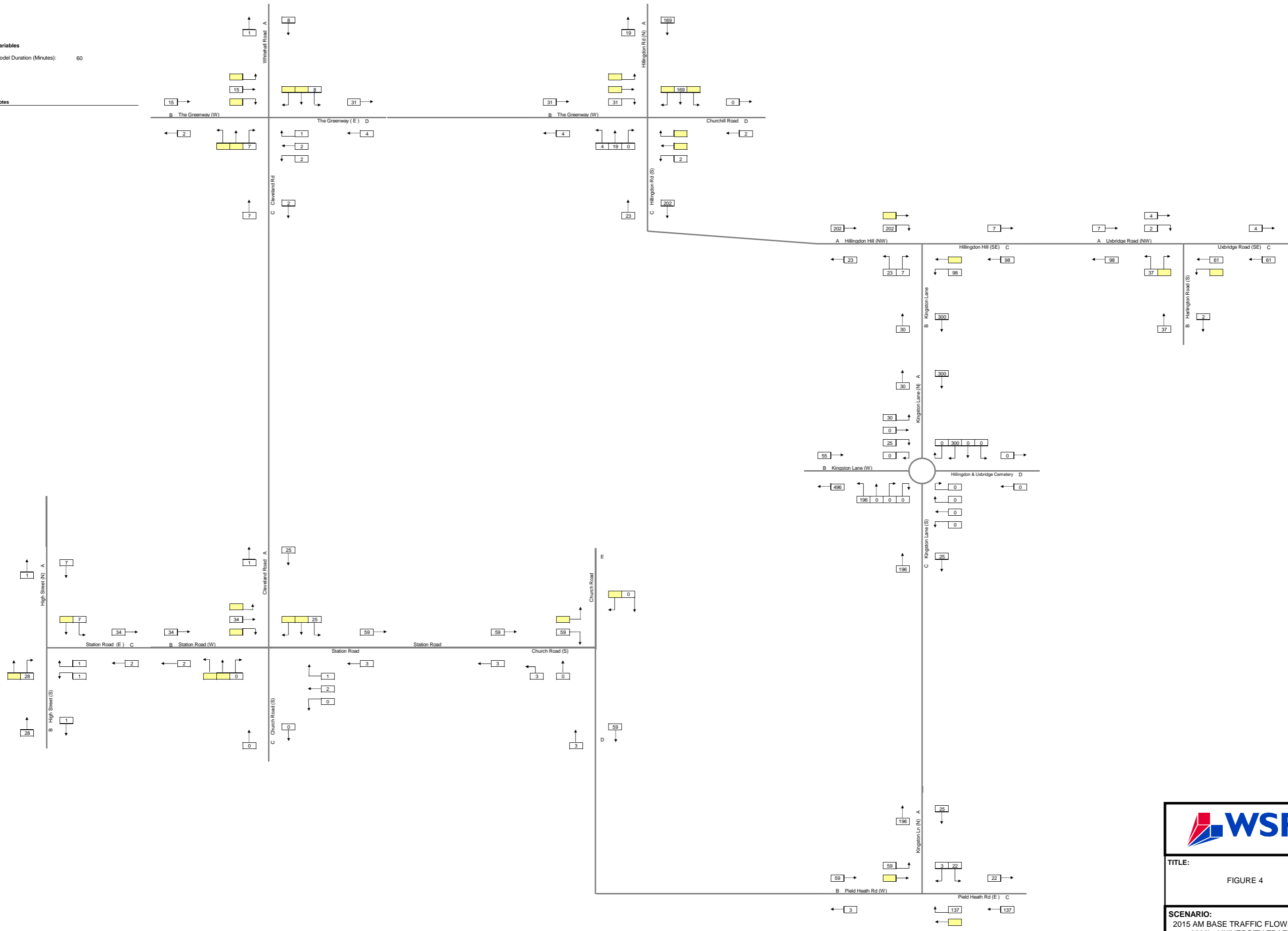



TITLE:
 FIGURE 3

SCENARIO:
 2015 AM BASE TRAFFIC FLOWS(0800-0900) (HGV)

Variables
 Model Duration (Minutes): 60

Notes



WSP


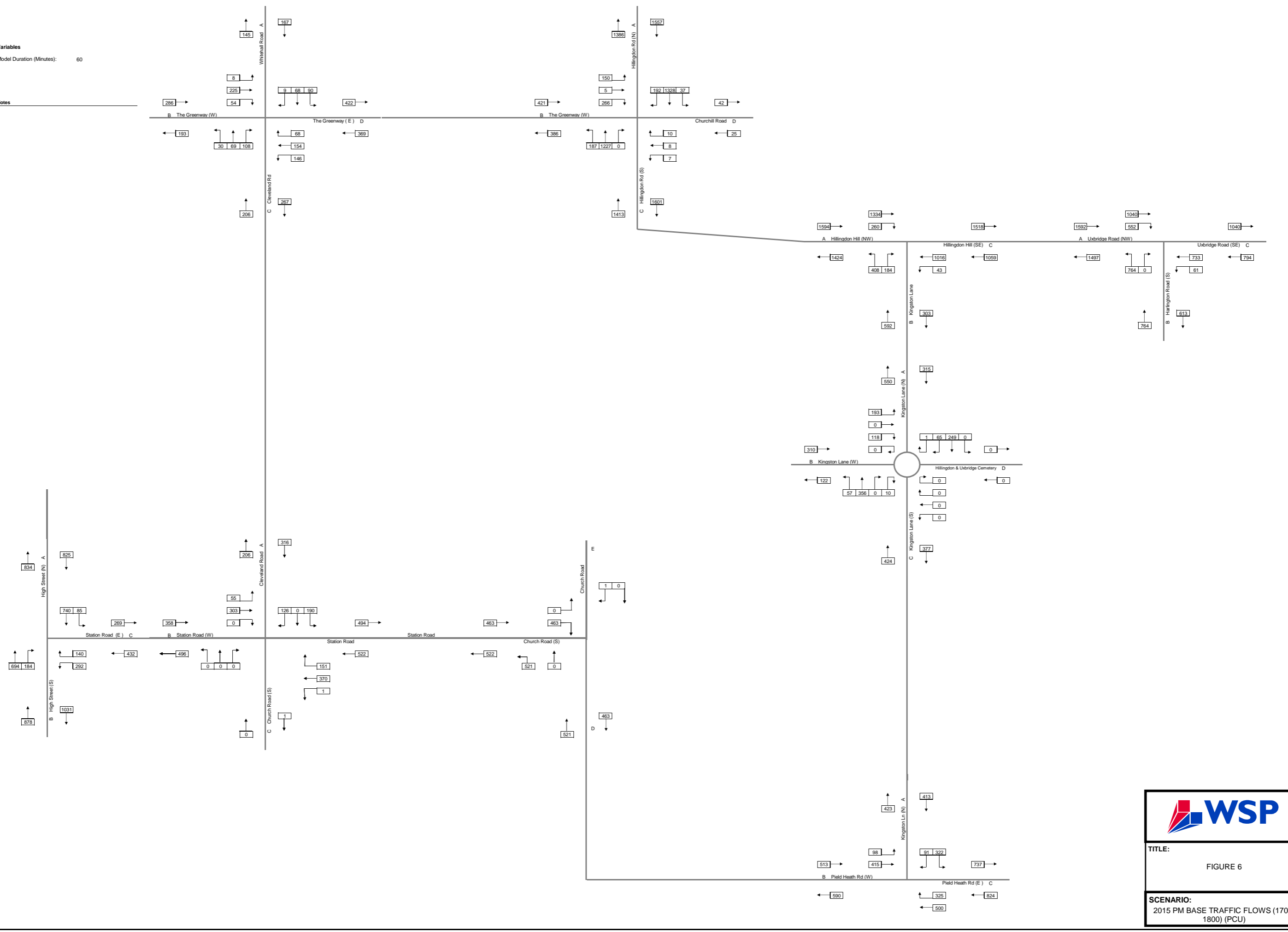
TITLE:
 FIGURE 4

SCENARIO:
 2015 AM BASE TRAFFIC FLOWS (0800-0900) - UNIVERSITY TRAFFIC

Variables

Model Duration (Minutes): 60

Notes

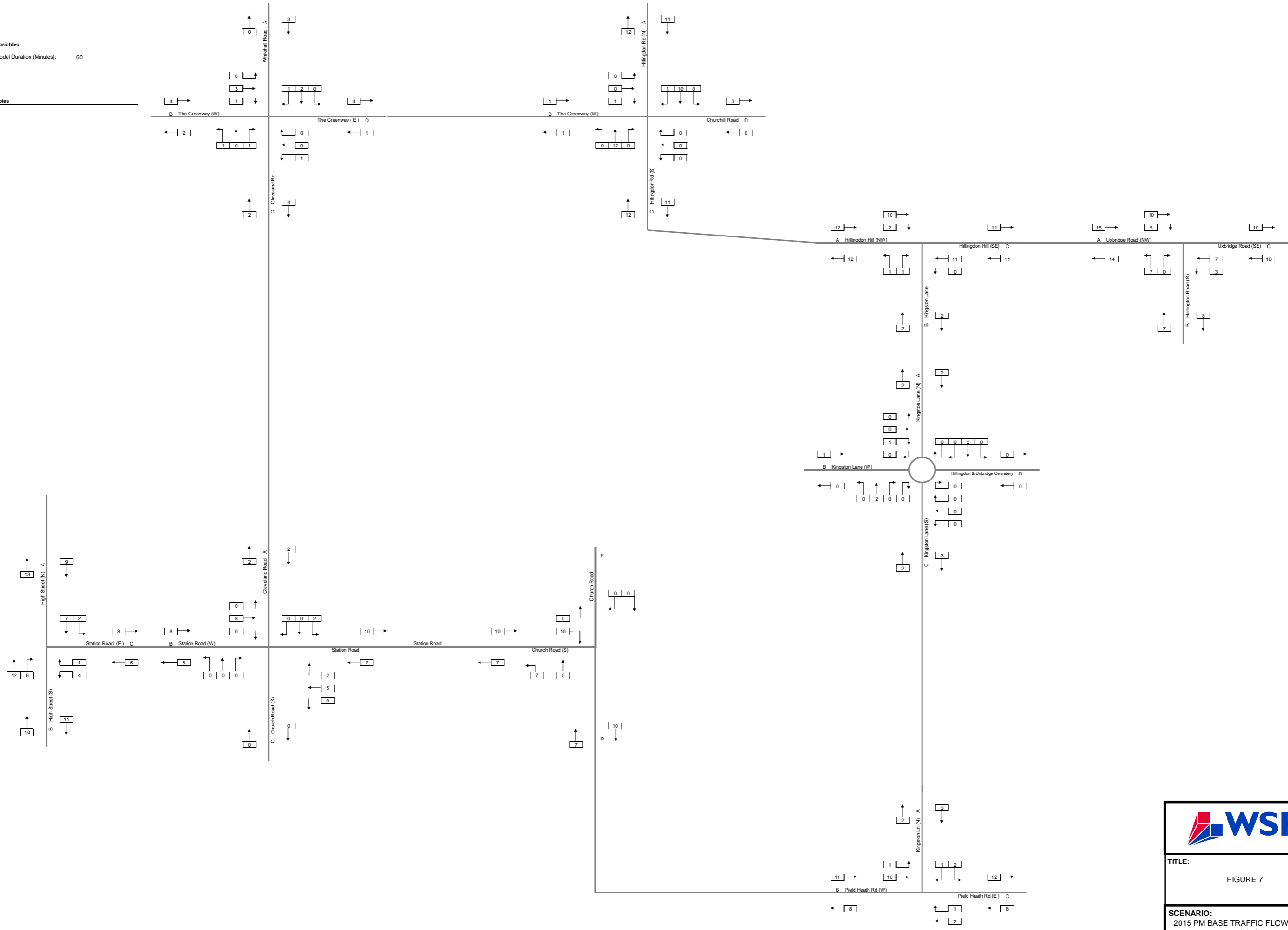



TITLE:
FIGURE 6

SCENARIO:
2015 PM BASE TRAFFIC FLOWS (1700-1800) (PCU)

Variables
 Model Duration (Minutes): 60

Notes

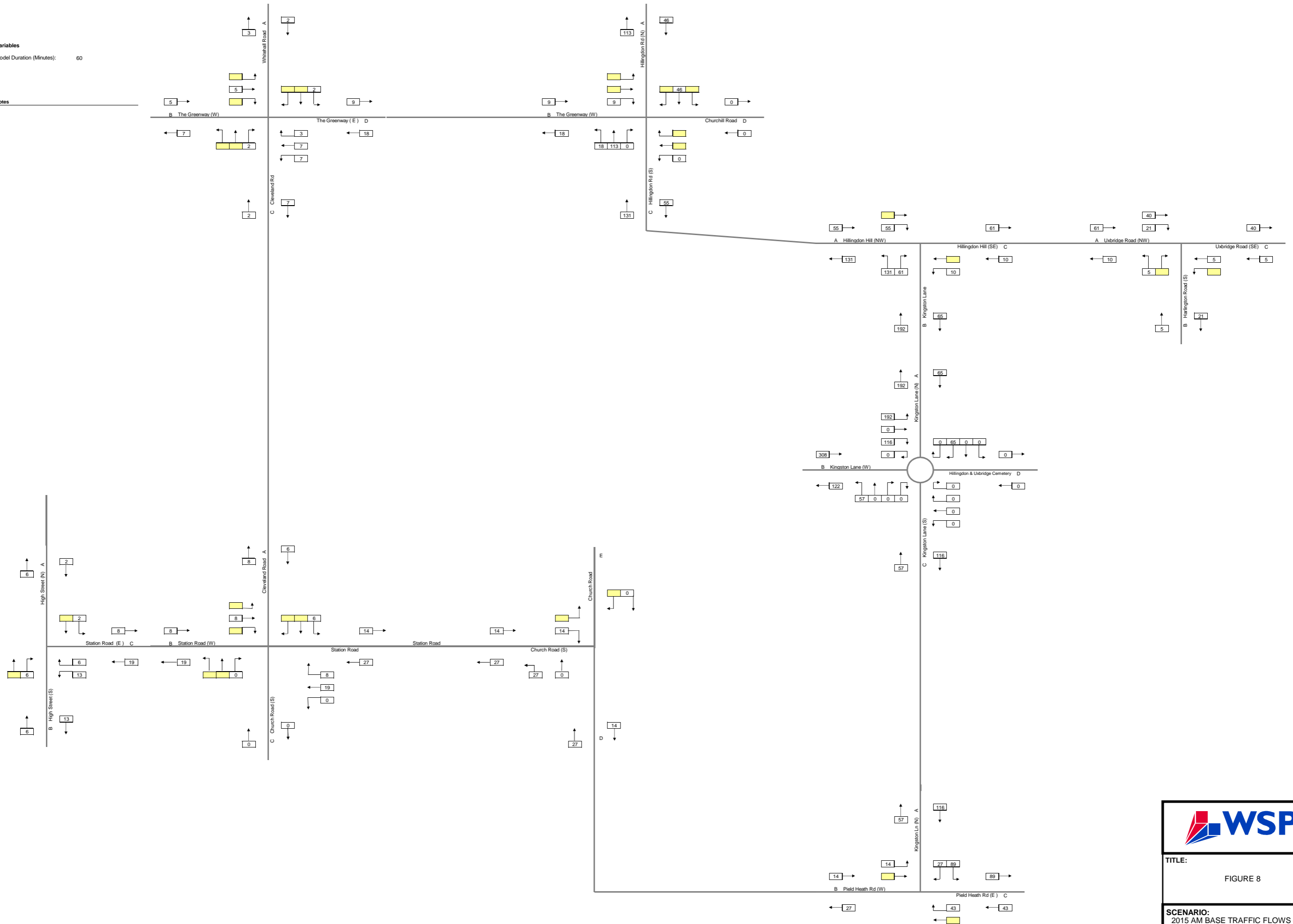



TITLE:
 FIGURE 7

SCENARIO:
 2015 PM BASE TRAFFIC FLOWS(1700-1800) (HGV)

Variables
 Model Duration (Minutes): 60

Notes



WSP

TITLE:
 FIGURE 8


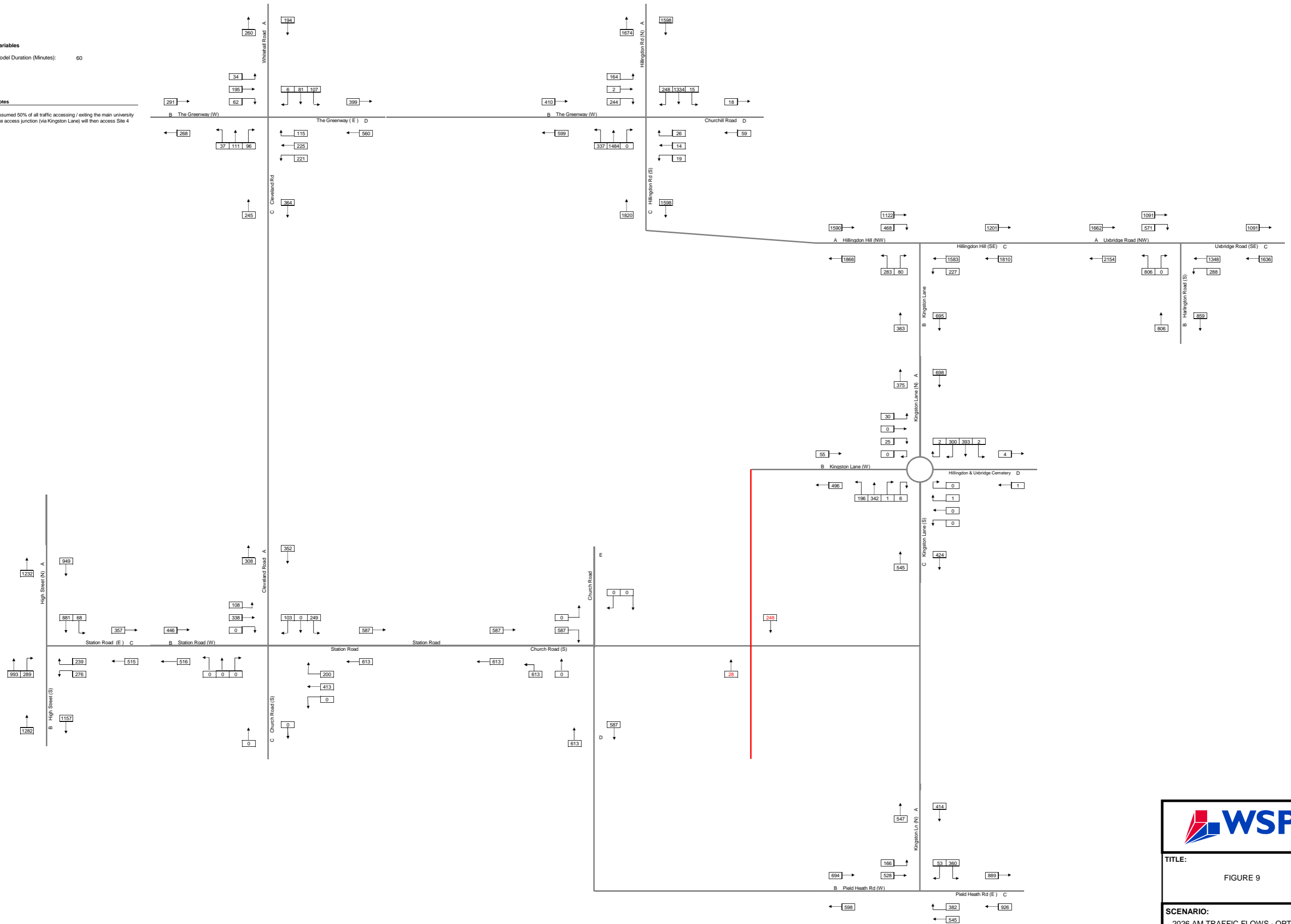
SCENARIO:
 2015 AM BASE TRAFFIC FLOWS (1700-1800) - UNIVERSITY TRAFFIC

Variables

Model Duration (Minutes): 60

Notes

Assumed 50% of all traffic accessing / exiting the main university site access junction (via Kingston Lane) will then access Site 4



TITLE:
FIGURE 9

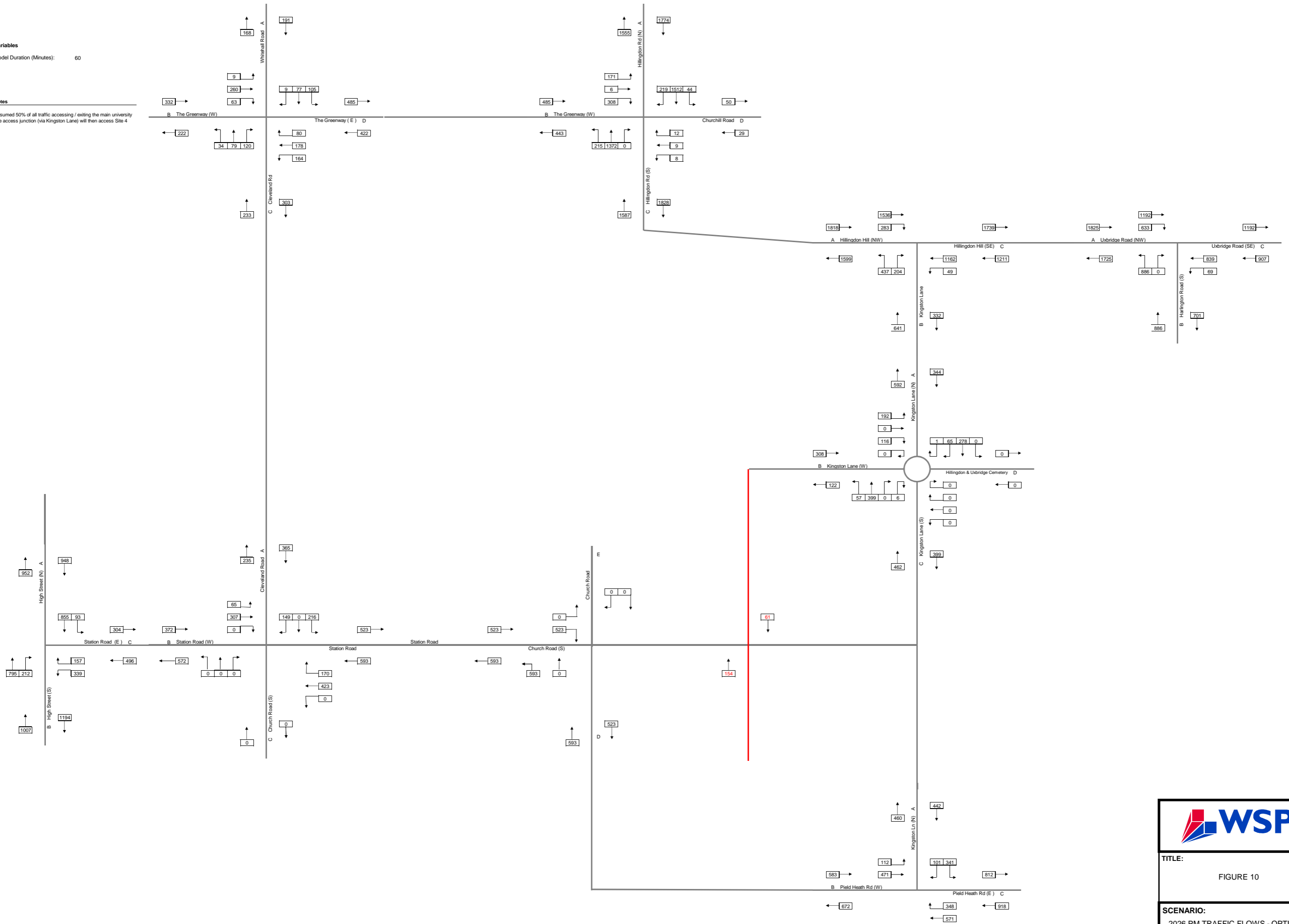
SCENARIO:
2026 AM TRAFFIC FLOWS - OPTION 1

Variables

Model Duration (Minutes): 60

Notes

Assumed 50% of all traffic accessing / exiting the main university site access junction (via Kingston Lane) will then access Site 4

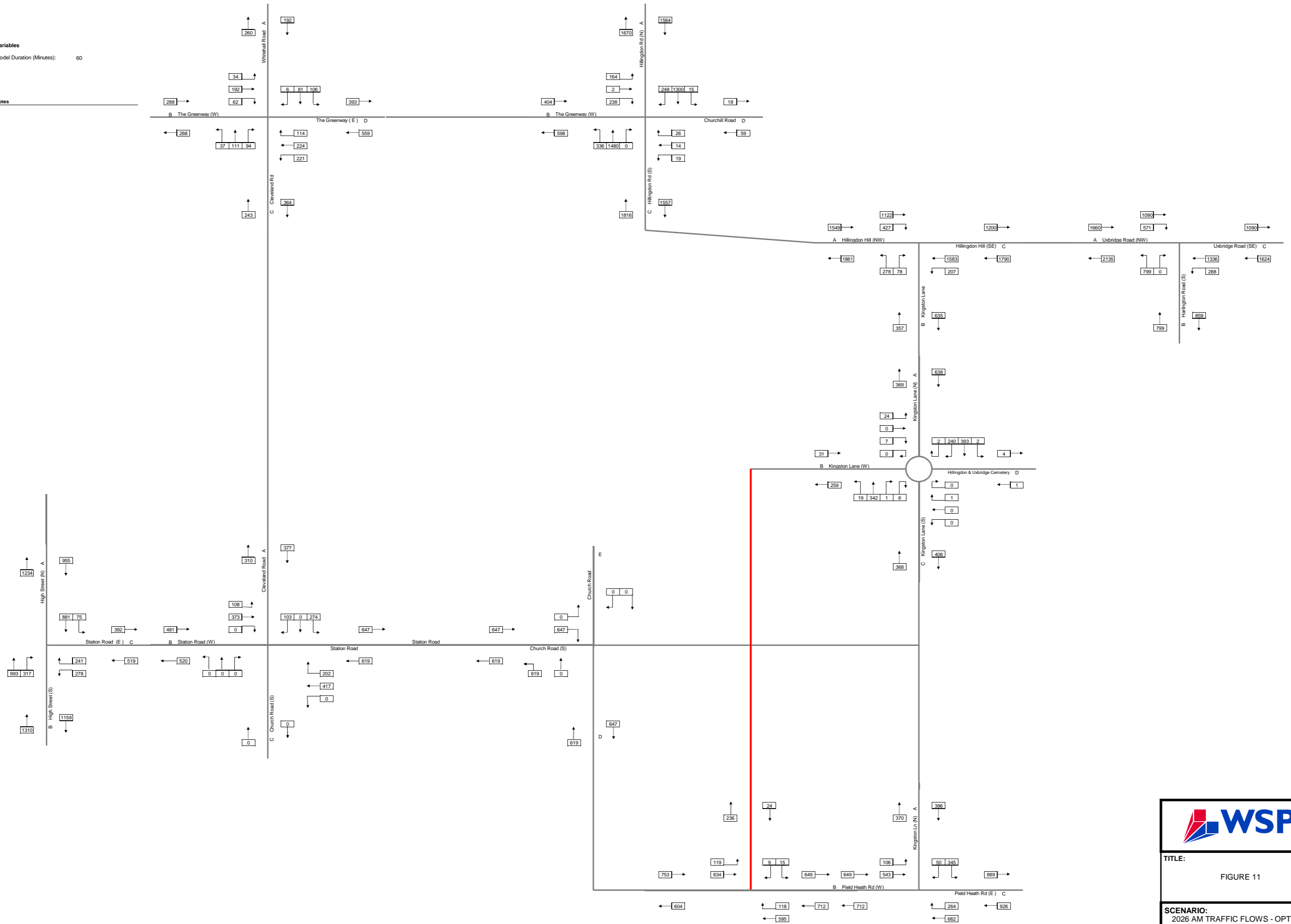


TITLE:
FIGURE 10

SCENARIO:
2026 PM TRAFFIC FLOWS - OPTION 2

Variables
Model Duration (Minutes): 60

Notes

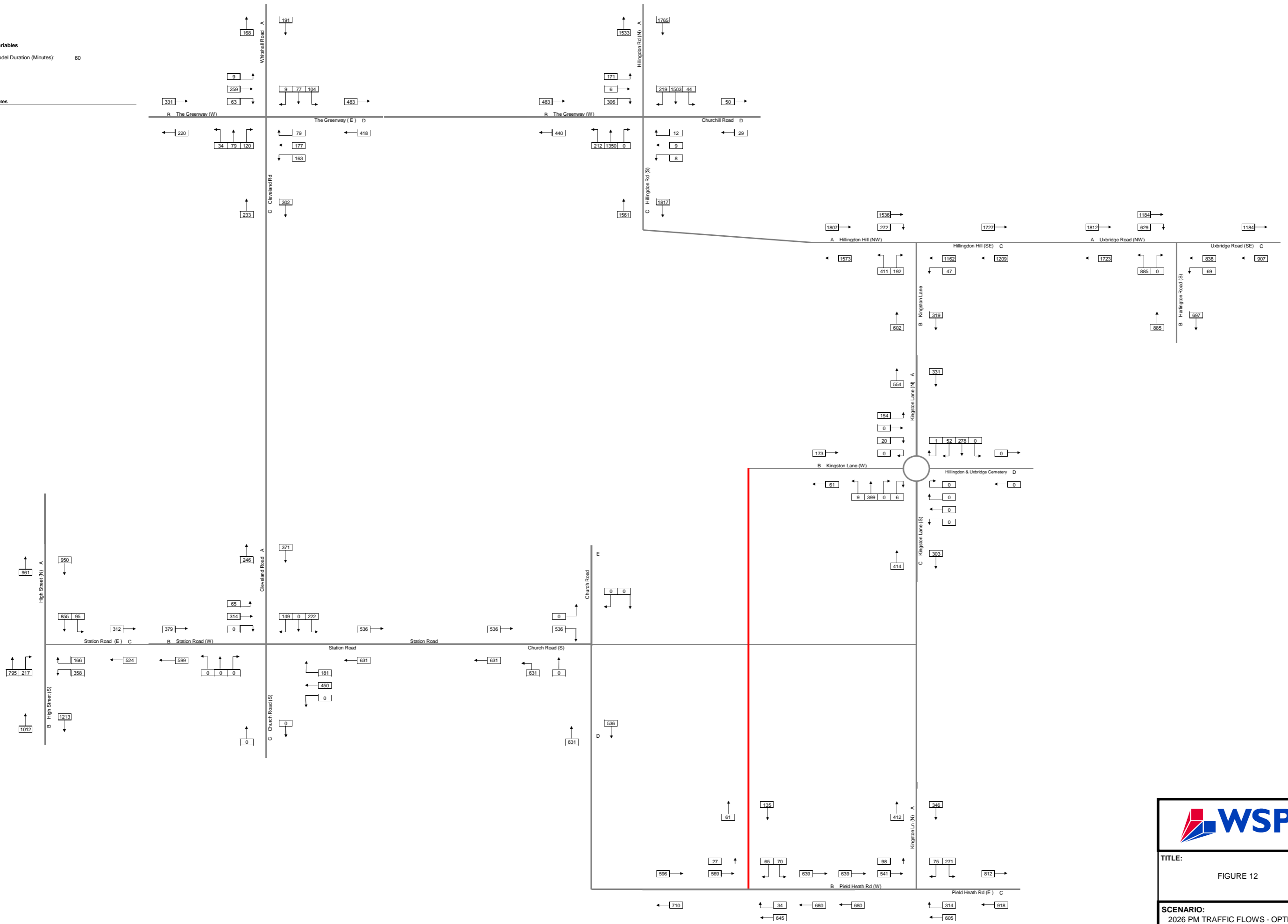


TITLE:
FIGURE 11

SCENARIO:
2026 AM TRAFFIC FLOWS - OPTION 2
(GROWTH BASELINE)

Variables
Model Duration (Minutes): 60


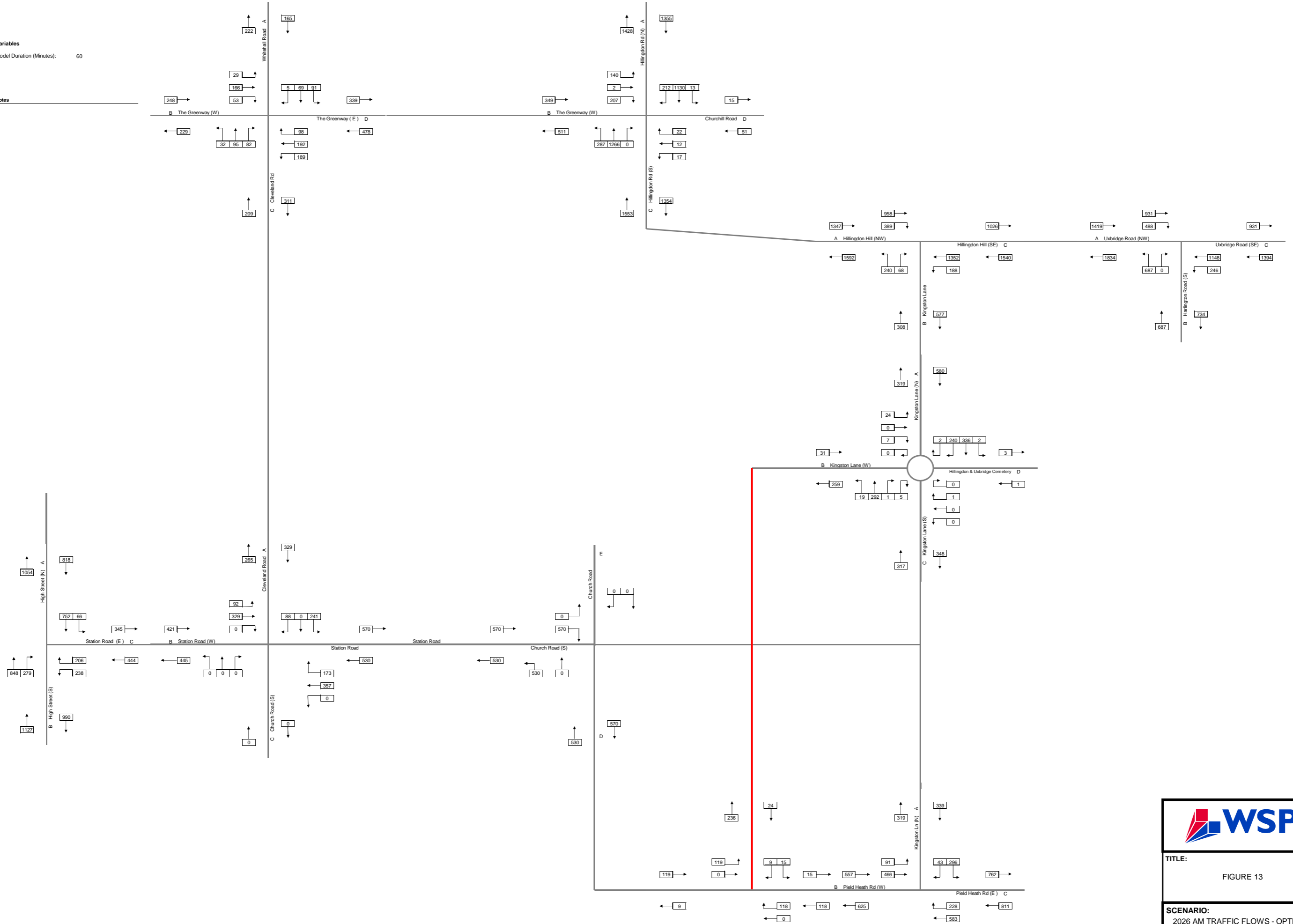
Notes



TITLE:
FIGURE 12
SCENARIO:
2026 PM TRAFFIC FLOWS - OPTION 2
(GROWTHED BASELINE)

Variables
Model Duration (Minutes): 60

Notes


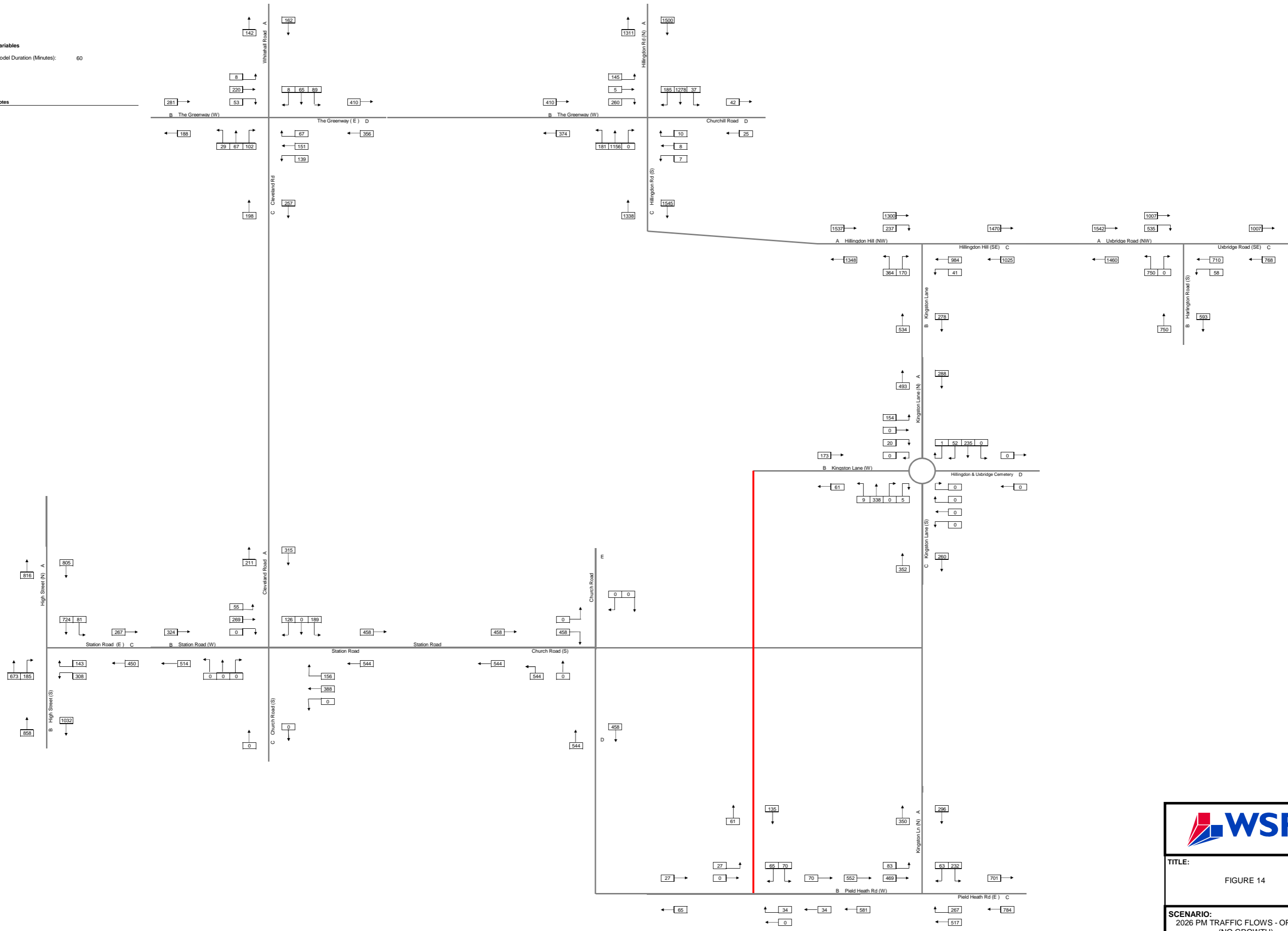


TITLE:
FIGURE 13

SCENARIO:
2026 AM TRAFFIC FLOWS - OPTION 2
(NO GROWTH)

Variables
Model Duration (Minutes): 60

Notes



TITLE:
FIGURE 14

SCENARIO:
2026 PM TRAFFIC FLOWS - OPTION 2
(NO GROWTH)

TRAVL - Trip Count by Mode and Time

Report ID 10

Address: Clarence Close (Private)
 Clarence Close
 Barnet
 EN4 8AD
 395
 Survey Date: 02/11/2004

Business Class Location
 PTAL
 No of Dwellings
 395
 No. parked cars at start
 90

Residential Development
 C3 - Residential
 Outer
 104
 3

	Car Drivers		Car Pass		Motor bikes		Bikes		Taxi Vehs		Bus		Tube		Train		Walk PT		Coach Pass		Park & Ride		DLR		Tram		River Boat		Unknown		Other		Total	Out		
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out				
07:00-07:30	1	4															5																1	9		
07:30-08:00		5															7																	14		
08:00-08:30		3								2							23																	29		
08:30-09:00	2	15		1												1																	3	16		
09:00-09:30	1	1														2	8																3	9		
09:30-10:00	3	1														2	11																3	12		
10:00-10:30																	5	5																2	7	
10:30-11:00	2	1														2	2																	5	4	
11:00-11:30	3	2														4	3																	4	3	
11:30-12:00																3	8																	4	8	
12:00-12:30	1															5	3																	8	5	
12:30-13:00	3	2														12	6																	17	7	
13:00-13:30	5	1														5	5																	6	7	
13:30-14:00	1	2														7	4																	11	5	
14:00-14:30	3	1	1													3	3																	4	7	
14:30-15:00	1	1		3												11	1																	12	9	
15:00-15:30	1	8														2																		11	4	
15:30-16:00	9	4														12	1																	14	6	
16:00-16:30	1	3	1	2												1	9																	6	10	
16:30-17:00	4	1	1													11	1																	13	7	
17:00-17:30	2	6														15	12																	26	14	
17:30-18:00	10	2			1											25	11																	30	16	
18:00-18:30	7															14	4																	23	7	
18:30-19:00	5	4	1													25	11																	27	12	
19:00-19:30	8	2			1	1										1	2																	10	3	
19:30-20:00	2	1														1	4																	8	6	
20:00-20:30	5	1							4							8	6																	11	6	
20:30-21:00	10	3														10	5																	11	6	
21:00-21:30																																			11	6
21:30-22:00	1	1																																	2	2
Total	91	75	3	7	2	2	0	3	4	2	0	0	0	0	0	0	202	167	0	0	0	0	0	0	0	0	0	0	0	0	0	302	256			

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 Printed On 27/04/2012 Predictor Type : No of Dwellings TRAVL Version : 8.15

Page 1 of 2

TRAVL - Trip Count by Mode and Time

Report ID 10

Managed by MVA Consultancy on behalf of Transport for London
 Printed On 27/04/2012 Predictor Type : No of Dwellings TRAVL Version : 8.15

Page 2 of 2

TRAVL - Trip Count by Mode and Time

Report ID 10

Address: Clarence Close (Private)
 Clarence Close
 Barnet
 EN4 8AD
 395
 Survey Date: 02/11/2004

Business Class Location
 PTAL
 No of Dwellings
 395
 No. parked cars at start
 90

Residential Development
 C3 - Residential
 Outer
 104
 3

	Car Drivers		Car Pass		Motor bikes		Bikes		Taxi Vehs		Bus		Tube		Train		Walk PT		Coach Pass		Park & Ride		DLR		Tram		River Boat		Unknown		Other		Total	Out
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out		
07:00-07:30	0.01	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.09		
07:30-08:00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13		
08:00-08:30	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28		
08:30-09:00	0.02	0.14	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.15		
09:00-09:30	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.09	
09:30-10:00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.12		
10:00-10:30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00		
10:30-11:00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06		
11:00-11:30	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.04		
11:30-12:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.03		
12:00-12:30	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.08		
12:30-13:00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.05		
13:00-13:30	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.07		
13:30-14:00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.07		
14:00-14:30	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.05		
14:30-15:00	0.01	0.01	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.07		
15:00-15:30	0.01	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.01	0.00	0.00	0.00														

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

Calculation Factor: 1 DWELLS

Count Type: TOTAL PEOPLE

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00-01:00	0	0	0	0	0	0	0	0	0
01:00-02:00	0	0	0	0	0	0	0	0	0
02:00-03:00	0	0	0	0	0	0	0	0	0
03:00-04:00	0	0	0	0	0	0	0	0	0
04:00-05:00	0	0	0	0	0	0	0	0	0
05:00-06:00	0	0	0	0	0	0	0	0	0
06:00-07:00	0	0	0	0	0	0	0	0	0
07:00-08:00	1	132	0.061	1	132	0.333	1	132	0.394
08:00-09:00	1	132	0.038	1	132	0.553	1	132	0.591
09:00-10:00	1	132	0.098	1	132	0.273	1	132	0.371
10:00-11:00	1	132	0.083	1	132	0.25	1	132	0.333
11:00-12:00	1	132	0.129	1	132	0.212	1	132	0.341
12:00-13:00	1	132	0.091	1	132	0.121	1	132	0.212
13:00-14:00	1	132	0.114	1	132	0.152	1	132	0.266
14:00-15:00	1	132	0.106	1	132	0.098	1	132	0.204
15:00-16:00	1	132	0.114	1	132	0.121	1	132	0.235
16:00-17:00	1	132	0.227	1	132	0.129	1	132	0.356
17:00-18:00	1	132	0.371	1	132	0.258	1	132	0.629
18:00-19:00	1	132	0.492	1	132	0.189	1	132	0.681
19:00-20:00	0	0	0	0	0	0	0	0	0
20:00-21:00	0	0	0	0	0	0	0	0	0
21:00-22:00	0	0	0	0	0	0	0	0	0
22:00-23:00	0	0	0	0	0	0	0	0	0
23:00-24:00	0	0	0	0	0	0	0	0	0
Daily Trip Rates:			1.924			2.689			4.613

Trip Rate Parameter: number of dwellings

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

Calculation Factor: 1 DWELLS

Count Type: VEHICLES

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00-01:00	0	0	0	0	0	0	0	0	0
01:00-02:00	0	0	0	0	0	0	0	0	0
02:00-03:00	0	0	0	0	0	0	0	0	0
03:00-04:00	0	0	0	0	0	0	0	0	0
04:00-05:00	0	0	0	0	0	0	0	0	0
05:00-06:00	0	0	0	0	0	0	0	0	0
06:00-07:00	0	0	0	0	0	0	0	0	0
07:00-08:00	1	132	0.023	1	132	0.083	1	132	0.106
08:00-09:00	1	132	0.023	1	132	0.159	1	132	0.182
09:00-10:00	1	132	0.045	1	132	0.083	1	132	0.128
10:00-11:00	1	132	0.023	1	132	0.061	1	132	0.084
11:00-12:00	1	132	0.053	1	132	0.053	1	132	0.106
12:00-13:00	1	132	0.061	1	132	0.045	1	132	0.106
13:00-14:00	1	132	0.053	1	132	0.083	1	132	0.136
14:00-15:00	1	132	0.053	1	132	0.023	1	132	0.076
15:00-16:00	1	132	0.03	1	132	0.045	1	132	0.075
16:00-17:00	1	132	0.053	1	132	0.045	1	132	0.098
17:00-18:00	1	132	0.098	1	132	0.068	1	132	0.166
18:00-19:00	1	132	0.121	1	132	0.053	1	132	0.174
19:00-20:00	0	0	0	0	0	0	0	0	0
20:00-21:00	0	0	0	0	0	0	0	0	0
21:00-22:00	0	0	0	0	0	0	0	0	0
22:00-23:00	0	0	0	0	0	0	0	0	0
23:00-24:00	0	0	0	0	0	0	0	0	0
Daily Trip Rates:			0.636			0.801			1.437

Trip Rate Parameter: number of dwellings

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

Calculation Factor: 1 DWELLS

Count Type: PEDESTRIANS

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00-01:00	0	0	0	0	0	0	0	0	0
01:00-02:00	0	0	0	0	0	0	0	0	0
02:00-03:00	0	0	0	0	0	0	0	0	0
03:00-04:00	0	0	0	0	0	0	0	0	0
04:00-05:00	0	0	0	0	0	0	0	0	0
05:00-06:00	0	0	0	0	0	0	0	0	0
06:00-07:00	0	0	0	0	0	0	0	0	0
07:00-08:00	1	132	0.038	1	132	0.091	1	132	0.129
08:00-09:00	1	132	0.008	1	132	0.061	1	132	0.069
09:00-10:00	1	132	0.023	1	132	0.053	1	132	0.076
10:00-11:00	1	132	0.038	1	132	0.076	1	132	0.114
11:00-12:00	1	132	0.061	1	132	0.053	1	132	0.114
12:00-13:00	1	132	0.015	1	132	0.03	1	132	0.045
13:00-14:00	1	132	0.023	1	132	0.038	1	132	0.061
14:00-15:00	1	132	0.03	1	132	0.023	1	132	0.053
15:00-16:00	1	132	0.053	1	132	0.053	1	132	0.106
16:00-17:00	1	132	0.045	1	132	0.03	1	132	0.075
17:00-18:00	1	132	0.076	1	132	0.045	1	132	0.121
18:00-19:00	1	132	0.076	1	132	0.091	1	132	0.167
19:00-20:00	0	0	0	0	0	0	0	0	0
20:00-21:00	0	0	0	0	0	0	0	0	0
21:00-22:00	0	0	0	0	0	0	0	0	0
22:00-23:00	0	0	0	0	0	0	0	0	0
23:00-24:00	0	0	0	0	0	0	0	0	0
Daily Trip Rates:			0.486			0.644			1.13

Trip Rate Parameter: number of dwellings

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

Calculation Factor: 1 DWELLS

Count Type: CYCLISTS

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00-01:00	0	0	0	0	0	0	0	0	0
01:00-02:00	0	0	0	0	0	0	0	0	0
02:00-03:00	0	0	0	0	0	0	0	0	0
03:00-04:00	0	0	0	0	0	0	0	0	0
04:00-05:00	0	0	0	0	0	0	0	0	0
05:00-06:00	0	0	0	0	0	0	0	0	0
06:00-07:00	0	0	0	0	0	0	0	0	0
07:00-08:00	1	132	0	1	132	0	1	132	0
08:00-09:00	1	132	0.008	1	132	0.008	1	132	0.016
09:00-10:00	1	132	0	1	132	0.008	1	132	0.008
10:00-11:00	1	132	0.008	1	132	0.008	1	132	0.016
11:00-12:00	1	132	0	1	132	0	1	132	0
12:00-13:00	1	132	0.008	1	132	0.008	1	132	0.016
13:00-14:00	1	132	0	1	132	0.008	1	132	0.008
14:00-15:00	1	132	0	1	132	0.008	1	132	0.008
15:00-16:00	1	132	0	1	132	0.008	1	132	0.008
16:00-17:00	1	132	0.008	1	132	0.008	1	132	0.016
17:00-18:00	1	132	0	1	132	0	1	132	0
18:00-19:00	1	132	0	1	132	0	1	132	0
19:00-20:00	0	0	0	0	0	0	0	0	0
20:00-21:00	0	0	0	0	0	0	0	0	0
21:00-22:00	0	0	0	0	0	0	0	0	0
22:00-23:00	0	0	0	0	0	0	0	0	0
23:00-24:00	0	0	0	0	0	0	0	0	0
Daily Trip Rates:			0.032			0.064			0.096

Trip Rate Parameter: number of dwellings

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

Calculation Factor: 1 DWELLS

Count Type: PUBLIC TRANSPORT USERS

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00-01:00	0	0	0	0	0	0	0	0	0
01:00-02:00	0	0	0	0	0	0	0	0	0
02:00-03:00	0	0	0	0	0	0	0	0	0
03:00-04:00	0	0	0	0	0	0	0	0	0
04:00-05:00	0	0	0	0	0	0	0	0	0
05:00-06:00	0	0	0	0	0	0	0	0	0
06:00-07:00	0	0	0	0	0	0	0	0	0
07:00-08:00	1	132	0	1	132	0.144	1	132	0.144
08:00-09:00	1	132	0	1	132	0.318	1	132	0.318
09:00-10:00	1	132	0.03	1	132	0.121	1	132	0.151
10:00-11:00	1	132	0.015	1	132	0.098	1	132	0.113
11:00-12:00	1	132	0.008	1	132	0.083	1	132	0.091
12:00-13:00	1	132	0	1	132	0.03	1	132	0.03
13:00-14:00	1	132	0.038	1	132	0.015	1	132	0.053
14:00-15:00	1	132	0.008	1	132	0.03	1	132	0.038
15:00-16:00	1	132	0.023	1	132	0.015	1	132	0.038
16:00-17:00	1	132	0.121	1	132	0.045	1	132	0.166
17:00-18:00	1	132	0.174	1	132	0.098	1	132	0.272
18:00-19:00	1	132	0.235	1	132	0.023	1	132	0.258
19:00-20:00	0	0	0	0	0	0	0	0	0
20:00-21:00	0	0	0	0	0	0	0	0	0
21:00-22:00	0	0	0	0	0	0	0	0	0
22:00-23:00	0	0	0	0	0	0	0	0	0
23:00-24:00	0	0	0	0	0	0	0	0	0
Daily Trip Rates:			0.652			1.02			1.672

Appendix I

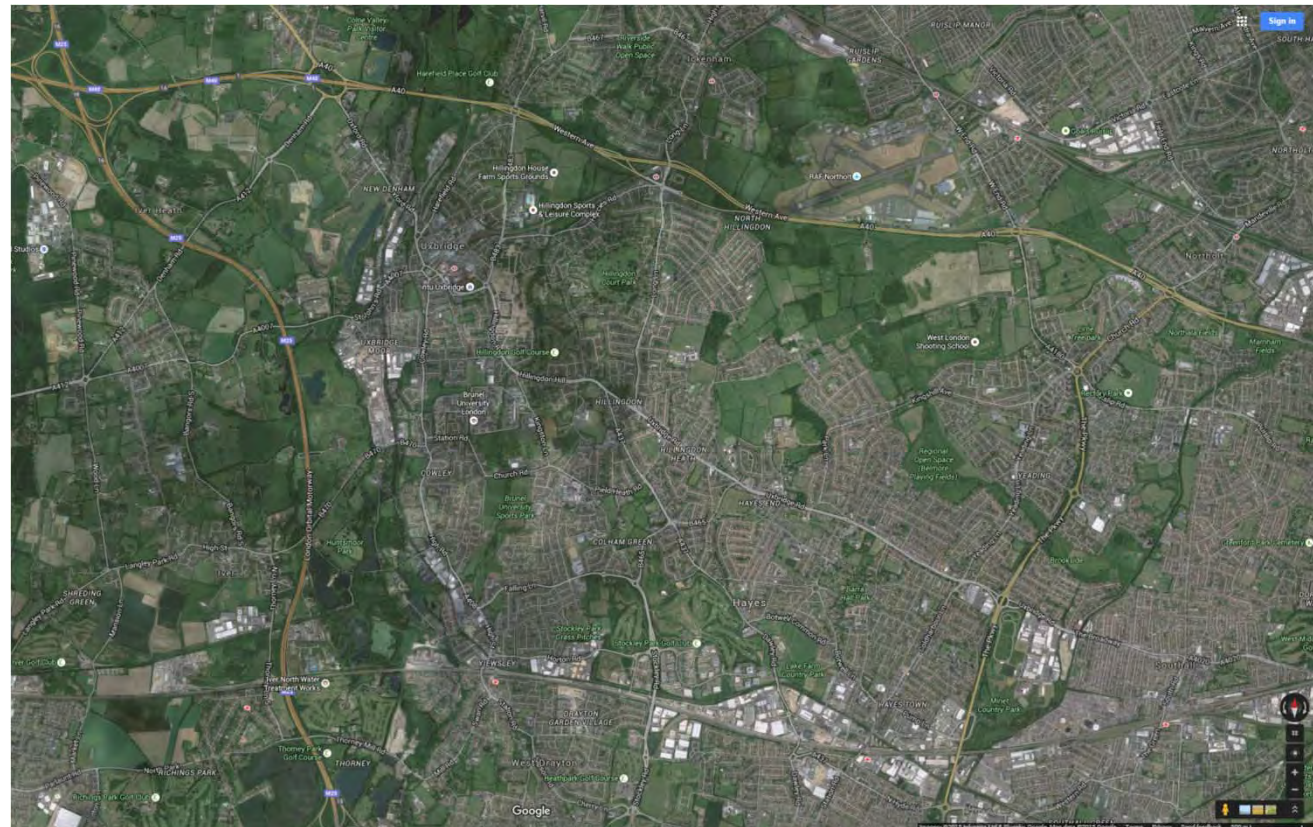
Brunel University London Alternative Site Assessment



Brunei
University

Student Housing
Sequential Site
Search

December 2015



gva.co.uk



Introduction

Purpose

- Brunel University is a significant economic stakeholder, and asset, in Uxbridge and the London Borough of Hillingdon. It has an annual turnover of £187m (2103/14 forecast) and contributes an estimated £445m per annum to the UK economy.
- The university has a strong and growing research function, and building on its success is seeking to grow significantly in relation to its research capability and student numbers. This will deliver economic and social benefits to the local area, the Borough, and London as a whole.
- This analysis considers the locational opportunities for a new, high quality, fully serviced student housing facility to advance the University's mission.

Assumptions

- The university currently has a student population of approximately 13,860 students (2013/14). Student numbers are planned to increase to 21,500 by 2022/23.
- This will require substantial development over the next 5-10 years to provide accommodation for the increased student population. This will incorporate refurbishment of existing accommodation and the development of new accommodation.
 - 14,036sqm of existing floorspace is planned to be replaced
 - There is a requirement for an additional 1,500 bed spaces (40,500 sqm)
 - The assumption is for 27sqm per bedspace
 - the total requirement is for 54,536sqm of student housing.
- It is assumed that a plot to floorspace ratio of 3 would be appropriate, providing for circulation space, some on-site landscaping/open space, service areas (for waste, utilities etc.), service vehicle access, and a small amount of staff and other parking
- This would result in a land requirement of approximately 1.8ha



Approach to Student Housing Site Search

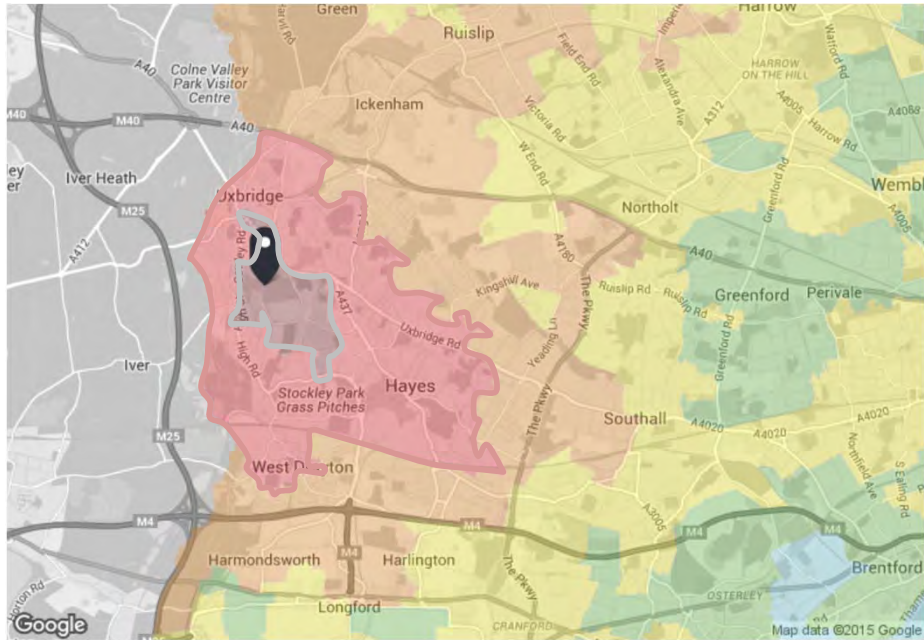
- Travel times between student accommodation and the university campus are considered in relation to the use of public transport and walking (using data from Transport for London)
- A maximum travel time of 15 minutes for the centre of the campus for these modes is considered appropriate and has been mapped.
- This area radius is mapped over a number of aerial photos, base maps and the Local Plan map
- The search is for a site of approximately 1.8ha, which could accommodate 1,500 additional bedspaces.
- This 1.8ha area is mapped in the context of the area of search, to identify potential development sites.
- A series of maps and aerial photos including the LB Hillingdon Local Plan Part 2 Policies Map is used to identify the sites that meet these locational and size requirements
- Five sites are initially identified within the search area which could accommodate the required scale of development. The details and land use/policy constraints are considered to identify whether are suitable for the new student accommodation development.
 - Sites which have current recreational /open space uses are discounted (e.g. school and community playing fields, recreation grounds, golf courses etc.)
 - Sites with Local Plan Site Allocations are discounted.
- At this time there are no sites which meet the locational and size criteria within the area of search, beyond Green Belt sites within the University area.



Travel Time
Analysis

Public
Transport and
Walking

Travel Times: Public Transport to and from Brunel University Campus (central point)



TIM output for 2011 (Base year)
 Mode: All public transport modes. Time of day: AM peak. Direction: From location
 Easting: 505859. Northing: 182637
 Code: NT086A05A

Map key - Travel Time

- < 15 minutes
- 15 - 30 minutes
- 30 - 45 minutes
- 45 - 60 minutes
- 60 - 75 minutes
- > 75 minutes

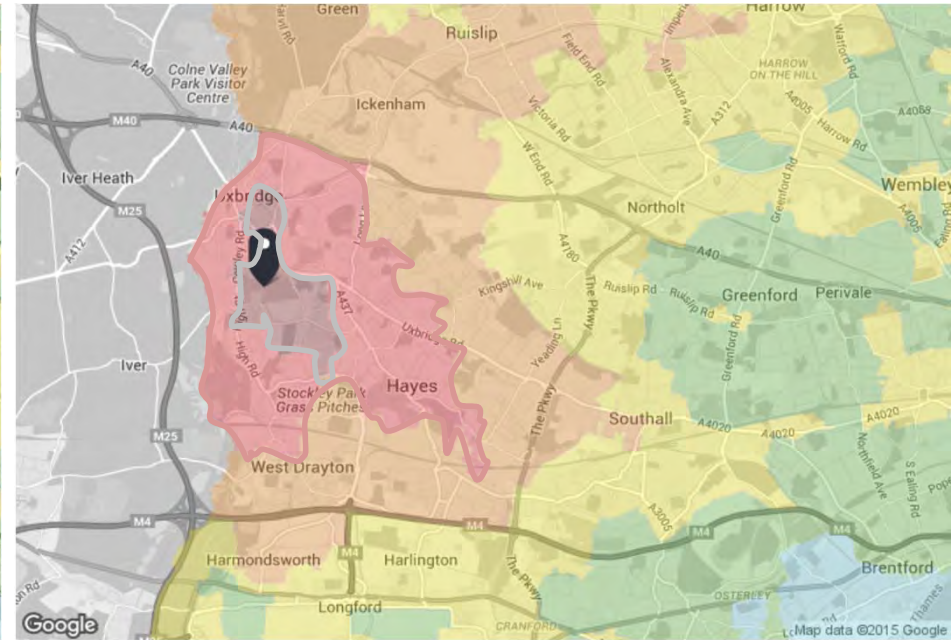
Map layers

- Travel Times

Copyright 2015, TfL



Travelling From Brunel



TIM output for 2011 (Base year)
 Mode: All public transport modes. Time of day: AM peak. Direction: To location
 Easting: 505859. Northing: 182637
 Code: NT086A05A

Map key - Travel Time

- < 15 minutes
- 15 - 30 minutes
- 30 - 45 minutes
- 45 - 60 minutes
- 60 - 75 minutes
- > 75 minutes

Map layers

- Travel Times

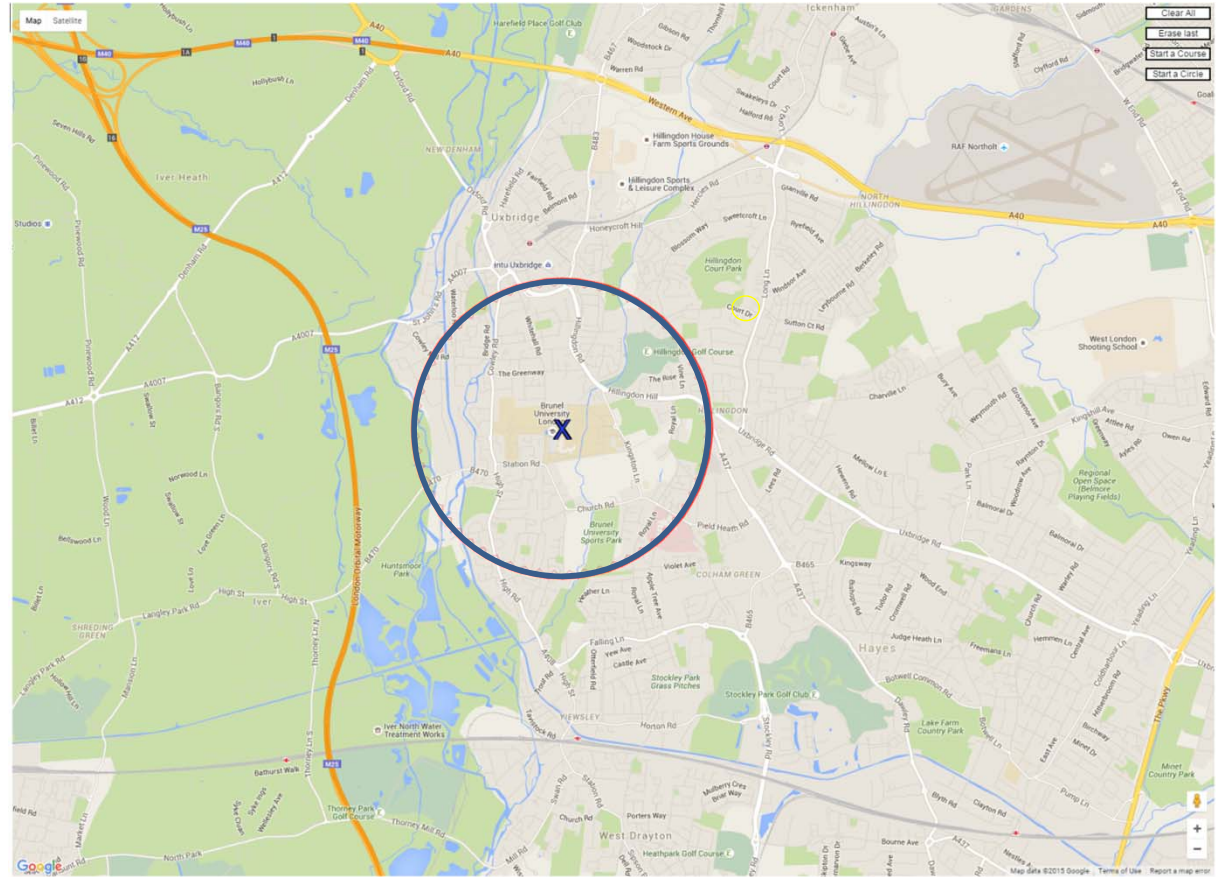
Copyright 2015, TfL



Travelling To Brunel

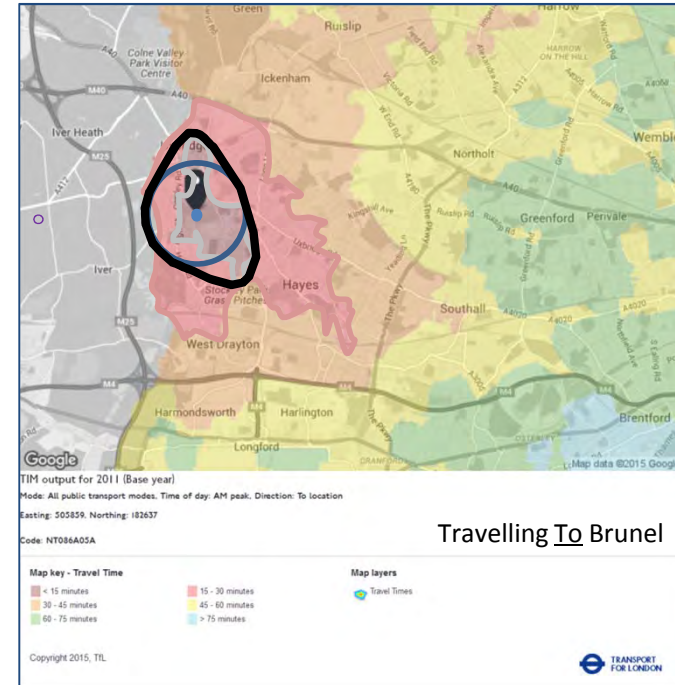
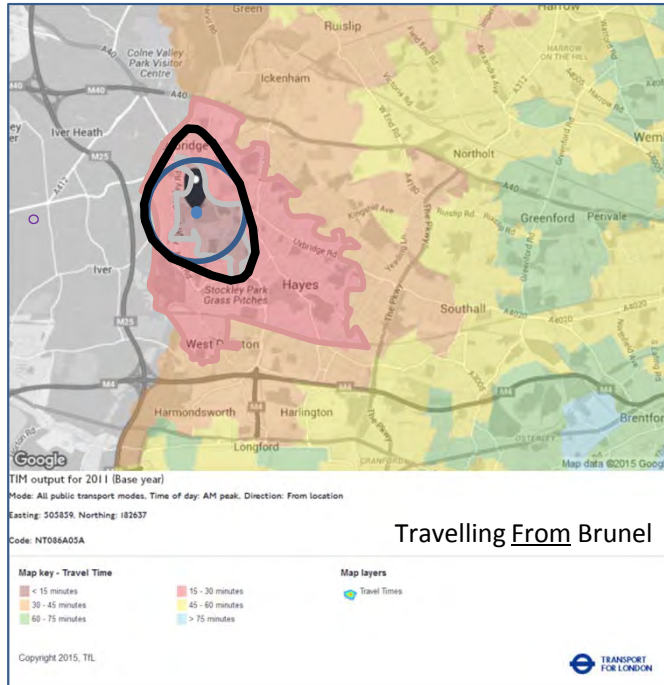
Travel Times: Walking to and from Brunel University Campus (central point)

- Plotted from central area of Brunel University Area campus
- Approximate 15 minute walking area
- Based on walking at average speed of 5km/hour



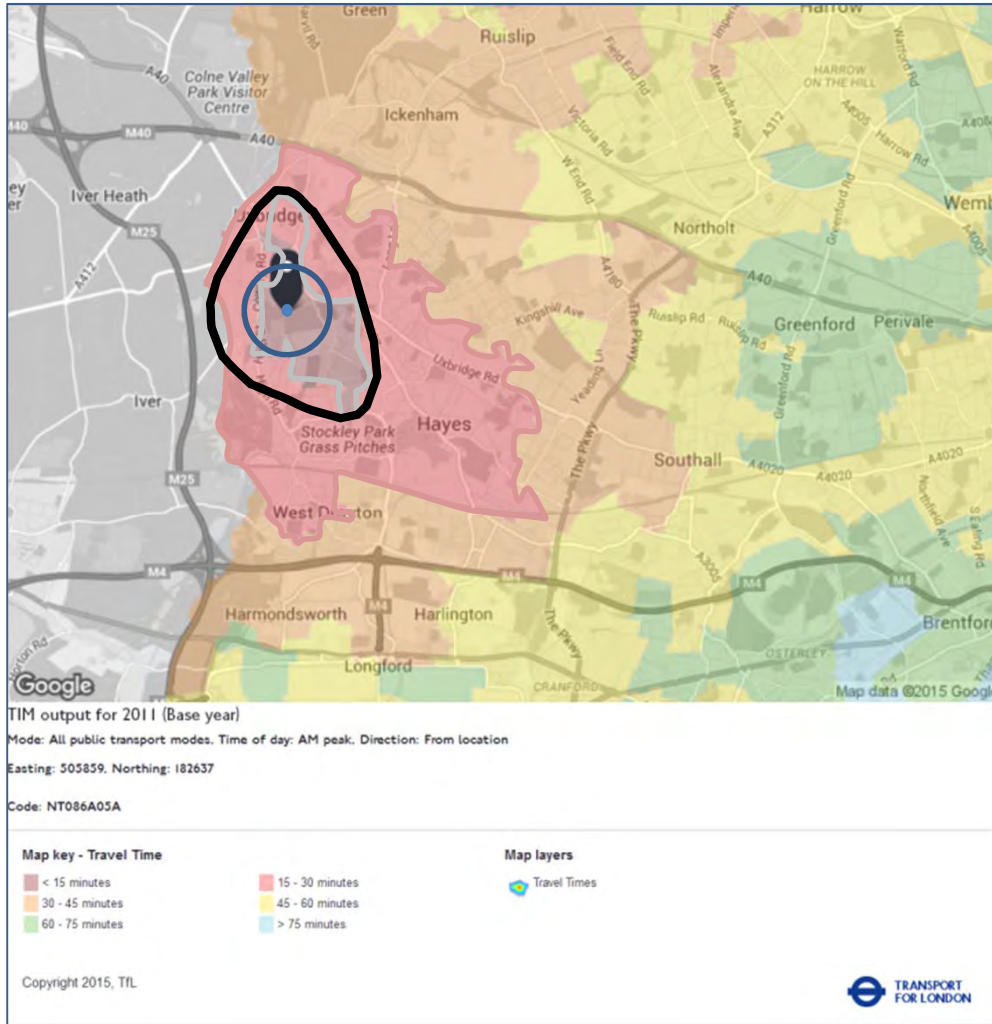
Source: <http://www.acscdg.com/>

Combined Public Transport and Walking Areas: Defining the search area



- Brunel University Campus
- Approximate 15 minute walk distance area
- Max 15 minute public transport distance area
- Estimated student housing search area (considering 15 minute walk and public transport areas)
- Estimated 1.817ha land requirement

Combined Public Transport and Walking Areas: Defining the search area



- Brunel University Campus
- Approximate 15 minute walk distance area
- ⬭ Max 15 minute public transport distance area
- ⬭ Defined student housing search area (considering 15 minute walk and public transport areas)

Travelling To and From Brunel





Areas of Search: Base Mapping

Aerial Base Map showing area of search and indicative land requirement area



Aerial Base Map showing area of search and indicative land requirement area



○ Indicative land requirement area (1.817ha)

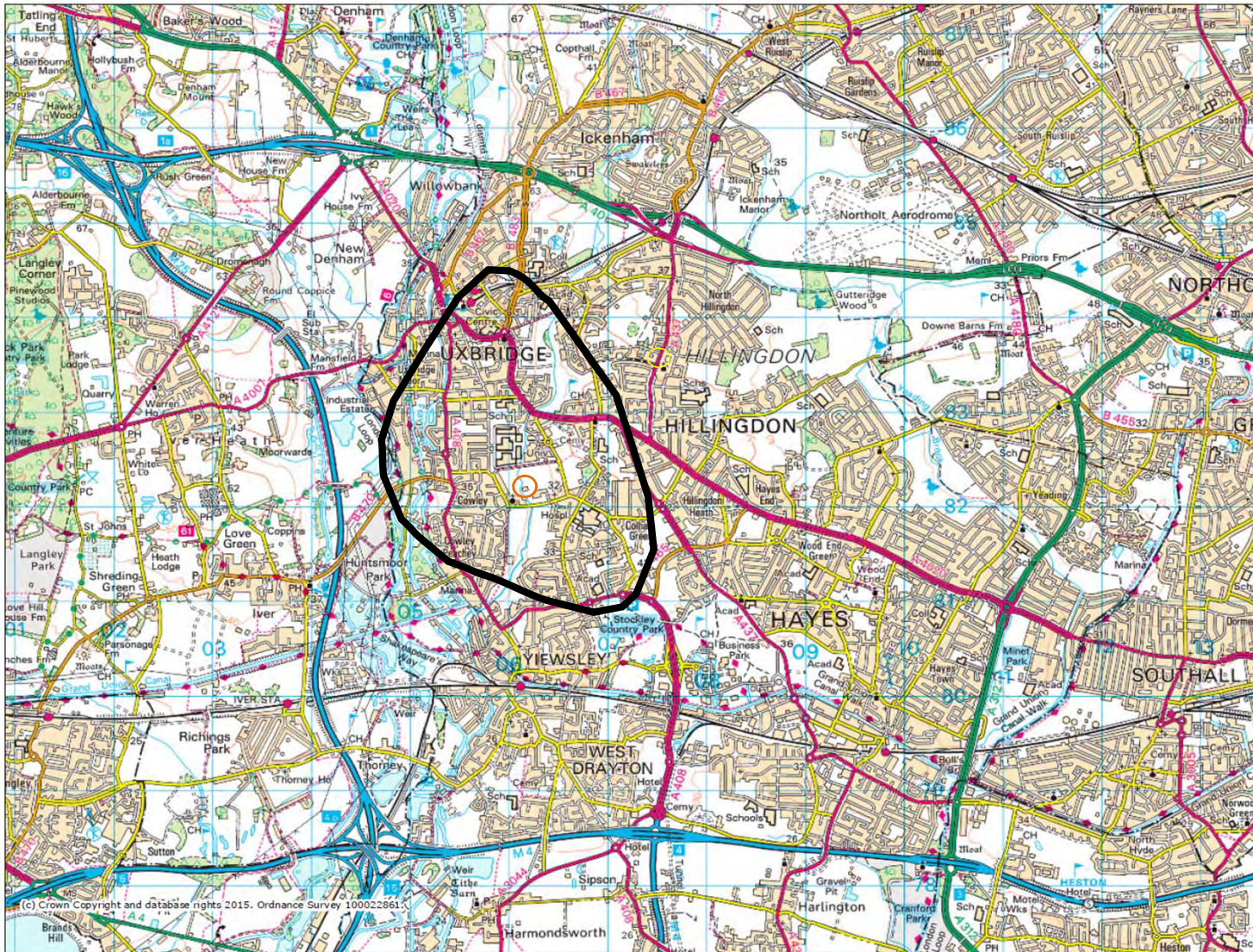
N.B. not positioned in relation to a particular site, but to give scale of land requirement

OS Base Map showing area of search and indicative land requirement area



MAGIC

Uxbridge Base Map (1:40,000)



○ Indicative land requirement area (1.817ha)

N.B. not positioned in relation to a particular site, but to give scale of land requirement

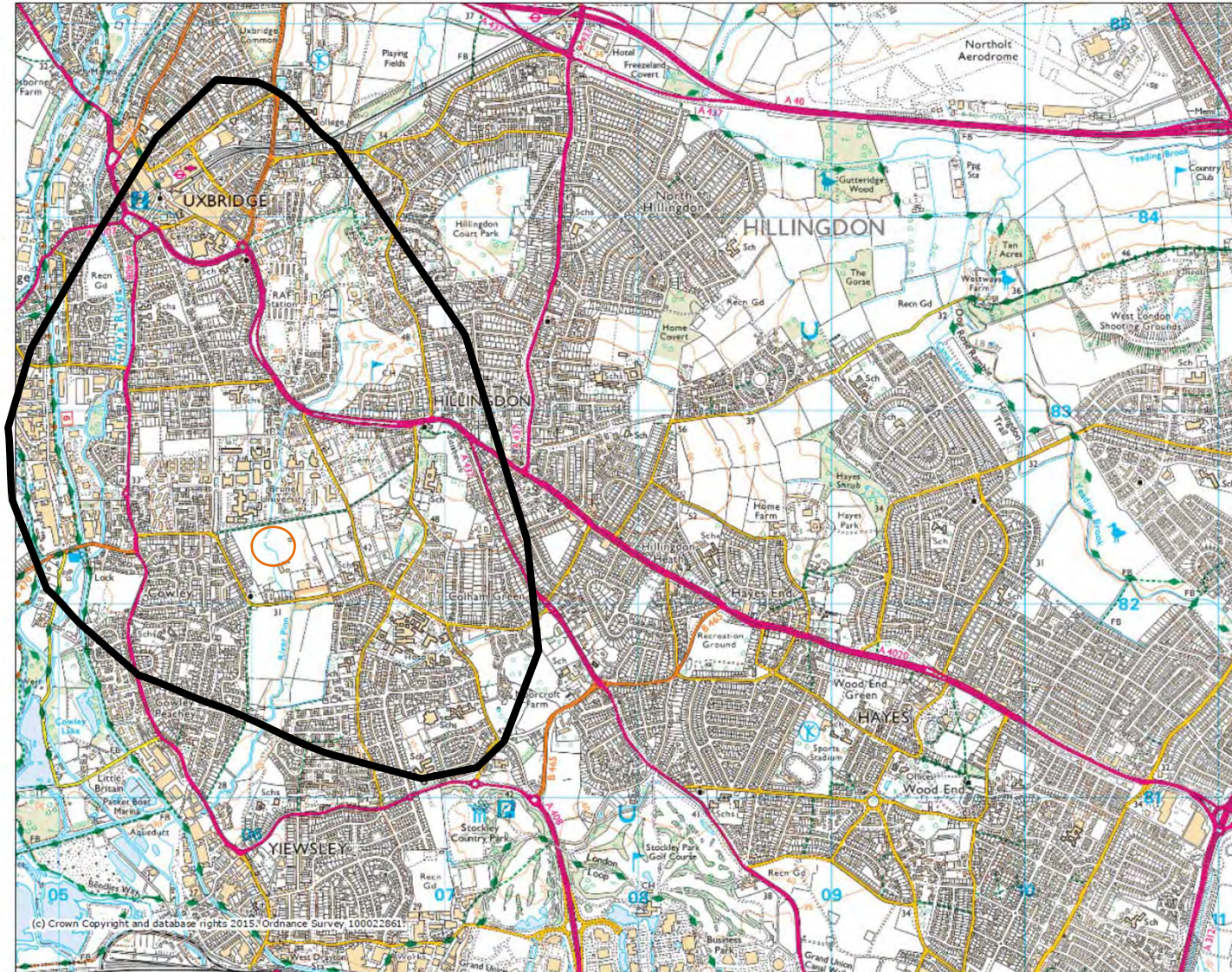
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 ymin = 175800
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 ymax = 188800
 Map produced by MAGIC on 30 November, 2015.
 Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGIC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.

OS Base Map showing area of search and indicative land requirement area



MAGiC

Uxbridge Base Map (1:20,000)



○ Indicative land requirement area (1.817ha)

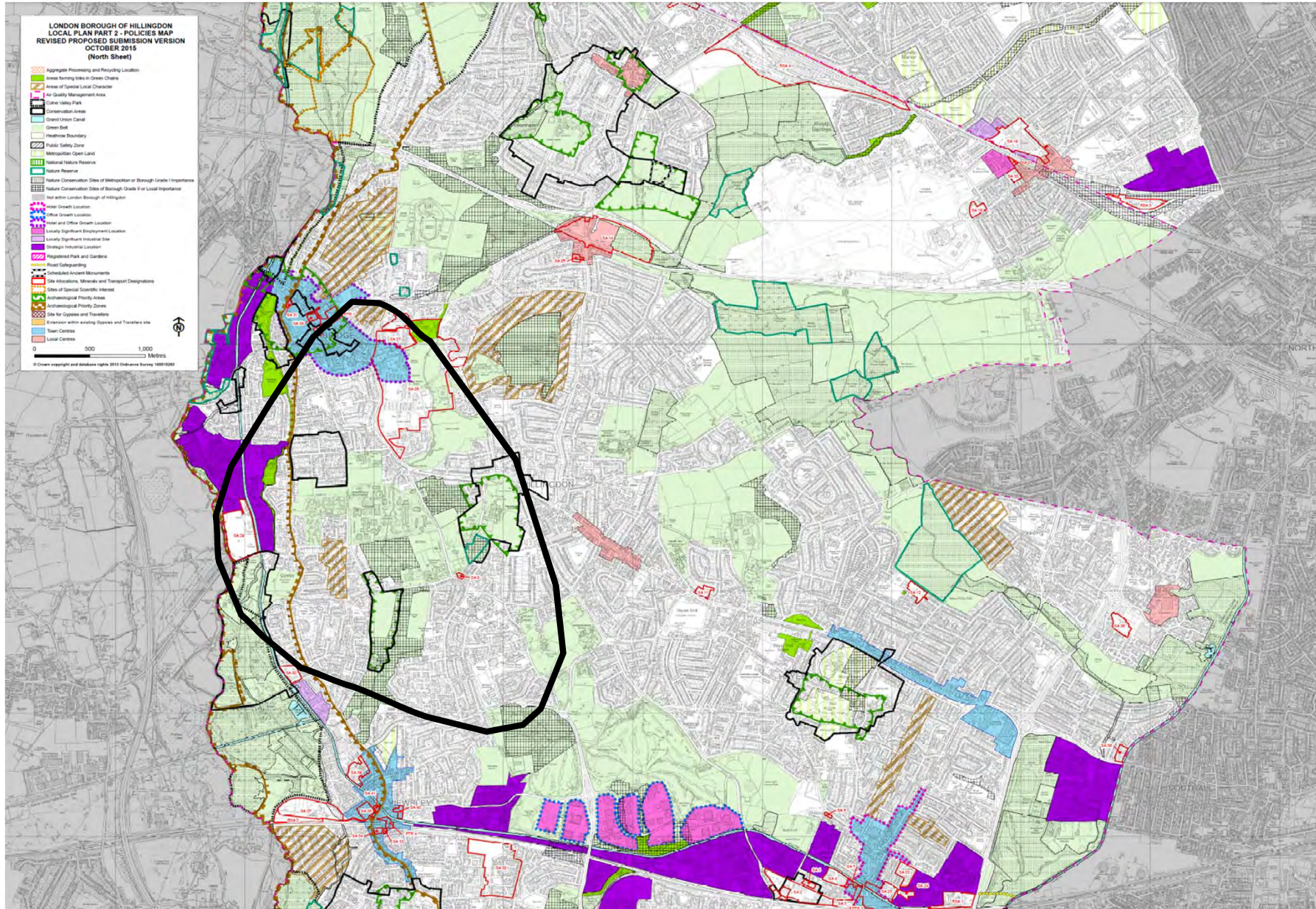
N.B. not positioned in relation to a particular site, but to give scale of land requirement

Projection = OSGB36
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Map produced by MAGiC on 30 November, 2015.
Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGiC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.

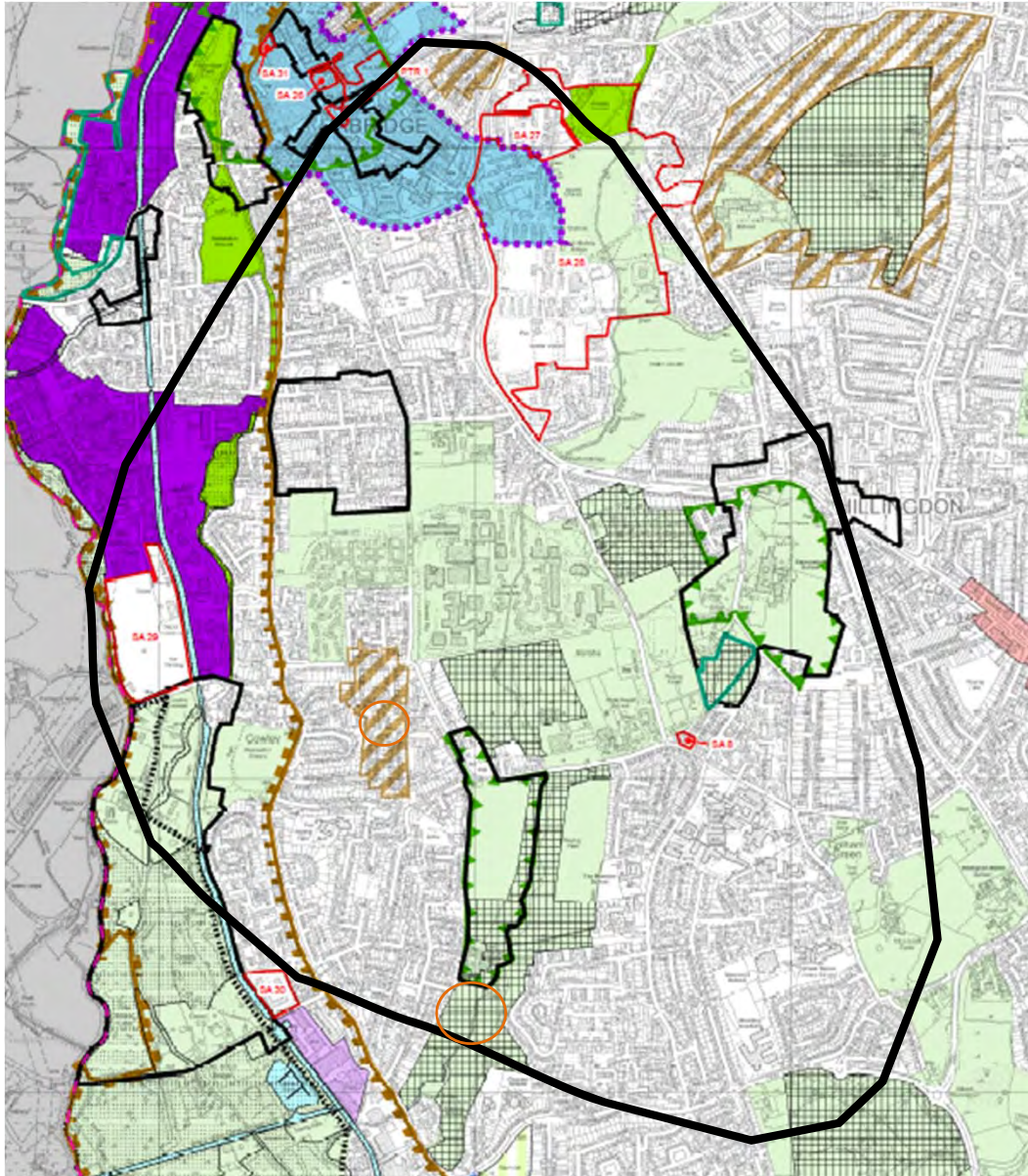


Area of
Search: Local
Plan
Allocations

Local Plan Part 2 Policies Map showing area of search



Local Plan Part 2 Policies Map showing area of search and indicative land requirement area



Local Plan allocations evident within area of search



- Areas forming links in green chains
- Areas of Special Local Character
- Colne Valley Park
- Conservation Areas
- Green Belt
- Nature Reserve
- Nature Conservation Sites of Borough Grade II or Local Importance
- Not within London Borough of Hillingdon
- Hotel and Office Growth Location
- Strategic Industrial Location
- Site Allocations, Minerals and Transport Designations:
 - **SA8 – Olympic House, 1a Grove Lane** - Proposed residential development (9 units). Residential permission expired in 2014. Site identified in Hillingdon Housing Trajectory. Indicative phasing: 2016 - 2021
 - **SA27 & SA28 – St Andrew’s Park (Former RAF Uxbridge)**- Identified for high quality residential-led mixed use development, accommodating up to 1,600 homes, around 14,000sqm of office space and a 90 bed hotel. Expected to deliver c.1,160 permanent jobs and form an extension to Uxbridge Town Centre. SA28 permission granted in 2013 (585/APP/2009/2752). Site identified in Hillingdon Housing Trajectory. Indicative phasing: 2011 – 2021.
 - **SA29 – Cape Bards Site, Iver Lane, Cowley** – Part of Hayes Industrial Estate PIL. Limited potential for release for housing. Proposed 20% of site for commercial mixed use (incl. B1/B2/B8, 70% for residential use and 10% for publicly accessible open space. Proposed 315 units. Indicative phasing 2021 - 2026
- Archaeological Priority Areas
- Archaeological Priority Zones
- Town Centre

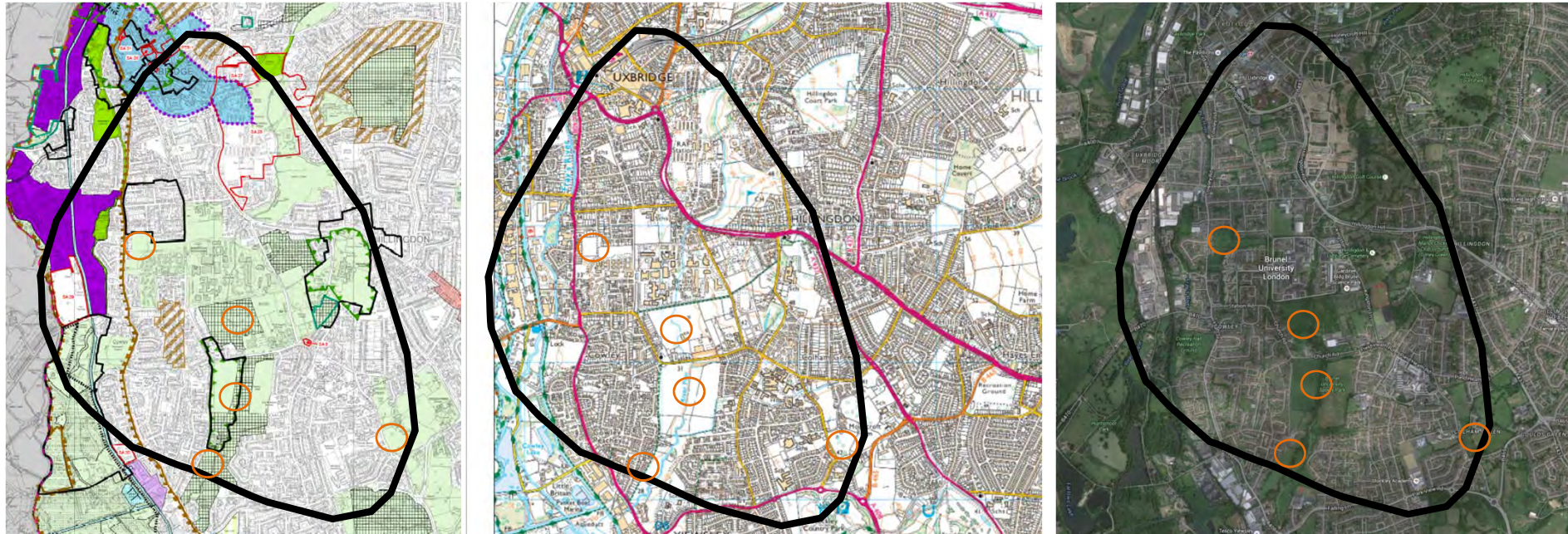


Area of

Search:

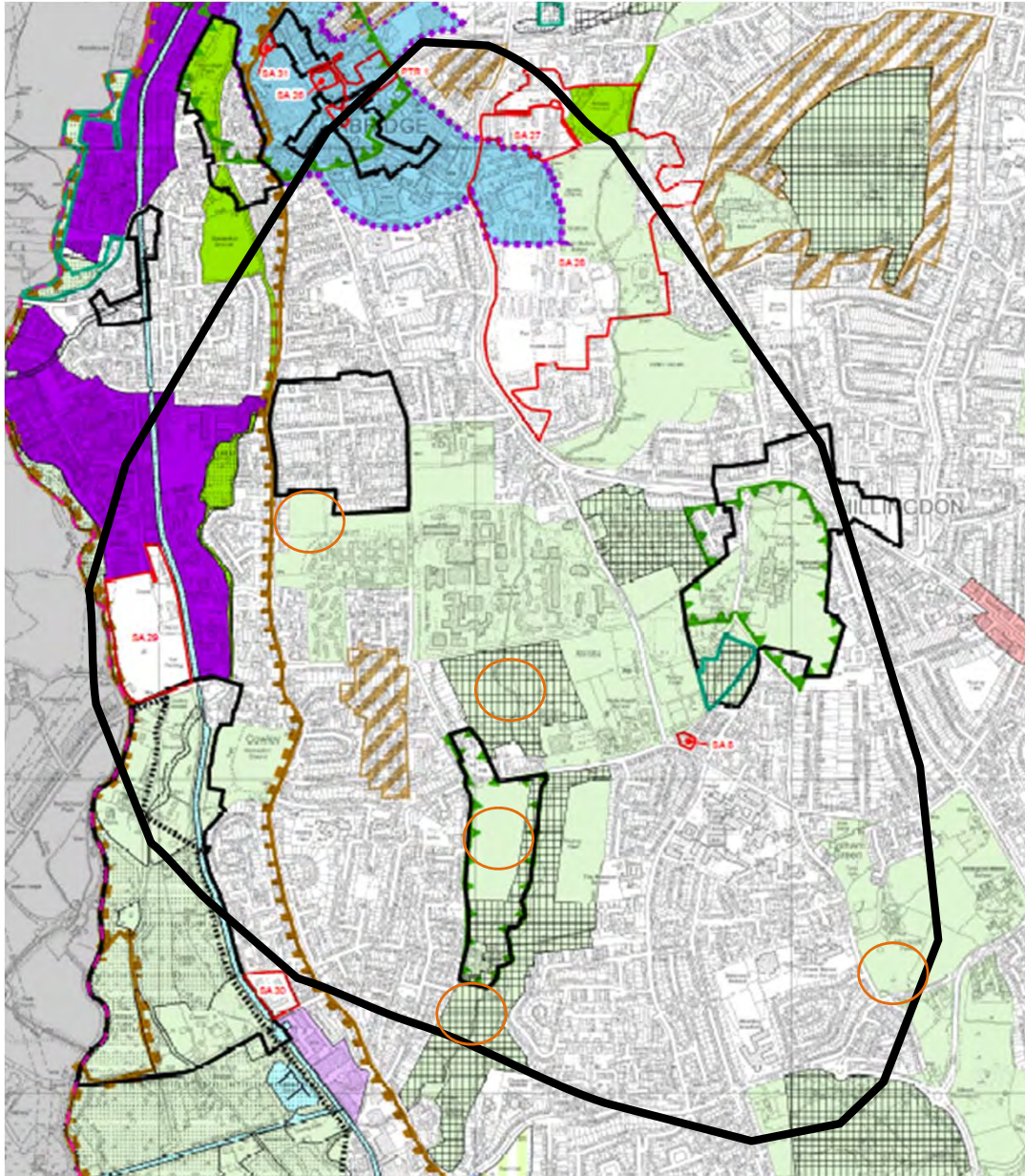
Potential Sites
based on Site
Area
requirement


Identified sites of a suitable scale to accommodate the estimated land requirement



- Five sites within the search area could accommodate the estimated land requirement for the new student housing development (c. 1.8ha). These are circled in the above maps
 - Sites with current recreational/open space uses have not been considered (e.g. school and community playing fields, recreation grounds, golf courses etc.)
 - Sites with Local Plan Site Allocations are also not considered
 - Land ownership does not form part of this initial consideration of sites
- The suitability and high level deliverability of these sites is considered in further detail in the following slides

Identified sites of a suitable scale to accommodate the estimated land requirement



 Estimated 1.8ha land requirement area

Identified sites of a suitable scale to accommodate the estimated land requirement

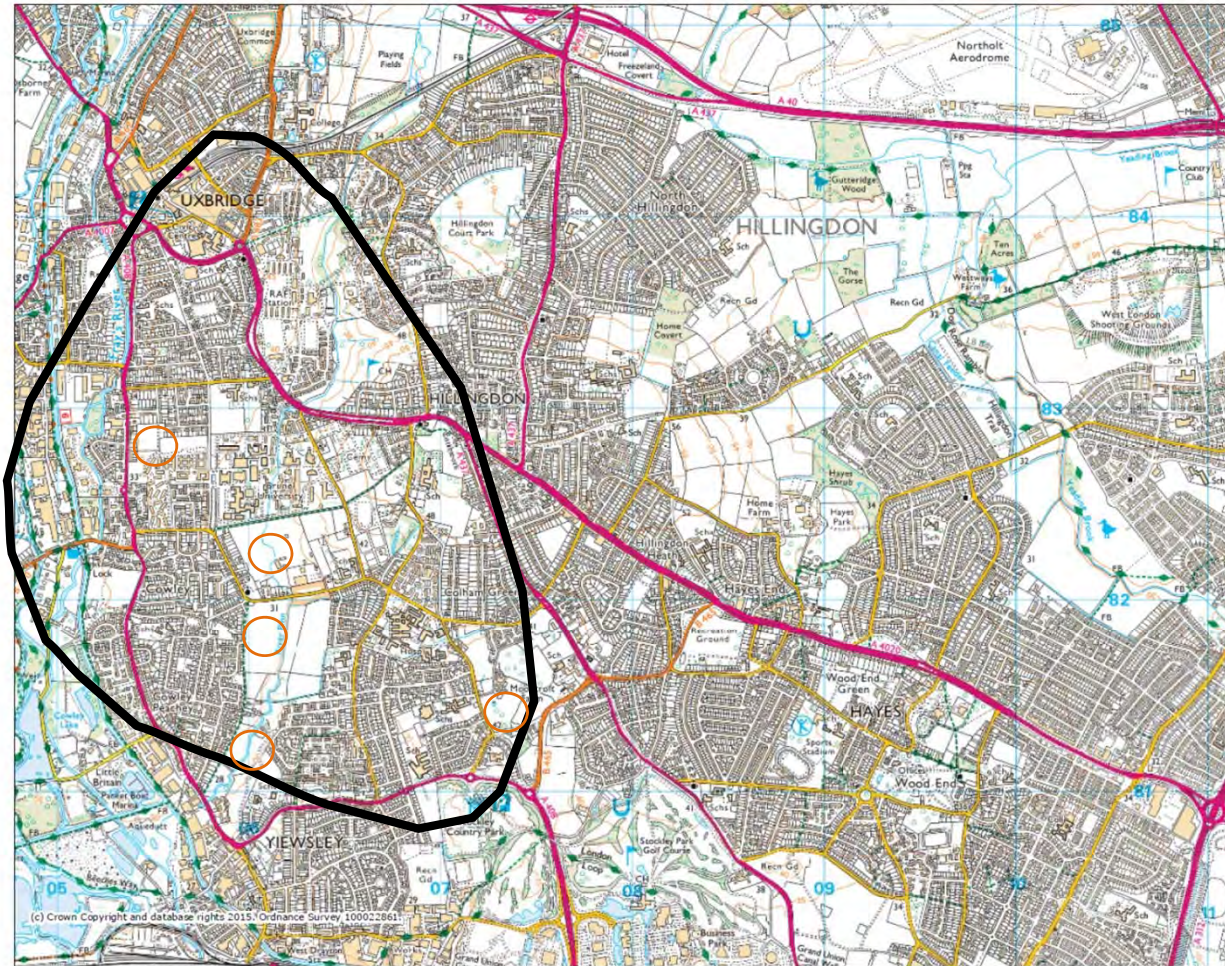


MAGIC

Uxbridge Base Map (1:20,000)

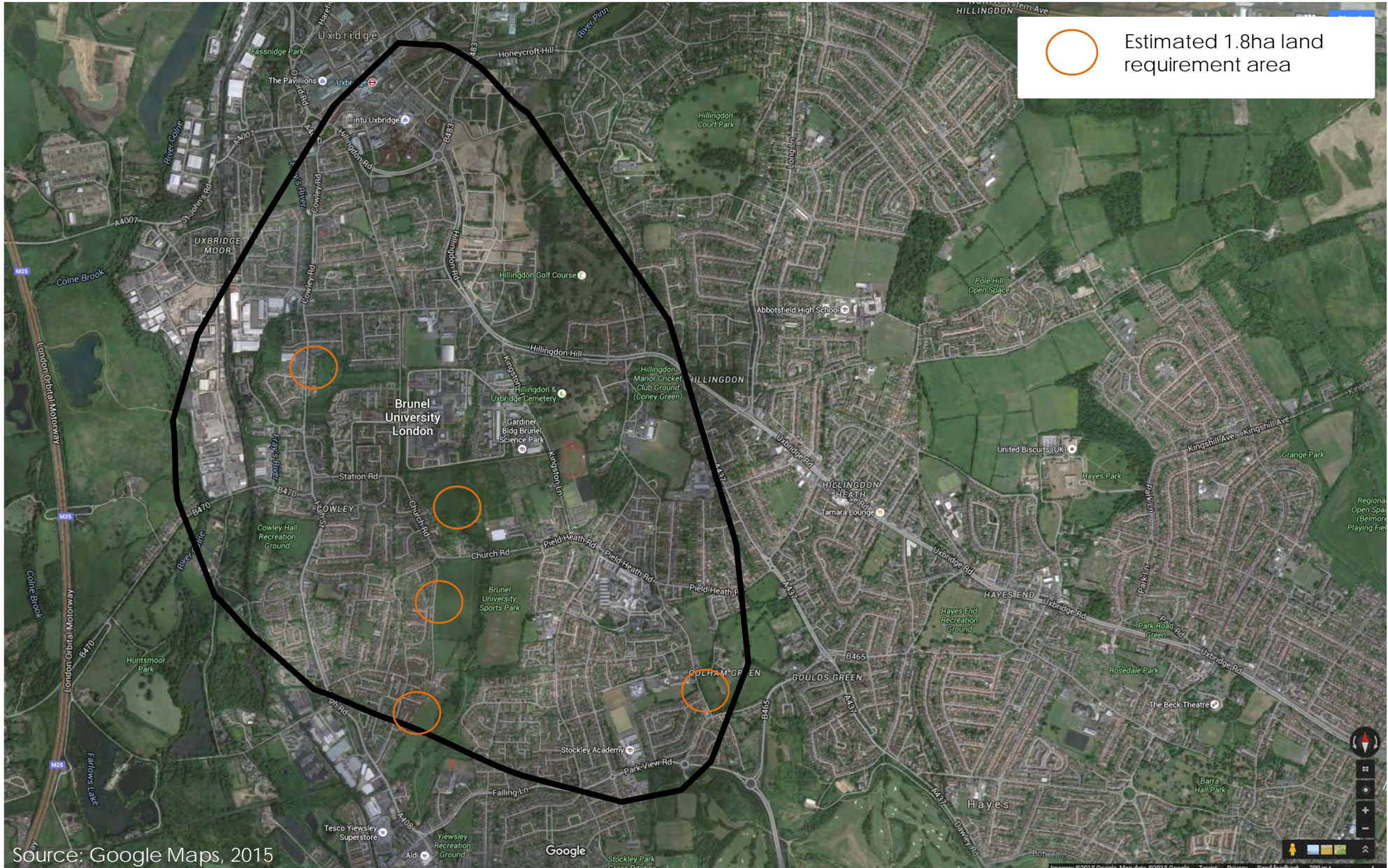


Estimated 1.8ha land requirement area



Projection = OSGB36
xmin = 501800
ymin = 179300
xmax = 514200
ymax = 185900
Map produced by MAGIC on 30 November, 2015.
Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGIC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.

Identified sites of a suitable scale to accommodate the estimated land requirement

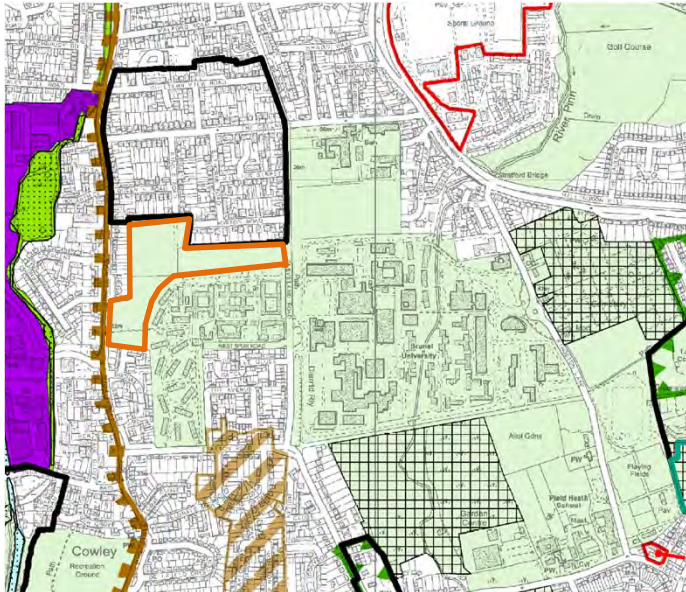


Source: Google Maps, 2015

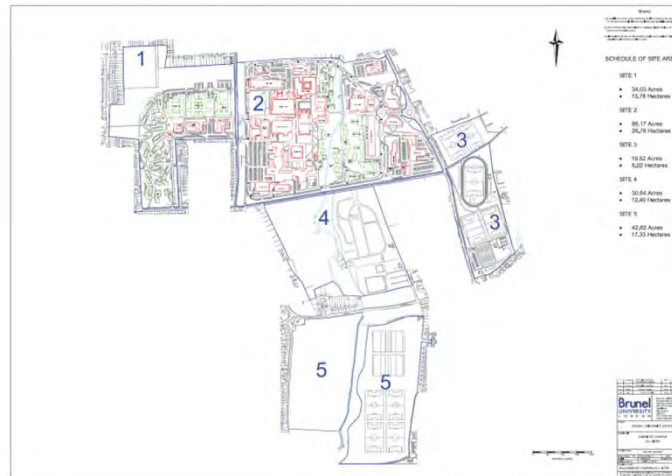
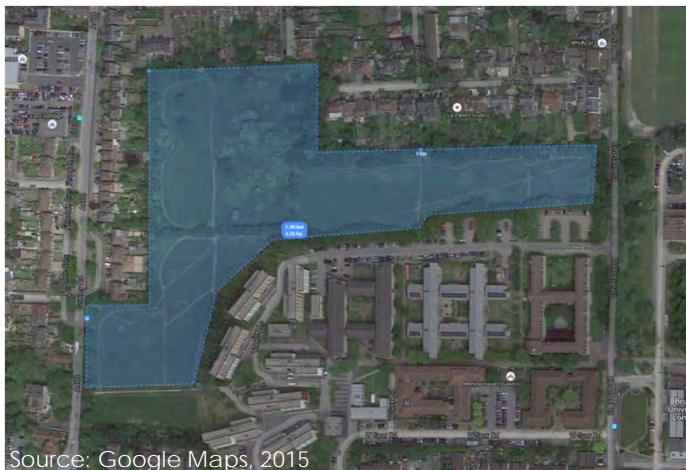


Identified Potential Sites: Details and Constraints

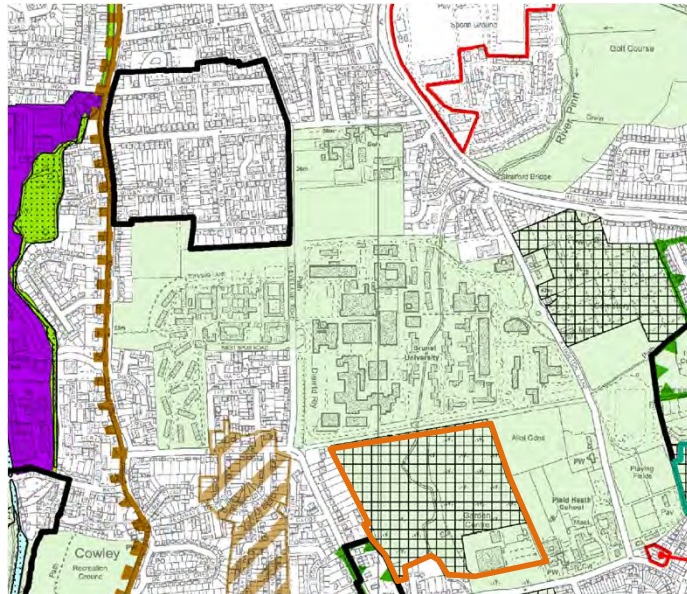
Brunel University Estate - Site 1



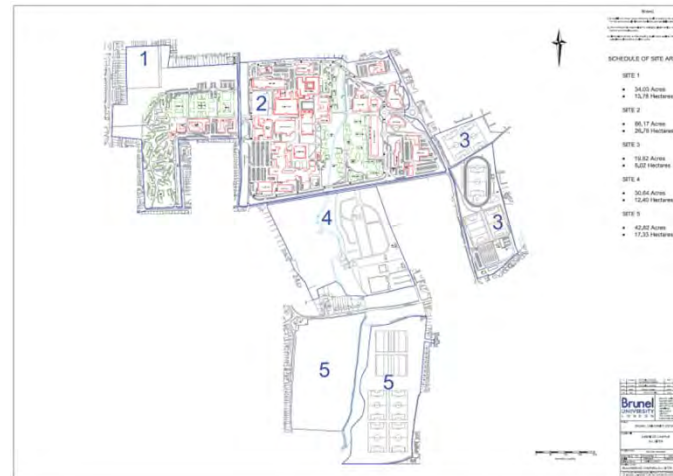
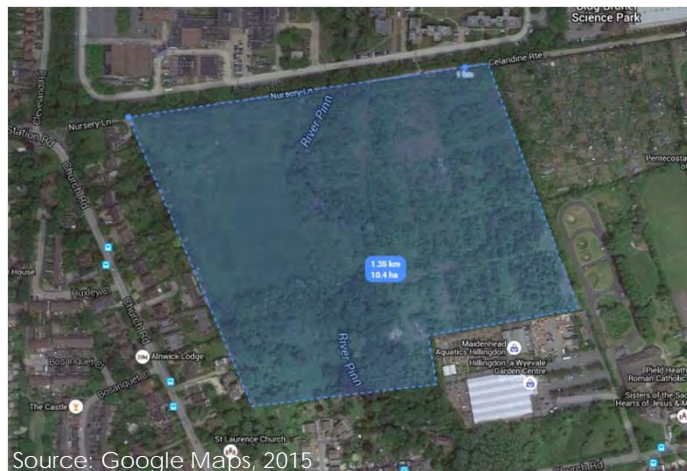
- Land adjacent to existing Brunel student accommodation – part of Brunel University Estate (Site 1)
- Greenfield site
- Site area = c. 4ha
- **Development Constraint: Green belt designation**



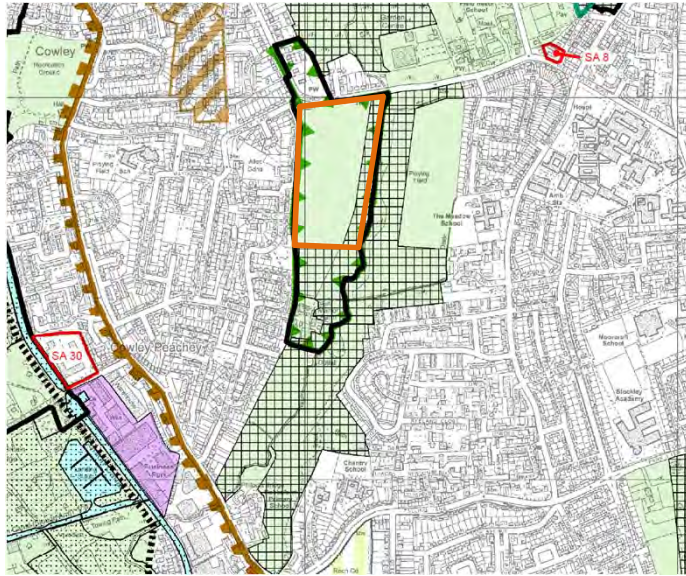
Brunel University Estate – Part of Site 4



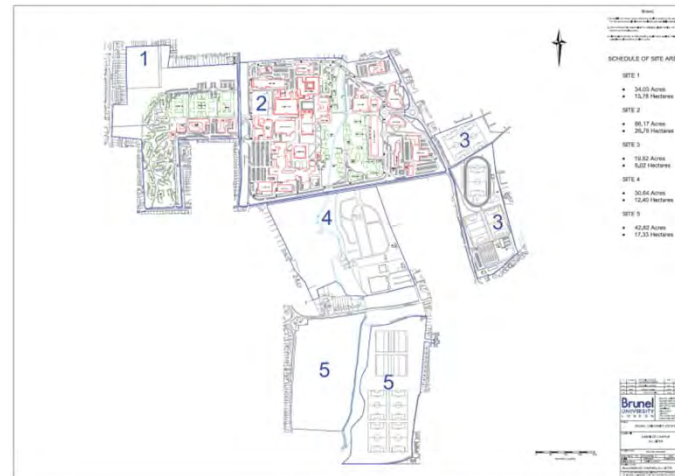
- Land adjacent to existing Brunel University buildings – part of Brunel University Estate Site 4
- Greenfield Site
- Site area = c. 10ha
- **Development Constraint: Green Belt designation, Nature Conservation Sites of Borough Grade II or Local Importance designation, and potentially River Pinn proximity.**



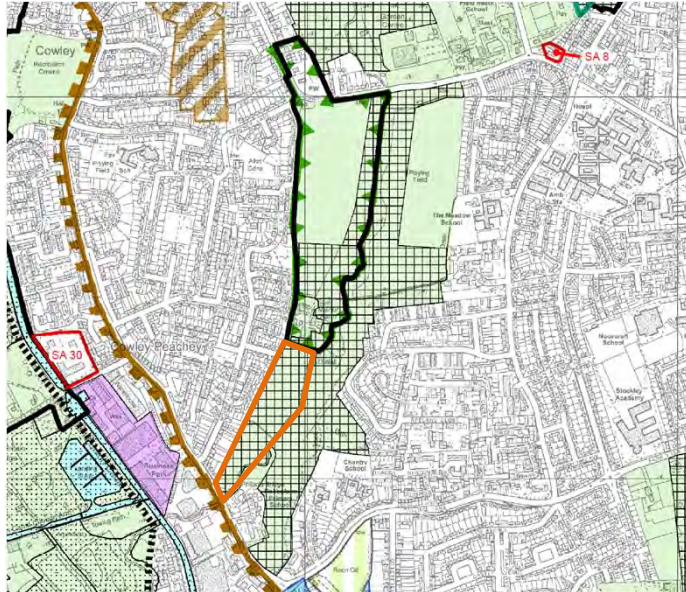
Brunel University Estate – Part of Site 5



- Land forming part of Brunel University Estate – Site 5
- Greenfield Site
- Site Area = c. 7ha (could extend by a further c. 2ha if including agricultural land to south)
- **Development Constraint: Green belt designation, Conservation Areas, Archaeological Priority Areas, and potentially River Pinn proximity**



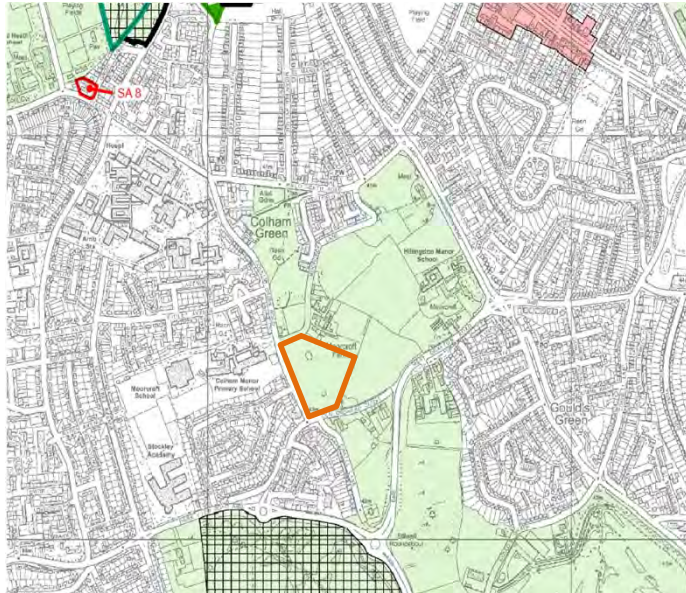
Manor Farm Agricultural Land



- Land immediately south of Brunel University Estate
- Agricultural land
- Site area = c. 3ha
- **Development Constraint: Green belt designation, Nature Conservation Sites of Borough Grade II or Local Importance designation, and potentially River Pinn proximity**



Moorcroft Farm Agricultural Land



- Agricultural land
- Site area = c. 3ha
- **Development Constraint: Green Belt designation**



Source: Google Maps, 2015

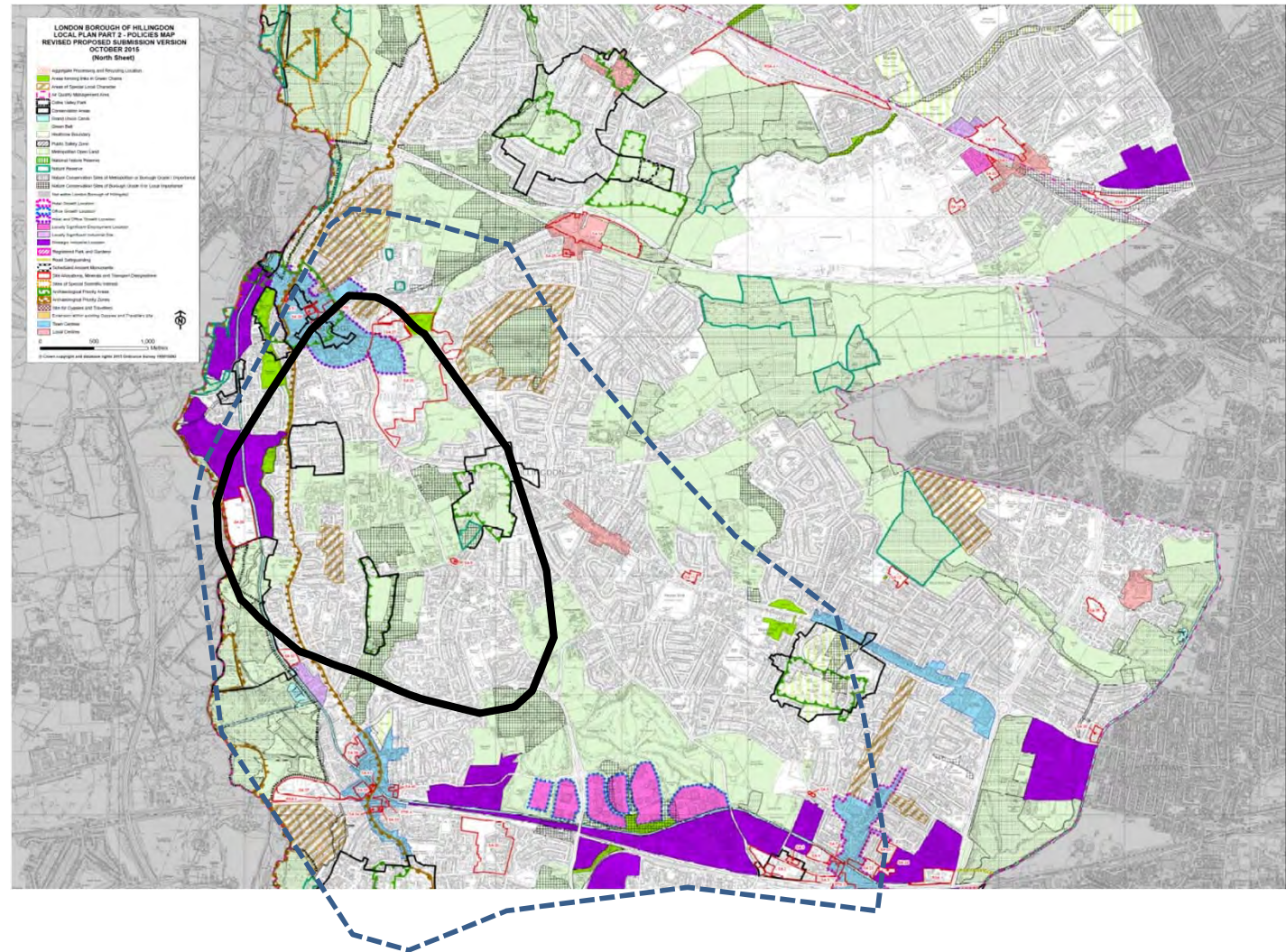
Extending the Search Area



gva.co.uk

Extending the search area to a maximum of 30 minutes by public transport and/or foot

- Green belt designations and other Local Plan Site Allocations still act as constraints in the wider area
- There appears to be similarly limited land availability within a 30 minute travel time area
- This pushes the distance considered appropriate to travel between accommodation and the campus



Key Findings & Conclusion



Key Findings



Area Context

- Hillingdon has particular characteristics in the form of;
 - Extensive residential neighbourhoods (primarily from the 20th century)
 - A significant proportion of other land which has historically been made up of campus environments: military bases, hospitals, university
 - Significant open space and environmental designations
- A significant proportion of land is designated as green belt, at both the periphery of urban area, and dispersed within it.
- In addition to this there are higher density, retail-oriented mixed-use town centres, in the form of Uxbridge and Hayes and extended corridors such as the Uxbridge Road.
- These factors mean that this part of London does not have a history of generating un-constrained sites at the size required for this facility.

Requirements

- Testing at a Plot ratio of 3, it is estimated that to accommodate student housing growth there is a land requirement of **1.8ha**.
- It is considered that a **15 minute travel radius by public transport and foot** from the university campus, is the appropriate search area for a new student housing site.

Key Findings



Identified Sites and Constraints

- Five sites are identified in the search area that could accommodate the estimated land requirement
 - However, there are clear development constraints to each of these sites.
 - **Green Belt designation is the constraint affecting all identified sites**
 - Other constraints affecting certain sites relate to nature conservation and archaeological designations, as well as potential development difficulties cause by the River Pinn proximity
-
- **It is clear from this analysis that there is very limited appropriate land availability within the travel time area.**
 - **There are no appropriately sized sites which are free from constraints.**
 - **Green Belt designations act as a constraint to all identified sites.**
 - **When expanding the search area to a maximum 30 minute journey time, there remains a shortage of appropriate, unconstrained sites.**

Appendix J

Comparables

COMPARABLES

UNIVERSITY DEVELOPMENT IN THE GREEN BELT	
Local Plan Process – Exceptional Circumstances	
Example 1 – Cambridge City Council/South Cambridgeshire District Council/University of Cambridge North West Cambridge Area Action Plan DPD (adopted 22 October 2009)	
<p>North West Cambridge Area Action Plan Green Belt Landscape Study (May 2006)</p>	<p>The acceptability of this location is dependent upon:</p> <ul style="list-style-type: none"> • the needs of the University; • those needs not being capable of being met elsewhere; • the needs outweighing the impact on the purposes of the Green Belt. <p>And conclude,</p> <p>We conclude that the location North West Cambridge which relates to land proposed for university and related uses is suitable for inclusion in Policy P9/3c, but it should only be released from the Green Belt on the basis that the University are able to show a need for the land to be brought forward.</p> <p>Following the adoption of the Structure Plan, the Cambridge Local Plan Inspector’s Report concluded, in respect of the University land:</p> <p><i>‘The Structure Plan reference to the area included as this Area of Major Change in the Local Plan is (land) “between Madingley Road and Huntingdon Road”. This need not mean all of the land between the 2 roads, but to give the necessary freedom in devising a Master Plan for the area I consider that none of the open land between the roads should remain in the Green Belt. The Structure Plan Key Diagram shows a green corridor north of Madingley Road, and the strong hedge north of the Park and Ride site has the necessary characteristics to form a suitable Green Belt boundary. However the Key Diagram is diagrammatic, and the hedge line is some distance north of Madingley Road, well inside the area between the roads. In my opinion the open land north of Madingley Road is not prominent to travellers on the M11, as views of it are limited. I conclude that the land is not so fundamental to the purposes of the Green Belt as to warrant Green Belt designation in the present circumstances obtaining here’.</i></p> <p>The Cambridge City Local Plan 2006 was adopted on a similar basis.</p>
<p>Inspector’s Report (24 August 2009)</p>	<p>However, a substantial part of the area allocated for development in this AAP falls within South Cambridgeshire and is not covered by the Cambridge City Local Plan. In order to meet the test of justification imposed by this new system, a clear need, on behalf of Cambridge University must be shown for the land to be released.</p> <p>The need for the development was split out into two distinct areas:</p> <ol style="list-style-type: none"> 1. Academic and research and development <p>Economic Importance – a report was published in 2006 estimating that, if the University did not exist, the impact of the loss of its expenditure and employment over the next 10 years would require the replacement of a net present value of £21.2bn and 77,000 new jobs regionally and £4.8bn and 10,800 new jobs nationally. The UK’s leading research university. Hugely important part of the local and sub-regional economy.</p> <p>Land availability and requirements – the University estate has about 100,000m² remaining which will run out in 2015.</p>

AAP will enable 100,000m² for academic and R&D uses.

2. **Housing** (3 types: University **staff/key worker housing** shortages arising from affordability difficulties; needs for **student accommodation** and the need for development to include a substantial quantity of **market housing** to make the development as a whole viable (Note – this was during the height of the recession).

A lot of staff is living in poor accommodation due to the high costs of housing in Cambridge and staff numbers are expected to rise each year. Such housing conditions can affect recruitment and the retention rates of more permanent staff. Furthermore, key senior staff will not choose to work for the University if the University cannot recruit good quality research staff. The land in the AAP is owned by the University meaning the University can set affordable rents.

Market housing is needed to make the University's development of the AAP proposal a viable proposition. However it is not the general housing needs of the area which are the key to releasing the land, but the University's particular needs.

A survey of student housing needs conducted in May 2008 reveals that the current unmet need is for 1049 units, almost all for postgraduates. Colleges do not have sufficient housing for this group of students. Many therefore have to live in poor quality and expensive private sector accommodation.

The AAP intends to provide about 2000 units of student accommodation, sufficient to provide for needs into the 2020s. A failure to provide satisfactory accommodation for students, particularly postgraduate students, could render the University less attractive to the best students. This could harm the international position of the University and its ability to contribute to research and to the national, regional and local economy.

We conclude that the University's need for the land to be released for development is a very weighty consideration in assessing whether the AAP passes the test of justification. The need for affordable key worker housing is both immediate and urgent. The need for academic and research uses is longer term but of great significance in view of the University's educational and economic importance.

A policy (Policy NW30) was added requiring the submission of a Needs Statement with any planning application to demonstrate that the University has a need for the land to be released for the specific development.

Green Belt

- **Review of existing Green Belt value** – it is our judgement that the area included within the AAP is of substantial value to the setting of the City. This is because of its prominence viewed by many people travelling on the M11, its relationship to the City, and its attractive qualities.
- **The balance between Green Belt purposes and need** – The AAP area performs several Green Belt functions. These are especially valuable in the context of Cambridge, and Cambridge is a City with a noteworthy character because of its world-class, and therefore widely-known, historic University. However it is the need to retain and, if possible, increase the educational, intellectual, and economic roles of the University which has led to the proposal to release for development the major part of the area contained within the AAP boundaries. In our judgement the needs shown by the evidence submitted to the examination are of greater weight than the Green Belt functions of the land. In our opinion the University has shown a clear need for the land between Madingley Road and Huntingdon Road, considered generally, to be

	released, and in this respect the submitted AAP is founded on a robust and credible evidence base. There are exceptional circumstances for removing land from the Green Belt to accommodate the development.
Example 2 – West Lancashire Borough Council/Edgehill University West Lancashire Local Plan (16 October 2013)	
Inspector's Report (26 September 2013)	<p>Issue O – Is the Local Plan's policy approach to Edge Hill University, including a 10ha expansion into the Green Belt, justified and effective?</p> <p>Edge Hill University is an important asset to the borough, contributing some £75 million annually to the local economy and providing over 1,500 jobs. In this context, policy EC4 provides general support for the university's growth, development and improvement. In particular, it provides for the release of 10ha of Green Belt land to expand the existing campus facilities and provide improved highway access and parking. I agree that exceptional circumstances justify this release, in view of the university's importance to the borough, the lack of other land onto which to extend the campus, the adverse effects of the proliferation of student Houses in Multiple Occupation [HMOs] in Ormskirk, and the significant traffic and parking impacts associated with the previous access arrangements.</p> <p>The development for which the policy provides is already well under way following the grant of planning permission for new student accommodation and a new sports and recreation complex. MM10 is necessary to reflect this current position. As part of the development, the tree belts which formed the notional new Green Belt boundary depicted in Local Plan Figure 6.1 have been removed. Accordingly, MM70 & MM71 amend that new Green Belt boundary so that it follows the access road created by the current development works. This is a readily-recognisable and continuous feature that is likely to be permanent, as recommended by NPPF paragraph 85. These advantages outweigh the fact that the access road boundary would leave the new University sports building within the Green Belt. The alternative boundary proposed by the University would be significantly less well-defined on the ground.</p> <p>There is no evidence that the University are seeking to expand built development further into the Green Belt than the current planning permission allows for. Instead, the rest of the land enclosed by the campus itself, St Helens Road, Scarth Hill Lane and Ruff Lane is intended for sports fields and recreational land. This position will be safeguarded by the strong protection given to Green Belt land by section 9 of the NPPF.</p>
Applications – Very Special Circumstances	
Example 1 – University of York	
Proposal	<p>A new campus for the University of York was proposed on green belt land and the application was called in for decision by the SoS.</p> <p>The site comprised 116ha of mainly arable land located on the south-eastern edge of the city and to the east of the university's existing campus. The university had 8,500 full time students and the new campus would increase the total by 5,400. In addition, its expansion would create 2,000 jobs and approximately 2,500 related research jobs. Around 65ha would be developed for the campus with the remainder being developed as a linear park. The proposed buildings would be used for academic teaching, research and research related businesses. A conference centre would also be built together with student accommodation and social facilities.</p>
Local Authority	City of York Council (decision deferred to SoS under s77)
Inspector's Report (Inspector H G Rowlands)	<p>Green Belt</p> <ul style="list-style-type: none"> • The development proposed is inappropriate in the Green Belt • The Green Belt around York has not been defined in a Local Plan

	<ul style="list-style-type: none"> • The application is not urban sprawl • The site is remote from nearby towns • Safeguarding the countryside from encroachment is contravened. Landscape quality deemed 'ordinary' and new buildings would be designed with sensitivity – contravention is minimised <p>On the Green Belt, whilst there is harm it is contained and limited.</p> <p>Consequences if Planning Permission is refused:</p> <ul style="list-style-type: none"> • No growth and the University will decline • Significant number of jobs foregone and loss of significant capital investment • National economy will suffer with a loss of business growth • Intensifying the use of the current site would not meet the needs of the University • Operate a split site operation is not sustainable or viable <p>Recommendation: outline planning permission be granted on 20th March 2007</p>
<p>Secretary of State Report (Ruth Kelly)</p>	<p><u>Key Points</u></p> <ul style="list-style-type: none"> • Very special circumstances apply only if there are no suitable alternative means of accommodating the proposed development on land that is not located within the Green Belt. • Educational need + considerable economic benefits to the City (and Region) + absence of alternative sites = very special circumstances (when weighed against the harm caused to the purposes of the Green Belt). • The collection of benefits put forward by the University do not, in themselves, add to the very special circumstances. • Agrees with the Inspector that development would not result in urban sprawl, would not set a precedent for other forms of inappropriate development within the Green Belt and it would be contained within clearly defined physical boundaries. <p>Summary:</p> <p>The SoS agreed with the parties that the development was inappropriate to a green belt. However, she also accepted that the very special circumstances put forward by the university if it could be proven that its needs could not be met on land not within the green belt. In her opinion it had been demonstrated that no alternative sites existed. The educational need to expand the university together with the considerable economic benefits to the city amounted to the very special circumstances needed to justify the scheme.</p> <p>Decision: Planning permission be granted on 27 June 2007</p>
<p>Example 2 – University of Cambridge</p>	
<p>Proposal</p>	<p>A highly controversial laboratory at Cambridge University, designed to house monkeys, was called in for decision. The site lay on the outskirts of the built up area and already contained some university research buildings. The university argued that research involving animals was in the national interest. It would allow the university to continue with its internationally recognised work in identifying the causes of disease and developing medical and scientific techniques for combating them.</p> <p>Animal rights supporters claimed that the importance of undertaking experiments on the brains of primates had been overstated. Many medical discoveries had been made in non-primate research laboratories, they argued. They also stated that for a university that once counted Sir Isaac Newton amongst its members, it had shown remarkably little scientific method in its approach to finding an alternative site. Given that the proposed building would be within the green belt, a particularly rigorous approach was justified in assessing whether it was in fact the only realistic alternative.</p> <p>The proposal was for the erection of a building for B1 (b) research use. It proposes a new building of 8,050m² and 1,956m² of</p>

	retained floorspace. The existing buildings on site cover 5,606m ² of which 3,650m ² would be demolished. If approved, the total floorspace would be 9,771m ² . A second entrance to Huntingdon Road would be closed off.
Local Authority	<p>South Cambridgeshire District Council (SCDC)</p> <p>Decision: Refused on 18 March 2002</p> <p>Reasons for Refusal:</p> <ul style="list-style-type: none"> • The proposal is located close to the junction of a major road intersection, namely the A14, M11, A428 and A1307. Cambridgeshire Constabulary on the basis of recent experience of demonstrations against current site's, which involve animal research, has commented that the proposal will result in demonstrations. Also, it is of the view that such demonstrations at this site will result in road blockages and a serious danger to public safety • Whilst SCDC accepts that the proposal is in the national interest, and that this is sufficient to outweigh the harm to the Green Belt, it considers that this site is unacceptable because of the risk to public safety • In coming to this decision regard was had to whether conditions could be used to make the proposal acceptable. However, in discussion with Cambridgeshire Constabulary, it has been concluded that measures to limit the risk to public safety on this site would not be effective.
Inspector's Report (Inspector J S Nixon)	<p>Appeal made by the University of Cambridge under s78</p> <p>The SoS's inspector found that the proposal was inappropriate development in the green belt. The evidence did not convince him that it was of such public importance to outweigh the harm to the openness of the area. He concluded that allowing the scheme, without more substantial evidence, would leave the planning system open to "abuse." Additionally, he judged that the location would invite a greater use of police resources. It was accessible from the main road network and animal rights activists would be presented with a national stage for their demonstrations. This would harm the amenity enjoyed by local residents and would lead to constant difficulties for the police in controlling the activities of animal rights protestors, many of whom had stated that they would demonstrate outside the facility.</p> <p>Decision: recommended that the appeal be dismissed on 7 March 2003</p>
Secretary of State Report	<p>Called-in for decision by SoS. Disagreed with the Inspector's recommendation to dismiss the appeal.</p> <p>However, the SoS, in making his decision, noted that the government's science minister had written to the inquiry, explaining that the government believed the research centre to be nationally important. It would consolidate the UK's position as a global leader, bringing together outstanding scientists who would be able to work in an interdisciplinary environment. He also observed that the science minister had explained why it was important for the country to benefit from the research undertaken by the university. Science and technology, he stated, had a role to play in generating wealth and in improving the quality of life to everybody.</p> <p>The SoS concluded that the proposal was in line with government policy on these matters. If permission were denied, there was a risk that leading scientists would be lost to the university and from the country as a whole. He agreed with the university that dismissing the appeal could possibly result in the end of meaningful biomedical research in Cambridge, so granted permission.</p> <p>Decision: 20 November 2003</p>
High Court	<p>The claimants had argued that in finding that very special circumstances existed to justify the scheme, the SoS had granted permission without limiting the research centre to the type of facility proposed by the university. This was perverse, it was asserted, because the very special circumstances only applied to the animal laboratory and not to any research facility. Additionally, they asserted that the lobby groups opposed to the development had been deprived of a fair hearing, since the SoS's decision had been predetermined. In particular, the government's science minister had made public statements that amounted to interference in the inquiry process. But the court disagreed. It held that the SoS had not made any legal error and</p>

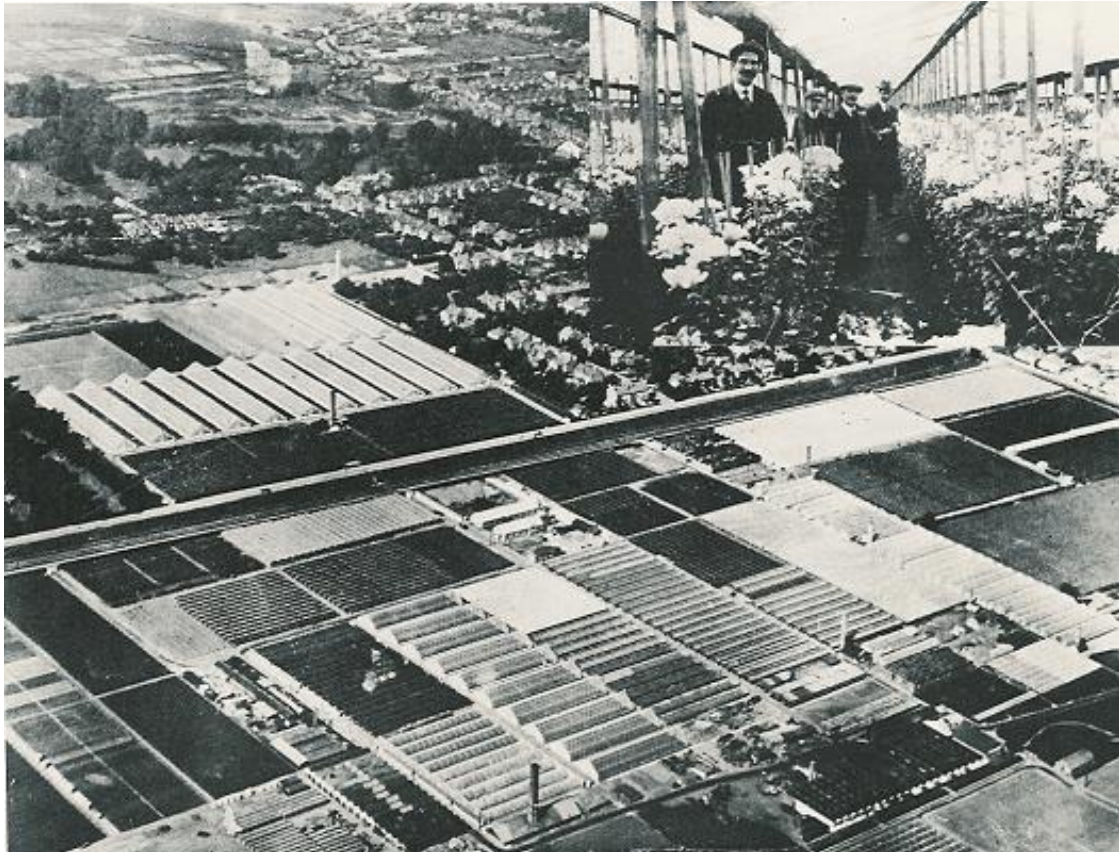
	<p>had arrived at a judgement based upon the evidence and government policy, which supported research on animals in seeking medical cures for human diseases.</p> <p>The decision was upheld in <i>National Anti-Vivisection Society and Another v SoS 30/07/2004</i>.</p>
Example 3 – St Catherine’s College, University of Oxford	
Proposal	The construction of 6 three-storey buildings providing 132 study bedrooms, 100 seat lecture theatre, seminar rooms and porters lodge, 99 additional cycle stands (497 in total) and 87 car parking spaces, landscaping and associated works. Green Belt site.
Local Authority	Oxford City Council (decision deferred to SoS under s77)
Inspector’s Report (Mr K D Barton)	<ul style="list-style-type: none"> • The grant of planning permission would promote the aims of Government transport policy • The proposal would enhance the setting of Grade I listed buildings, provide a suitable landscape complement to the registered gardens, and enhance the character and appearance of the Conservation Area • The scheme would have the benefit of increasing accommodation for students and families and releasing small houses onto the local market • Academic facilities, which could also be used by conferences generating income that would assist in maintaining the existing listed buildings, would be improved, as would security of the College campus. <p>These factors, together with the lack of any reasonable alternative site, constitute very special circumstances.</p>
Secretary of State Report	<p>The SoS agreed with the inspector that the proposals would enhance the setting of the listed building, complement the registered gardens and enhance the character and appearance of the conservation area. The harm to the green belt was considered to be restricted to a slight reduction in openness. The SoS concluded that the increased student accommodation, reduced numbers of journeys around the town, the making available of housing to the local market, and the enhancement of the conference business, which contributed financially to the maintenance of the listed building, all represented substantial benefits. The SoS concluded that while the proposals were inappropriate development in green belt terms, there were special circumstances of sufficient weight to indicate that permission should be granted.</p> <p>Decision: 18th March 2002</p>
HOSPITAL DEVELOPMENT IN THE GREEN BELT	
Local Plan Process – Exceptional Circumstances	
Example 1 – Christchurch and East Dorset Council/Victoria Hospital Christchurch and East Dorset Local Plan Part 1 (adopted April 2014)	
Inspector’s Report (21 March 2014)	<p>New Neighbourhoods were identified to accommodate a high demand for housing with associated land for economic growth, health and community facilities.</p> <p><u>Cuthbury Allotments and St Margaret’s Close New Neighbourhoods</u></p> <p>The Cuthbury Allotments and St Margaret’s Close site was chosen as it was an important gateway to the historic town and provided the opportunity for Victoria Hospital to expand and improve its services.</p> <p>The site was allocated (Policy WMC5) to provide 220 homes, open space and 0.4 hectares of land for a future extension to Victoria Hospital, or housing if shown to be not required.</p> <p>To enable this the Green Belt boundary was amended to exclude the land identified for new housing and the hospital.</p> <p><u>Are the Councils’ proposals for strategic release of land from the Green Belt justified by exceptional circumstances?</u></p>

	<p>The Councils have undertaken detailed assessments to establish the quantum of development that can be accommodated within the urban areas or on previously developed land. The SHLAAs provide a detailed analysis of the capacity of the urban areas to accommodate new housing, driving down to a level of detail which includes examination of very small sites. They demonstrate that there is a shortfall of over 3,000 dwellings which cannot be provided in the urban area.</p> <p>Similarly the Councils have shown through analysis of employment land supply that the urban areas cannot accommodate the full 80 hectares that is needed to provide for employment growth.</p> <p>Therefore to address strategic priorities and plan positively for homes and jobs the Councils have had to consider the need to provide some housing and employment development on land currently in the Green Belt. This represents the exceptional circumstances that justify a review of Green Belt boundaries.</p>
Applications – Very Special Circumstances	
Example 1 – St George’s Hospital, Suttons Lane, Hornchurch	
Proposal	<p>The redevelopment of the St Georges Hospital site inclusive of partial demolition of existing buildings to provide up to 3,000m² of new healthcare facilities, on 1.74 ha of the wider site, together with construction of a new vehicular access from Suttons Lane, associated car parking, landscape and infrastructure works.</p> <p>This application was linked to another application for the redevelopment of the balance of the St George’s Hospital site inclusive of partial demolition and conversion of existing buildings to provide up to 279 dwellings on 10.1 ha of the wider site, together with associated car parking, landscape and infrastructure works (received 24/03/16) (Application Reference: P0459.16).</p> <p>The site is located within the Green Belt and currently vacant and having been declared surplus to NHS requirements with the land not identified for healthcare purposes to be marketed if planning permission is granted. The receipt from any sale would be reinvested in the NHS.</p>
Local Authority	London Borough of Havering
Local Authority Decision (Application Reference: P0323.15)	<p>The regulatory Services Committee at LB Havering resolved to grant outline planning permission on 2nd June 2016. The S106 Agreement is currently under negotiation prior to the release of the consent.</p> <p>The following comments were made in the Committee Report:</p> <ul style="list-style-type: none"> • Officers were satisfied that the residential heights proposed would have no greater impact upon the openness of the green Belt than the existing buildings on the site. • Officers were satisfied that the indicative masterplan and the parameter plans demonstrate that the impact on openness would be neutral and therefore have no greater or lesser impact • Officers were satisfied that the proposals will both increase the impression of openness between buildings and replace clusters of large institutional buildings with residential development of a more domestic scale.
Example 2 – The Priory Hospital, Woking	
Proposal	The construction of a two-storey extension to the existing hospital in order to provide additional consulting/therapy rooms, and 9 additional bedrooms; demolition of existing stable block and hangar at the Priory Hospital.
Local Authority	Woking Borough Council
Appeal Decision: APP/A3655/A/10/2125384	Appeal made under Section 78

<p>Inspector JP Roberts</p>	<ul style="list-style-type: none"> • The proposal would result in a greater floorspace than the existing building, it is still a small addition compared to the overall building size. Furthermore, the hangar demolition reduces the spread of buildings onsite and contributes to the assessment of openness and would improve the appearance of the site. On the balance, the harm through loss of openness was found to be small. • Evidence showed a need for hospital accommodation for minors in mental health facilities in the area that this proposal would provide. Despite the fact that occupancy rates of the existing facility weren't provided, there was a demonstrated inadequacy of this type of facility in the area, and the Inspector afforded this significant weight. • Past extension had been approved, but never built. At that time very special circumstances had been demonstrated. • The benefit to the public (local and beyond) in terms of fulfilling an important healthcare need, as well as the visual improvement, outweighed the harm caused by inappropriateness and to openness. Very special circumstances found to justify the development. Appeal allowed. <p>Decision: 11 October 2010</p>
<p>Example 3 – Clifton Park Hospital (York Health Services NHS Trust), York</p>	
<p>Proposal</p>	<p>Erection of single and two storey building to provide clinical and administrative accommodation, car and cycle parking, service road, fencing, landscaping works, CCTV cameras, external lighting, balcony and external staircase</p>
<p>Local Authority</p>	<p>City of York Council</p>
<p>Local Authority Decision (Application Reference: 10/01091/FULM)</p>	<p>Very special circumstances exist based upon the clinical need for the development, the opportunities for co-usage of existing specialist services and the pleasant woodland setting of the site which clearly over-ride the normal presumption against "inappropriate development" in the Green Belt.</p>

Appendix K

Historical Land Use Report (Site 4)



Aerial view of part of the Lowe & Shawyer Nurseries in 1929
Cleveland Road and the former railway line runs across
the centre of the photograph

BRUNEL UNIVERSITY LONDON
SITE 4
HISTORICAL LAND USE

December 2014

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Introduction

Site 4, which is one of 5 sites owned by Brunel University London, has an area of 30.64 acres / 12.40 hectares. The site lies to the south of site 2 and is bisected by the river Pinn.

The Garden Centre, which forms part of site 4, is leased to the Garden Centre Group. Milton House is also situated on site 4.

A double access gate at the west end of Nursery Lane is kept locked.

Nursery and Market Garden

The University's site 4 was formerly part of the Lowe and Shawyer nursery and Market Garden.

The history of market gardening began in 1868 when Joseph Lowe started a cut flower nursery in Kingston Lane. The business grew and the nursery expanded such that by 1914 George Shawyer was taken into partnership and there were 6 nurseries covering 71 acres in an area bounded by Cowley Road, Hillingdon Road and Royal Lane.

By the mid 1930's the acreage was 200 and the labour force approached 1000. Fourteen boiler houses consuming 6000 tons of fuel per year were needed to heat 35 acres of greenhouses and Artesian wells were bored to boost the water supply.

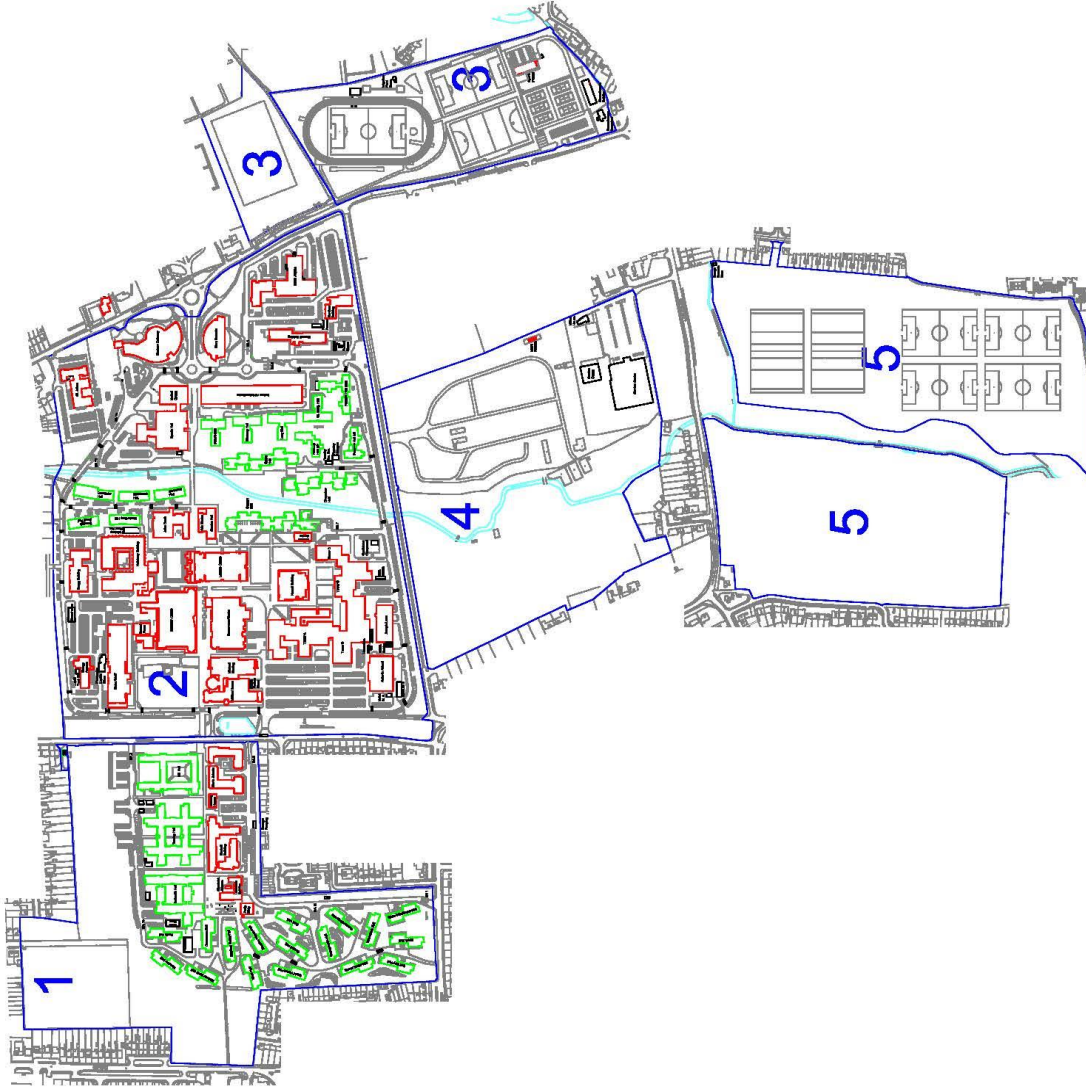
The nursery kept going until 1958 when the company went into voluntary liquidation.

Notes:

1. In addition to being used to provide access to the infrastructure, the roads are also used for parking and loading/dumping.
2. The number in parentheses in the table indicates the number of buildings in the site.
3. Dimensions shown on the drawing shall be as indicated. Only values or calculated dimensions shall be used.

SCHEDULE OF SITE AREAS

- | | |
|---------------|------------------|
| SITE 1 | • 34.03 Acres |
| | • 13.78 Hectares |
| SITE 2 | • 66.17 Acres |
| | • 26.78 Hectares |
| SITE 3 | • 19.82 Acres |
| | • 8.02 Hectares |
| SITE 4 | • 30.64 Acres |
| | • 12.40 Hectares |
| SITE 5 | • 42.82 Acres |
| | • 17.33 Hectares |



Sl. No.	DESCRIPTION	Area
1	SITE 1	34.03 Acres
2	SITE 2	66.17 Acres
3	SITE 3	19.82 Acres
4	SITE 4	30.64 Acres
5	SITE 5	42.82 Acres
TOTAL		193.58 Acres

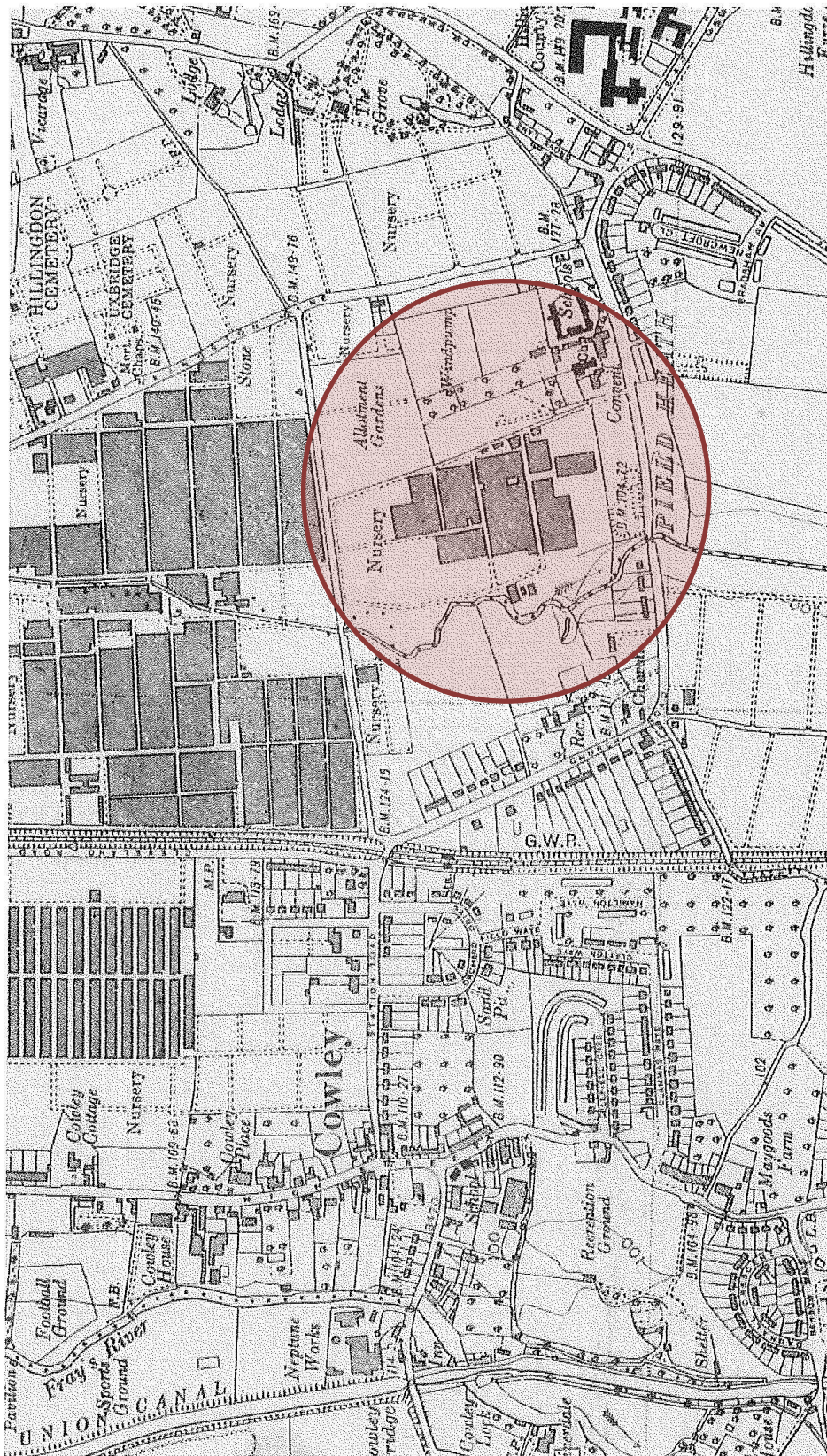
Sl. No.	DESCRIPTION	Area
1	SITE 1	13.78 Hectares
2	SITE 2	26.78 Hectares
3	SITE 3	8.02 Hectares
4	SITE 4	12.40 Hectares
5	SITE 5	17.33 Hectares
TOTAL		78.31 Hectares



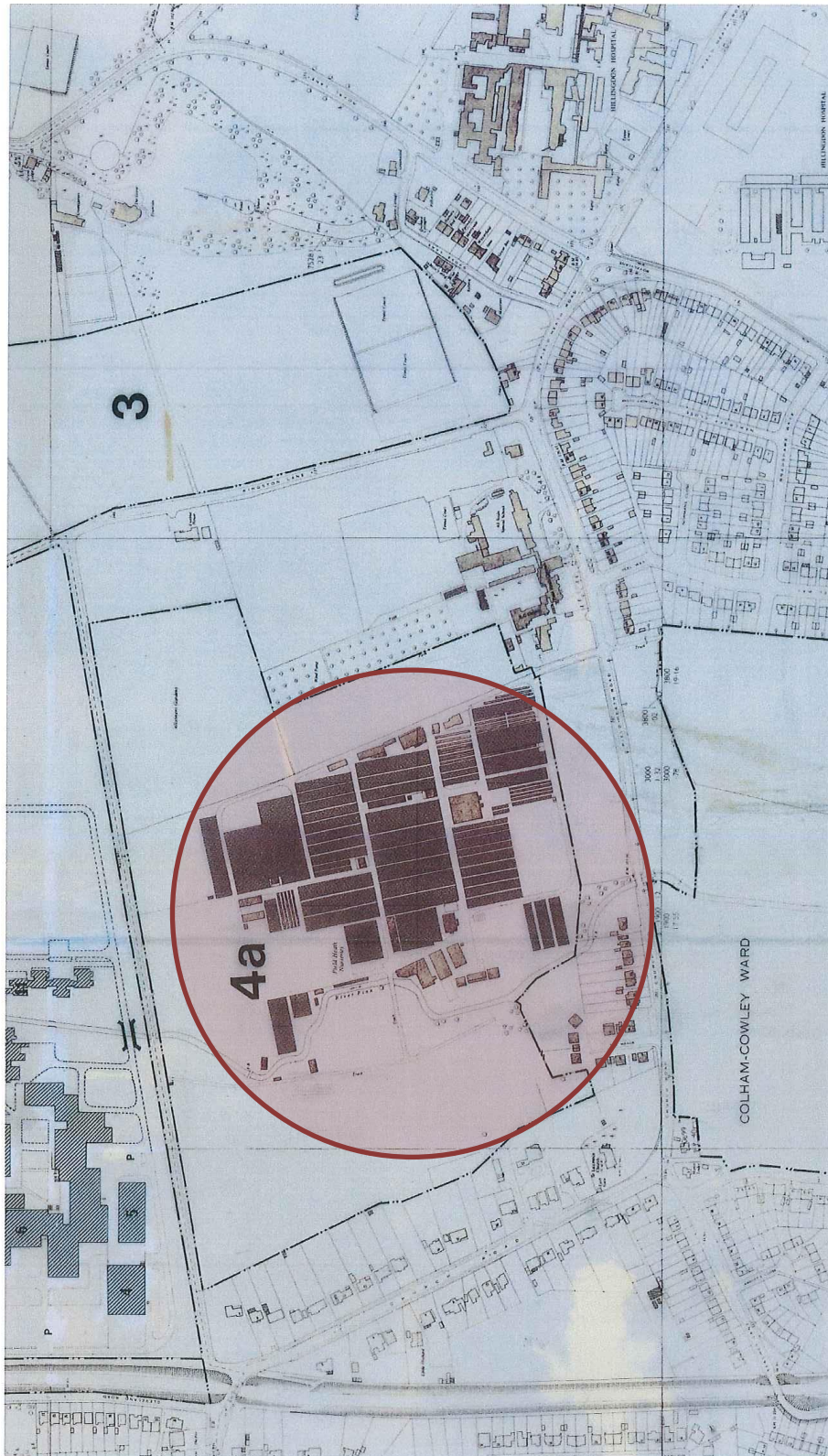
BRUNEL UNIVERSITY ESTATE

UXBRIDGE CAMPUS - ALL LITERS

Sl. No.	DESCRIPTION	Area
1	SITE 1	34.03 Acres
2	SITE 2	66.17 Acres
3	SITE 3	19.82 Acres
4	SITE 4	30.64 Acres
5	SITE 5	42.82 Acres
TOTAL		193.58 Acres



**An extract from a 1938 map
Site 4 highlighted in red with the nurseries
clearly visible**



**An extract from a 1978 map
Site 4 highlighted in red with the nurseries
clearly visible**

Site 4 Derelict Buildings and Building Foundations

Gradually the nursery buildings were demolished leaving concrete bases, the Garden Centre and Milton House.

A plan was prepared in 2004 to record the buildings that existed at that time, many of these buildings were structurally unsound and contained asbestos products and for Health and Safety reasons the buildings were demolished.

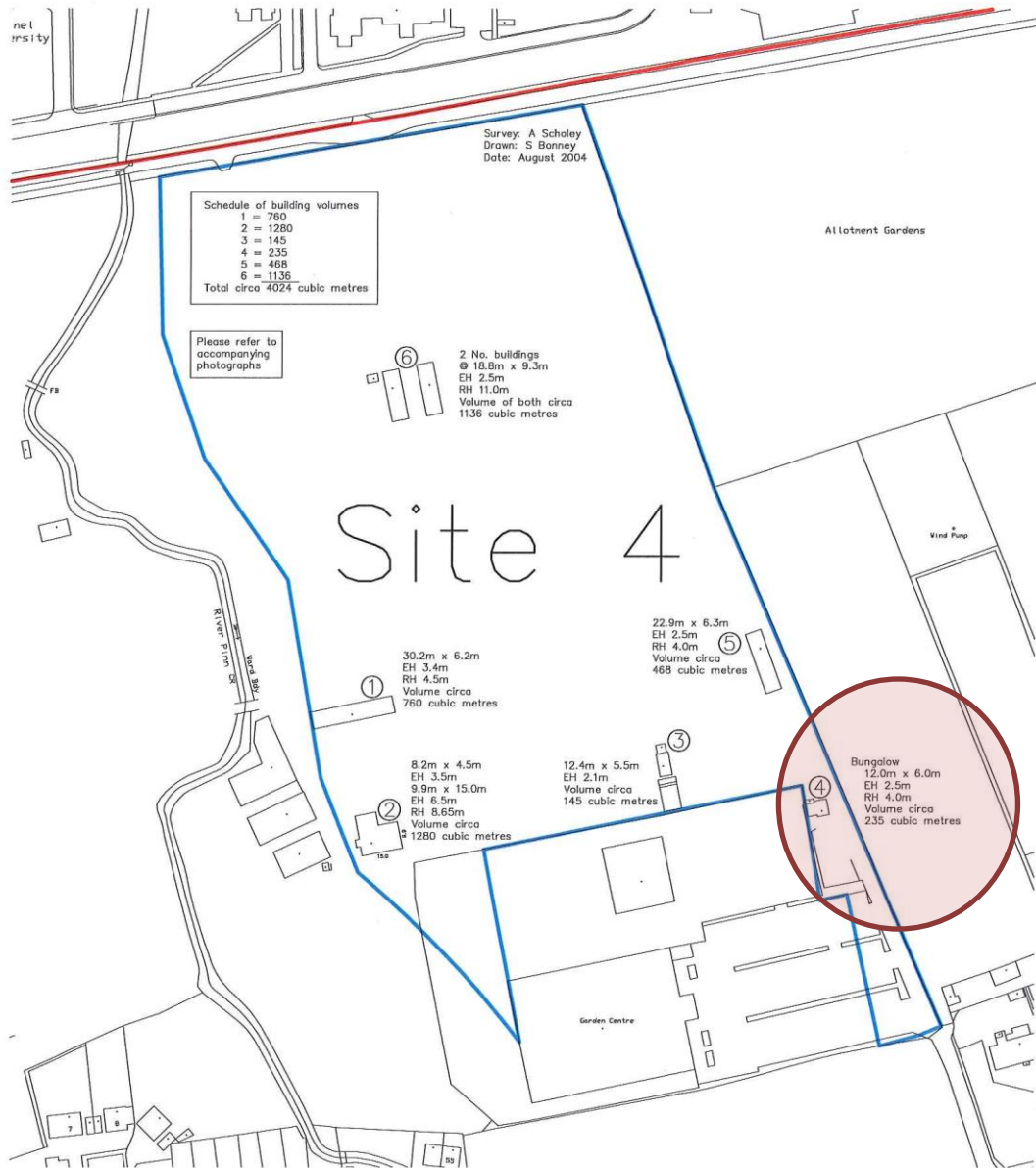
The building records are shown on the attached plan and photographs.

Asbestos

Inspections were carried out in 2012 as a result of which some asbestos material was removed and safely disposed of.

A plan is attached showing the locations of asbestos removed.

This exercise was hampered by dense undergrowth but every effort was made to identify and remove asbestos containing materials lying on the surface.



2007 Plan of the Demolished Buildings

The bungalow highlighted in red has been retained and is now known as Milton House



Building 1



Building 2



Building 3



Building 4 (Retained)



Building 5



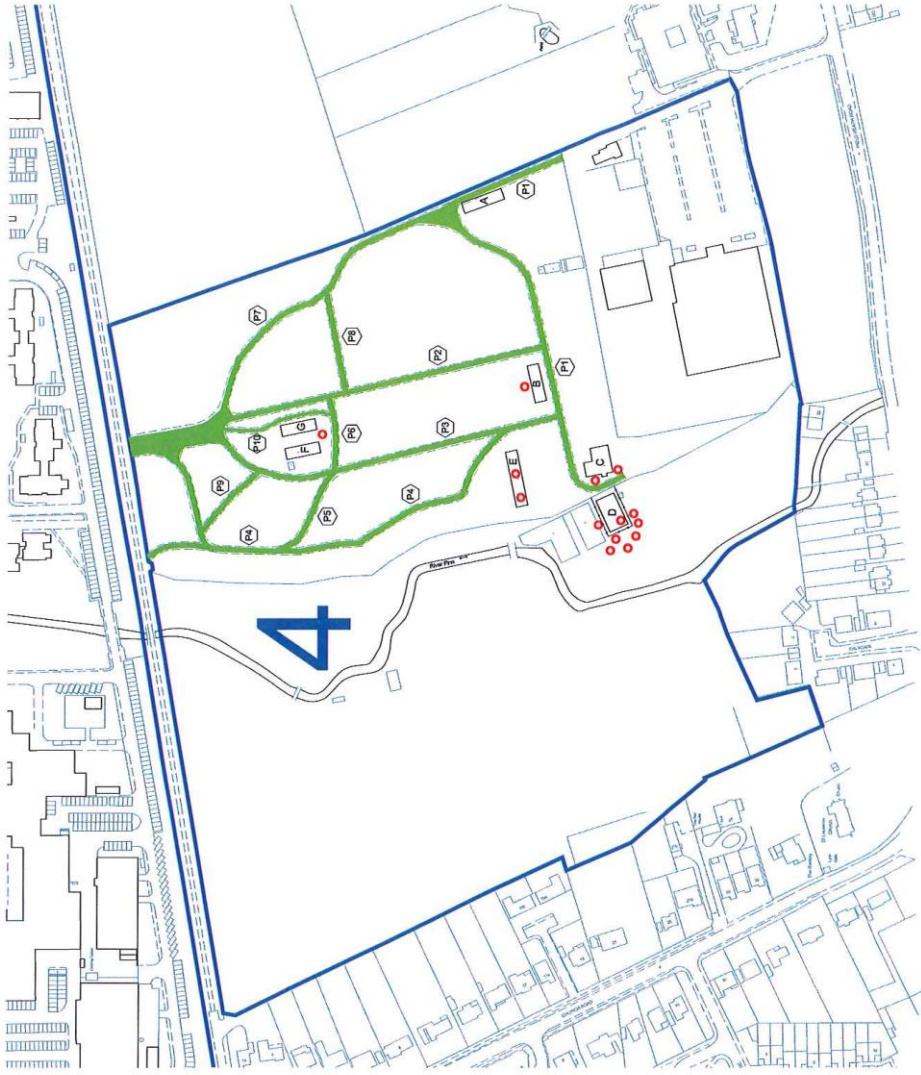
Building 6

Notes:

1. In addition to these notes reference shall be made to the specification for the works and all relevant Architectural and specialist drawings.
2. The contractor is responsible for verifying all site setting out dimensions before commencing work.
3. Dimensions shown on this drawing shall not be scaled. Only written or calculated dimensions shall be used.

Drawing Notes:

- Indicates pathways
- Pathway No.
- Indicates asbestos cement debris
- A Millen Armesse
- B Building rubble
- C Concrete slab
- D Asbestos well concrete slab
- E Building rubble
- F No building found
- G No building found



Rev	Date	Purpose of revision	Drawn	Checked	Approved
<p>Brunel UNIVERSITY LONDON BRUNEL UNIVERSITY BRUNEL UNIVERSITY WILFRED BROWN BUILDING KINGSTON LANE UXTON ROAD MIDDLESEX UB8 3PH TEL: 01895 274000 FAX: 01895 259752</p>					
Project: BRUNEL UNIVERSITY ESTATE					
Drawing title: SITE 4 PATHWAYS AND DEBRIS					
Drawing data					
Drawn By:	PAW	Checked By:		Date:	29.08.12
Scale:	AS SHOWN ON SITE PATHWAYS AND DEBRIS				
Drawing number:	BU-SITE 4 PATHWAYS AND DEBRIS				
Rev	A				

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100001024 - Demolished Pathway

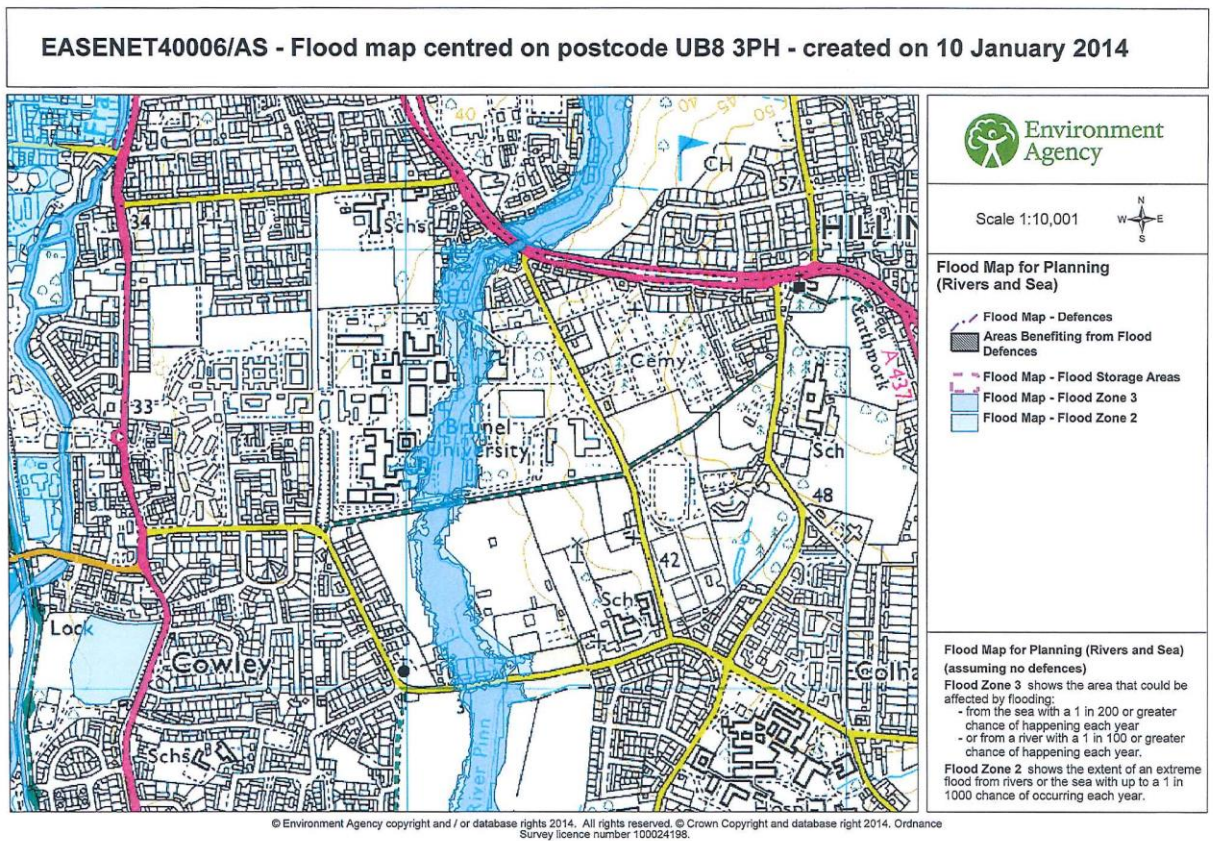
2012 locations of asbestos debris (removed)

The River Pinn

The River Pinn passes through Brunel University, entering the campus boundary to the north of Lancaster Hall on site 2 running entirely through site 4.

Flood risk assessment maps are regularly prepared and updated by the Environment Agency.

The extract below is the latest flood map received from the EA in January 2013.



Contact Us: National Customer Contact Centre, PO Box 544, Rotherham, S60 1BY. Tel: 03708 506 506 (Mon-Fri 8-6). Email: enquiries@environment-agency.gov.uk

Topographical Survey

In 2006 a topographical survey was commissioned and produced for site 4.

The following is an extract from the drawing produced.

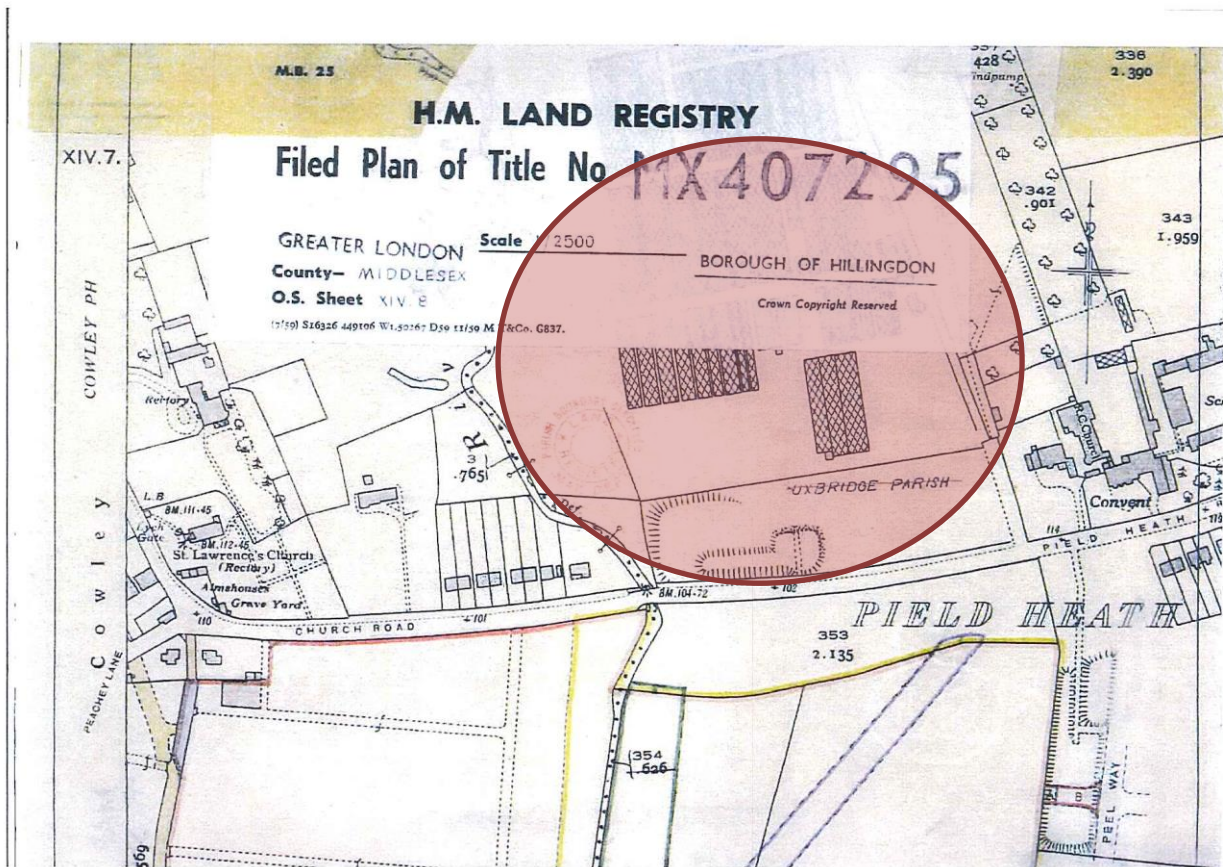
Remnants of the historic buildings, that once existed, have been recorded.



Land Registry Field Plan

The extract below is from the 1960 land registry title deed for site 5.

It has been included in this report as it indicates-albeit slightly obscured-the historic nursery buildings that existed on site 4.



Site 4 West Side

The land to the west of the river Pinn on site 4 is a mixture of grass, woodland and hedgerow.

A number of residential properties along Church Road are backing onto the boundary line of this part of site 4.

Below is a photo taken in 2011 from the roof of Tower C looking over the west side grass land towards those properties.



Aerial View Today - Site 4 Highlighted



Appendix L

Ecological Appraisal



UNITED
BY OUR
DIFFERENCE



SITE 4, BRUNEL UNIVERSITY UXBRIDGE

Preliminary Ecological Appraisal

10/03/2015

Quality Management

Issue/revision	Issue 1	Revision 1	Revision 2	Revision 3
Remarks	Final			
Date	10/03/15			
Prepared by	H Spray and G Turner			
Signature				
Checked by	H Spray			
Signature				
Authorised by	R Donovan			
Signature				
Project number	70009585			
Report number				
File reference	Brunel University_ Phase 1 Report V1.0			

SITE 4, BRUNEL UNIVERSITY UXBRIDGE

Preliminary Ecological Appraisal

10/03/2015

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1 Introduction

1.1 Project Background

- 1.1.1 The Uxbridge Campus of Brunel University, London includes both built areas and green space to the south of Nursery Lane, Uxbridge. The section of the campus to the south of Nursery Lane is known as Site 4, and is bisected by the River Pinn (see Figure 1).
- 1.1.2 Site 4 was formerly part of the Lowe and Shawyer Nursery and Market Garden which served the cut flower market in the early 20th century. The nursery was active until 1958, subsequently buildings have been demolished with the exception of Milton House (immediately to the east of the current Site boundary), and the Garden Centre (immediately to the south). It is located to the south of the main Uxbridge Campus, and surrounded to the west by residential development. Allotments lie to the east of Site 4 and to the south, beyond Church Road, the River Pinn flows through open green space characterised by grassland fields bounded by hedgerows and scrub.
- 1.1.3 At present, Site 4 can be described as having two main areas. To the east of the River Pinn the site encompasses the Bicentennial Gardens. To the west of the River Pinn comprises grassland with scrub present at the margins. The River Pinn at this location is shaded by a corridor of bankside tree and shrub cover, it has an open channel form.
- 1.1.4 Land to the south of Church Road (and Site 4) forms The River Pinn and Manor Farm Site of Borough Importance for Nature Conservation (grade II)(SBINCII), as shown within the Hillingdon Unitary Development Plan 1998 (saved policies 2007). The Local Plan: Part 2, Site Allocations and Designation (Proposed Submission Version, September 2014) includes the proposed extension of The River Pinn and Manor Farm SBINCII to include Site 4.

1.2 Aims and Objectives

- 1.2.1 Brunel University London instructed WSP UK Ltd. to complete a preliminary ecological appraisal of Site 4 in February 2015. The aims of the preliminary ecological appraisal were twofold:
- firstly to establish the reasoning for the proposed extension to the River Pinn and Manor Farm SBINCII within the proposed sites allocation document; and
 - secondly, to gather baseline survey data to inform consideration as to whether there is justification for the proposed extension.
- 1.2.2 To achieve the above aims a desk based data review was completed and extended Phase 1 habitat survey completed. The results of these tasks are contained within this report.

2 Methods

2.1 Overview

2.1.1 An extended Phase 1 habitat survey was completed on the 19th February 2015 in accordance with standard methods (JNCC, 2010), supplemented by an ecological desk study completed during February 2015 to collate existing biological records relevant to the Site held by third parties. Together the results of these tasks form the basis for preliminary ecological appraisal in line with good practice guidance (CIEEM, 2013).

2.2 Desk Study

2.2.1 A desk study exercise was undertaken in February 2015 to review existing ecological baseline information available in the public domain and to obtain information held by relevant third parties. For the purpose of the desk study exercise, the study area was defined as the Site (see Figure 1) with various search radii used in the desk based assessment. This approach is consistent with the CIEEM preliminary ecological appraisal guidelines (CIEEM, 2013).

2.2.2 To provide the baseline data for the study area, the following information was requested from the two record centres; Greenspace information for Greater London (GIGL) and Buckinghamshire and Milton Keynes Record Centre:

- Records of non-statutory sites designated for nature conservation value within 2km of the Site;
- Records of legally protected and notable species within 2km of the Site; and
- Bat records within a 5km radius.

2.2.3 Freely downloadable corporate datasets (available from Natural England) were interrogated for information regarding the presence of statutory designated sites within 2km of the Site and woodland listed on the Ancient Woodland Inventory. This search was extended to 10km for European designated Natura 2000 sites (Special Areas of Conservation (SAC) and Special Protection Areas (SPA) and internationally important wetland sites (designated as Ramsar sites).

2.2.4 The findings of the desk study have been incorporated within this report, and shown on Figures 2-4, with additional information included within Appendices A and B.

2.3 Phase 1 Habitat Survey

2.3.1 An extended Phase 1 habitat survey of the Site was conducted following Joint Nature Conservation Committee (JNCC) survey methods (JNCC, 2010) extended to include consideration of habitat suitability for protected species (CIEEM, 2013).

2.3.2 Phase 1 habitat survey is a standard technique for classifying and mapping British habitats where the dominant plant species are recorded and habitats are classified according to their vegetation types. All habitats present within the Site were mapped during the field survey visit, with target notes used to identify features of interest (shown on Figure 5). A description of each habitat type was recorded with an indicative botanical species list gathered and a photo appendix compiled (Appendix C).

2.4 Dates and Personnel

- 2.4.1 The extended Phase 1 habitat survey was completed on 19th February 2015 by Hattie Spray MCIEEM (Associate Ecologist with WSP UK Ltd.). Hattie has over ten years' experience working as a professional consultant ecologist, and is very familiar with habitat survey methods and classification.
- 2.4.2 The desk based assessment was also completed by Grace Turner, Grad CIEEM and Graduate Ecologist with WSP UK Ltd.

2.5 Notes and Limitations

- 2.5.1 Records held by local biological records centres and local recording groups are generally collected on a voluntary basis; therefore, the absence of records does not necessarily demonstrate the absence of species, it may simply indicate a gap in recording coverage, however provide a useful indication of which species are active in an area.
- 2.5.2 The field survey was completed outside of the optimal season for extended Phase 1 habitat surveys, as defined by JNCC (2010); the optimal seasonal period is defined to target periods when key species within botanical habitats are in flower and is generally accepted to be April to September inclusive. Whilst broad habitat types were recorded, at this time of year it is not possible to collect a fully comprehensive botanical species list. This is acknowledged during interpretation of the survey results within this report.

3 Results

3.1 Desk Study

3.1.1 European Designated Sites

3.1.2 Sections of one European designated site, the 'South West London Water bodies' Special Protection Area (SPA), which is also a Ramsar site, lies within 10km of Site 4. The SPA designation encompasses a number of separate water bodies; most are reservoirs or large lakes. The nearest of which is Wraysbury Reservoir; located approximately 7.4km from Site 4. Qualifying species for the SPA designation include shoveler *Anas clypeata* and gadwall *Anas strepera* overwinter, in addition the Ramsar description acknowledges the wider bird assemblage present in during the autumn and spring periods. The reasons for designation are summarised in Table 1 below.

Table 1: European designated sites within a 10km radius of the Site

Site Name	Designation	Proximity to Site	Description
South west London Waterbodies (Including Wraysbury Reservoir; Sunny Meads; King George Reservoir & Staines Reservoir)	SPA	7.4km* S (nearest water body)	<p>This site qualifies under Article 4.2 of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species:</p> <p>Over winter;</p> <ul style="list-style-type: none"> Shoveler <i>Anas clypeata</i>, 1,075 individuals representing at least 2.7% of the wintering Northwestern/Central Europe population (5 year peak mean 1991/2 - 1995/6) . Gadwall <i>Anas strepera</i>, 786 individuals representing at least 2.6% of the wintering Northwestern Europe population (5 year peak mean 1991/2 - 1995/6) (JNCC, 2015).
	Ramsar		<p>This Site qualifies for a Ramsar designation due to the presence of internationally important populations of the following bird species:</p> <ul style="list-style-type: none"> Species with peak counts in spring/ autumn: Northern shoveler <i>Anas clypeata</i> (North-western and central Europe) 397 individuals representing an average of 2.6% of the Great Britain population (5 year peak mean 1998/99- 2002/03). Species with peak counts in winter: Gadwall; 487 individuals representing an average of 2.8% of the Great Britain populations (5 year peak mean- 1998/99- 2002/03). <p>The Ramsar site citation also makes reference to a number of other species that are qualifying features of the site, but not primary reasons for its designation.</p> <ul style="list-style-type: none"> Species with peak counts in spring/ autumn: Great crested grebe <i>Podiceps cristatus</i> (North-western Europe)- 318 individuals representing an average of 2% of the Great Britain population (5 year peak mean 1998/99- 2002/03); Great cormorant <i>Phalacrocorax carbo</i> (North-west Europe)- 318 individuals representing an average of 1.3%of the Great Britain population (5 year peak mean 1998/99- 2002/03); Tufted duck <i>Aythya fuligula</i> (North Western Europe)- 2,731 individuals representing an average of 3% of the Great Britain population (5 year peak mean 1998/99- 2002/03). Species with peak counts in winter: Black-necked grebe <i>Podiceps nigricollis</i> (Europe, North Africa)- 2 individuals representing an average of 1.6% of the Great Britain population (5 year peak mean 1998/99- 2002/03); Smew <i>Mergus albellus</i> (North-western and central Europe)- 29 individuals representing an average of 7.8% of the Great Britain population (5 year peak mean 1998/99- 2002/03).

3.1.3 UK Statutory Designated Sites

3.1.4 There are no UK statutory sites within a 2km search area of Site 4, however there were a number of non-statutory sites (see Table 2 below and Figure 2).

3.1.5 Non Statutory Designated Sites

3.1.6 The non-statutory site information returned by GiGL indicates that Site 4 forms part of the River Pinn and Manor Farm SBINCII, the boundary of which was extended in 2005 to include this land. The citation (dated 23/03/2005) which describes the reasons for designation is included in Appendix A for ease of reference.

3.1.7 A total of nine other SINCs and one local site of importance were identified within a 2km radius Site 4 (GiGL Report, 2015). No Notable Road Verges (NRV) were identified within the search radius. The reasons for designation are summarised in Table 2 below and locations shown on Figure 4.

Table 2: Summary of Non-Statutory Sites within 2km of Site 4

Site Name	Designation (Map Code)	Proximity to Site	Description
Uxbridge and Hillingdon Cemeteries	Borough Grade II (HiBI141)	214m E	These two cemeteries contain flower rich grassland with patches of taller grasses and flowers. The gravestones and walls are well vegetated with lichens and bryophytes. There are scattered trees and an area of woodland, with a diversity of woodland birds.
The Grove	Borough Grade II (HiBI111)	548m E	A sequence of shaded ponds within the nature reserve, surrounded by grassland, scrub patches and woodland. Peacock <i>Aglais io</i> and holly blue <i>Celastrina argiolus</i> butterflies and a number of woodland birds occur here.
Frays River at Uxbridge Moor	Borough Grade I (HiBI110)	769m NW	This section of the Fray's River flows through urban Uxbridge and Cowley, adjacent to opens spaces such as Rockingham Recreation Ground and hold a reasonable diversity of wetland plants and waterfowl. The river forms a valuable wildlife corridor through a built-up area.
London's Canals	Metropolitan (M006)	1000m W	London's canals support a wide range of aquatic flora, amongst which are found a number of locally uncommon species. These include species associated with clean, clear water such as narrow-leaved water plantain <i>Alisma lanceolatum</i> and rigid hornwort <i>Ceratophyllum demersum</i> . Many waterside plants also grow on the brickwork and banks of the canal. The canals also support important invertebrate fauna (including dragonflies and damselflies), a diverse fish community and breeding waterfowl. The whole of the Grand Union Canal system in London are included in this single metropolitan site.
River Pinn and Manor Farm Pastures	Borough Grade II (HiBI107)	1021m S	A stretch of the River Pinn is bordered on both sides by open grassland, much of which comprises rank grasses, tall herbs and scattered scrub with some sports fields. The river is lined by trees and shrubs, the heavy shading from introduced species (such as Japanese Knotweed <i>Fallopia japonica</i> ; Giant Hogweed <i>Heracleum mantegazzanum</i> and Indian balsam <i>Impatiens glandulifera</i> has led to the death of aquatic plants. Two of the fields to the west are grazed by horses and the rest are infrequently mown. To the north, the former Pield Heath Nursery comprises a number of fenced horse-grazed paddocks on both sides of the river. There is a well-structured patchwork of grassland, tall herbs and ruderal vegetation. Winter flocks of chaffinch <i>Fringilla coelebs</i> and greenfinch <i>Carduelis chloris</i> occur here and public access is restricted to the footpaths.
Little Britain	Metropolitan (M043)	1134m W	This area of the Colne Valley has a variety of habitats including rivers, scrub, areas of wasteland, woodland and neutral grassland. There are also a number of marginal habitats including wet woodland. Unbranched bur-reed <i>Sparganium emersum</i> and water dock <i>Rumex hydrolapathum</i> both occur in the Frays. A stretch of unimproved floodplain grassland supports a variety of nationally scarce flora. The lakes were originally gravel pits that now attract various breeding and wintering birds.
Hillingdon Court Park	Local (HiL04)	1425m NE	A large park with plenty of mature trees and small areas of woodland and wetland.
Stockley	Borough	1910m SE	This large, hilly country park contains extensive grassland and other

Site Name	Designation (Map Code)	Proximity to Site	Description
Park Country Park	Grade II (HiBII12)		habitats including tall herbs, scrub, trees and hedgerows, much of which has been planted. A large variety of sown wildflowers occur and there is a small pond. The site is good for invertebrates including localised species Roesel's bush-cricket <i>Metrioptera roeselii</i> . Other species include a diversity of butterflies, dragonflies and damselflies.
Uxbridge Common Meadows	Borough Grade II (HiBII01)	1963m N	The River Pinn meanders through this large area of old meadows, hedgerows and small woods. The river is heavily shaded and runs under the railway which is a good wildlife corridor with a strip of riparian vegetation. Uncommon species include yellow iris <i>Iris pseudacorus</i> and yellow loosestrife <i>Lysmachia vulgaris</i> . The main part of the site comprises grasslands and hedgerows with some woodland along the railway embankment.
Mid Colne Valley	Metropolitan (M045)	1990m N	A section of the Colne Valley with a remarkable range of high-quality wetland habitats. The unimproved wet pastures of Frays Farm Meadows (SSSI and LNR) are managed by the London Wildlife Trust and support uncommon species such as marsh-marigold <i>Caltha palustris</i> and ragged-robin <i>Lychnis flos-cuculi</i> . The site also supports locally declining glow-worm <i>Lampyrus noctiluca</i> and a number of wader birds, harvest mice and water vole <i>Arvicola amphibius</i> .
Home Covert, Lowdham Field and Pole Hill Open Space	Borough Grade II (HiBII52)	2000m E	Home Covert is a block of woodland in the north-west of the site, dominated by oak and a number of large trees. The woodland floor is generally rather bare due to high pedestrian usage. Rushes and great willowherb <i>Epilobium hirsutum</i> grow in seasonally wet ditches beside the paths. Purple hairstreak <i>Neozephyrus quercus</i> occur at woodland edges. To the south; Lowdham Field contains moderately species-rich and well-structured grassland. Pole Hill Open Space to the east has a significant network of outgrown hedgerows and seasonally wet ditches along amenity grassland. There is an area of rough grassland with exceptionally rich flora.
Uxbridge Ponds	Borough Grade I (HiBI06)	2149m N	Three ponds in Uxbridge support amphibians; two of which are breeding ponds for great crested newts <i>Triturus cristatus</i> (GIGL, 2006 citation updated) with an assemblage of aquatic plants, a number of which are locally scarce. Around the ponds is acid grassland, scattered trees and secondary woodland.

3.1.8 Ancient Woodland

3.1.9 There were no parcels of ancient woodland identified from the desk study within the 2km search radius of the Site.

3.1.10 Habitats of Principal Importance (HPI)¹

3.1.11 Existing datasets indicate that two habitats of principal importance are located within the boundary of Site 4; these include lowland mixed deciduous woodland and traditional orchards.

3.1.12 Legally Protected and Notable Species Records

3.1.13 Records of protected species and species of conservation concern identified within a 2km radius of Site 4 (extended to 5km for bats) are summarised in Table 3 and Table 4 in Appendix B. For the purpose of the desk study, only records dated within the last 10 years have been considered as these are likely to be of more relevance. No records of notable or protected species were identified within the Site boundary itself. In the absence of any exact coordinates; figures showing record

¹ Information on the HPI present within the area determined through review of Biodiversity Action Plan habitats defined within freely available Natural England GIS datasets. The former BAP habitats have been superseded, and now broadly match habitats listed as HPI's in response to the NERC Act 2006.

distribution were not able to be produced, however distances from Site are detailed in Table 3, Appendix B.

- 3.1.14 The only terrestrial mammal records within the 2km search (excluding bats) were Eurasian badger *Meles meles*. The exact positions of these records are unknown as they were only provided within a 2km resolution from the Site boundary, due to the confidentiality of data. There was also one record returned of a European hedgehog *Erinaceus europaeus*, located just outside the 2km search area of the Site.
- 3.1.15 Bat records were returned from GIGL 2015, these are detailed in Table 3, Appendix B. There were no bat records returned from Buckinghamshire Environmental Record Centre within a 5km radius (BMERC, 2015). A total of seven species were recorded within the 5km search area of the Site; including common pipistrelle *Pipistrellus pipistrellus*; soprano pipistrelle *P. pygmaeus*; Nathusius' pipistrelle *P. nathusii*, serotine *Eptesicus serotinus*, noctule *Nyctalus noctula*, Daubenton's bat *Myotis daubentonii* and the brown long-eared bat *Plecotus auritus*. There were also a couple of unidentified bat *Chiroptera sp.* records, and records grouped as pipistrelle species *Pipistrellus sp.* No specific bat roosts were identified from the data search.
- 3.1.16 There was just one great crested newt *Triturus cristatus* record from 2010 recorded just outside the search radius; 2327m north of Site (GIGL, 2015). Other amphibian records within 2km search area include the common toad *Bufo bufo* for which a record 1296m north of Site 4 occurs. A common lizard *Zootoca vivipara* record was also returned at 1296m north of Site 4.
- 3.1.17 Bird records within 2km of the Site identified a total of 21 notable bird species. Due to the mobile nature of birds, these records have not been mapped; however Table 4, Appendix B, lists the species records returned. Six of these birds are listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended); seven are listed as Red on the Birds of Conservation Concern Red list; and twelve are Amber listed (see Eaton et al, 2009). Six species are listed as species of principal importance (SPI) under provisions of the NERC Act 2006. The majority of records relate to more urban habitats including swift *Apus apus* and the song thrush *Turdus philomelos*. There were also a number of birds of prey; including kestrel *Falco tinnunculus*, hobby *Falco subbuteo* and red kite *Milvus milvus*.
- 3.1.18 There were also a number of protected invertebrate records which were returned from the desk study for a range of species (see Table 3). No records were returned for Site 4 itself or in very close proximity, the nearest records were from 624m to the north. The vast majority of records were of moths and butterflies. The exception is records of stag beetle *Lunecanus cervus*, 1414m north of Site. The closest records were positioned at the same 1km resolution; 624m to the north of the Site. These include the brown argus *Aricia agestis*, the marbled white butterfly *Melanargia galathea subsp.serena* and the small heath butterflies *Coenonympha pamphilus*. The other invertebrate records were all positioned further away to the north and northwest of the Site.
- 3.1.19 Notable protected plants were also recorded within the 2km search radius; the closest of which is bladderwort *Utricularia australis* which was found 486m north east of the Site. Frogbit *Hydrocharis morsus-ranae* (listed as vulnerable under IUCN and County Rare) and three other plants located within the 2km search radius listed as County Scarce, were provided in a 2km resolution so their exact locations and distances from Site remains unknown (See Table 3).

3.2 Extended Phase 1 Habitat Survey

3.2.1 Overview

3.2.2 The extended Phase 1 habitat survey confirmed that Site 4 is formed of two distinct areas bisected by the River Pinn; to the east of the river the Bicentennial Gardens lie on the site of the former Lowe and Shawyer Nurseries, and to the west of the river Site 4 comprises grassland which is currently grazed by a horse. Habitats present include scattered trees/semi-natural woodland, dense scrub, semi-natural grassland (bordered by ruderal vegetation), running water and species-poor intact hedgerow. A small porta-cabin building is also present within the Bicentennial Gardens. There is palisade fencing around the area as a whole, and separating the Bicentennial Gardens from the River Pinn corridor.

3.2.3 Habitat Descriptions

Scattered Broad-leaved Trees / Semi-natural Woodland

3.2.4 Mature trees are present along the River Pinn corridor including crack willow *Salix fragilis*, common alder *Alnus glutinosa* and pedunculate oak *Quercus robur*. In places collections of trees effectively form small parcels of semi-natural woodland; this is particularly the case in the southern section of Site 4 to the west of the River Pinn. In nearly all parts the shrub layer is dominated by bramble *Rubus fruticosus* agg. and ground flora appeared to be sparse, although lord's-and-ladies *Arum maculatum* was identified to the present.

Semi-improved Grassland

3.2.5 To the west of the River Pinn, semi-improved grassland is present (see Photograph 9, Appendix C). This area is currently horse grazed, and this has likely reduced the degree of scrub encroachment although dense stands of bramble scrub are present around the margins. The grassland appears to be dominated by false oat grass *Arrhenatherum elatius* with bents *Agrostis* sp., fescues *Festuca* sp. and coarse grasses such as Yorkshire fog *Holcus lanatus* and cock's-foot *Dactylus glomerata* also present. Herb species appear to be lacking, although species typical of enriched grassland such as ribwort plantain *Plantago lanceolata*, creeping buttercup *Ranunculus repens*, ragwort *Senecio* sp., self-heal *Prunella Vulgaris* and teasel *Disacus fullonum* were recorded.

3.2.6 There is evidence of public access to the grassland along the eastern boundary, with piles of green waste present, other debris, small chicken coups and the remains of small fires (see Photographs 10-12, Appendix C).

3.2.7 To the east, coarse grassland around the scrub margins contained similar species (see Photograph 5, Appendix C). Shorter grassland present along footpaths was dominated by perennial rye-grass *Lolium perenne*.

Dense Scrub

3.2.8 Dense scrub is present throughout much of the Bicentennial Gardens, which has developed over former building foundations. It is also present along much of the Site perimeter fencing, the edges of the grassland to the west of the River Pinn, and along the river corridor. Shrub and tree species present include birches *Betula* sp., beech *Fagus sylvatica*, pedunculate oak, elder *Sambucus nigra*, hawthorn *Crataegus monogyna* and blackthorn *Prunus spinosa*. Occasional privet *Ligustrum vulgare*, field maple *Acer campestre* and buddleia *Buddleia* spp. are also present within the Bicentennial Gardens. Dense bramble scrub is present throughout much of the area (see Photographs 1 and 3, Appendix C).

Running Water

- 3.2.9 The River Pinn flows through the centre of Site 4; see Photographs 6-7 in Appendix C. The channel is open form, and bankside vegetation comprises mature trees including crack willow, common alder. The channel is shaded and both marginal and in-channel vegetation are largely absent. A defunct bridge is present within dense vegetation in the southern section, near to what appear to be the remains of an abstraction facility or similar likely to have been associated with the previous plant nursery.

Species-poor Intact Hedgerow

- 3.2.10 An outgrown hedgerow borders Site 4 to the north along the south of Nursery Lane. Species include hornbeam *Carpinus betulus*, pedunculate oak and elder. The hedgerow is well established and its form shows that it has previously been laid, however there is little evidence of current management (see Photograph 8, Appendix C). There is a shallow ditch along a proportion of the boundary, and at ground level species including lord's-and-ladies, common nettle *Urtica dioica*, hogweed *Heracleum sphondylium*, cow parsley *Anthriscus sylvestris* and cleavers *Galium aparine* are present. Male fern *Dryopteris filix-mas* was also recorded to be present although only a single specimen was observed.

Buildings

- 3.2.11 A small porta-cabin is present in the southern section of the Bicentennial Gardens (near to the southern boundary and the Garden Centre), it appears to stand on hard standing foundations (see Photograph 2, Appendix C).

3.2.12 Incidental Fauna Records

- 3.2.13 Mammal pathways, most likely created by red fox *Vulpes vulpes* were recorded in the scrub habitat within the Bicentennial Gardens and it is probable that a fox earth is present in the vicinity.

3.3 Assessment re Suitability for Protected and/or Notable Species

Amphibians

- 3.3.1 The Phase 1 habitat survey did not identify the presence of suitable aquatic habitat for amphibians within Site 4. It is possible that ponds occur within residential gardens to the west (not accessed for the purpose of the survey), and within the allotments to the east however this is unknown. In the absence of established aquatic habitat it is unlikely that species such as great crested newt would be present on Site 4, despite the presence of suitable terrestrial habitat. The nearest record for this species is over 2km to the north. It is likely though, that common and widespread amphibian species which have broader habitat tolerances are present. For example common frog *Rana temporaria*, smooth newt *Lissotriton vulgaris* and possibly common toad (which is known to occur 1026m to the north of Site 4).

Bats

- 3.3.2 Mature trees located along the River Pinn corridor exhibit features with potential to support bat roosts; several mature oak *Quercus* sp. and ash *Fraxinus excelsior* trees have features such as tear-out wounds, split boughs and rot holes which provide suitable habitat for tree roosting bats. The location of these features, in proximity to high quality bat foraging habitat in the form of the River Pinn, increases the potential that they are used by roosting bats. The features were assessed

individually to have between low and moderate potential to support bat roosts². No trees with potential to support roosting bats were identified within Bicentennial Gardens to the east of the River Pinn, nor located within the more open grassland area to the west of the River Pinn.

- 3.3.3 The combination of habitats present within Site 4 provides suitable foraging habitat for a range of bat species, including generalist species such as common pipistrelle which is likely to be present in surrounding built areas, and more specialist species such as Daubenton's bat and soprano pipistrelle more normally associated with riparian habitat. There are no known records of bat activity on Site or in the immediate vicinity of Site 4; the nearest record held is for soprano pipistrelle 790m to the west.

Birds (Breeding)

- 3.3.4 Trees and shrub habitat present within Site 4 provide suitable habitat for a range of common and widespread nesting bird species. Of the notable species known to occur nearby, suitable habitat occurs for nesting bull finch *Pyrrhula pyrrhula* and song thrush, in addition during the winter period thrushes such as fieldfare *Turdus pilaris* and redwing *T. iliacus* are likely to utilise the shrub habitat present. The tussocky grassland to the west of the River Pinn is likely to support a population of small mammals which would form suitable prey of birds such as kestrel.

Badger

- 3.3.5 No evidence indicating the presence of badger was identified during the Phase 1 habitat survey. The grassland and scrub present throughout Site 4 provide suitable foraging habitat for this species if present locally.

Otter

- 3.3.6 The River Pinn provides a corridor of suitable habitat for otter *Lutra lutra*. Although records of this species were not identified during the desk study, nationally the range of otter continues to expand and there is potential that otter could move through Site 4. This species may create holts, and/or day couches some distance from main river channels and the dense scrub closer to the River Pinn provides suitable habitat for this. If this species is present along the River Pinn catchment, the presence of otter on Site should not be ruled out at this stage.

Reptiles

- 3.3.7 Both the parts of Site 4 to the west and east of the River Pinn provide suitable habitat for widespread reptiles. Particularly the margins between grassland areas and adjacent scrub habitat provide suitable basking locations, and both fallen deadwood along the river corridor and building remains (largely to the east of the river) provide shelter required for hibernation. It is considered likely that species such as grass snake would be present on Site 4; the nearest reptile record held by GiGL relates to common lizard recorded 1026m to the north of Site 4. The presence of the River Pinn, increases the probability that reptiles would be present in this area as the river corridor provides a network of suitable habitat linking Site 4 to other larger areas of suitable habitat to the south.

Water Vole

- 3.3.8 The section of the River Pinn flowing through Site 4 provides suboptimal habitat for water vole. The channel is largely shaded, therefore although natural bankside material provides suitable burrowing habitat there is limited bankside and in-channel vegetation providing suitable cover and fodder. Water voles are known to be present locally, with records <2km from Site 4 to the north, however it is considered unlikely that this species is present on Site given the nature of the habitat available.

² Note, the extended Phase 1 habitat survey did not entail a full ground level tree inspection to verify the potential for bat roosts to be present and search for evidence of previous use by bats. It did however, assess the potential for suitable habitat to be present.

4 Discussion and Evaluation

4.1 Reasoning for the Proposed Extension

- 4.1.1 Central to guidance produced by Defra regarding the selection of local sites is the principle that these sites should *'contain features of substantive nature conservation value and that the purpose of selection is to provide recognition of this value and to help conserve those features by affording the sites an appropriate degree of protection'* (Defra, 2006). The guidelines state that within each local sites system *'one inclusive set of criteria should be produced for the evaluation of all sites, taking account of the variety of interests that may eventually be selected in the suite'*, reference criteria are provided. These should be documented because the basis for selection should be transparent to anyone who wishes to understand the rationale for the decisions made. The guidelines recommend that *'this information should be sent to the site owner, and made available to others who may be interested in a site'*.
- 4.1.2 In London, the London Wildlife Sites Board (LWSB) developed and published a process by which London Boroughs should select and approve SINC's in 2013 (LWSB, 2013) – boroughs are not obliged to follow this process but if another process is used they state that *'it must conform to the policy framework described by national and regional policies'* (including Defra, 2006). Criteria for selection recommended in this document are an updated version of criteria previously contained within The Mayor's Biodiversity Strategy (2002). With respect to SBINC's the advice note states that these should be *'important on a borough perspective...although sites of similar quality may be found elsewhere in London, damage to these sites would mean a significant loss to the borough.'*
- 4.1.3 The Local Plan: Part 2, Site Allocations and Designation (Proposed Submission Version, September 2014) includes the proposed extension of The River Pinn and Manor Farm SBINCII from the original extent designated in 1988, to the extent described in the citation dated 23rd February 2005. The review of this site (and others) in 2005 was prompted by the move from the Unitary Development Plan (UDP) to Local Development Framework (LDF); the Greater London Authority (GLA) in combination with the Borough completed the review. The proposed site allocations document states that the review was *'based on field work and updated citations on the flora and fauna supported at sites'*. When approached, both LBHC and GiGL stated that they do not hold survey information or other documentation associated with the GLA review in 2005 beyond the citation included in Appendix A. No ecological survey data is listed within the LDF evidence base at the time of writing³.
- 4.1.4 The proposed site allocations document simply confirms the proposed extension boundary, the size (11.6ha) and location centred on TQ 061 814, and that the land supports the following habitat types neutral grassland (semi-improved), secondary woodland, running water, tall herbs, native hedge, scrub, scattered trees, bare soil, and ruderal. The citation for the SBINCII held by GiGL and LBHC provides further description of the habitats present but does not include consideration of these features against selection criteria for non-statutory designated sites.

³ See: <https://www.hillingdon.gov.uk/23511> Accessed 4th March 2015.

4.2 Consideration regarding Conservation Value of Site 4

- 4.2.1 In the absence of specific criteria for the designation of non-statutory sites within the London Hillingdon Borough, it is necessary to consider whether Site 4 is accurately represented by the description in the citation for the SBINCII extension, and whether it is of conservation value at the Borough scale.
- 4.2.2 The citation for the extended SBINCII states that *'the area between Church Road and Nursery Lane comprises rough horse-grazed pasture with scrub to the west and rough land to the east, separated by the River Pinn, along with native hedges and scattered trees. Pedunculate oak, hornbeam and ash are present along with bramble, false oat-grass, couch and yarrow. Several species of bird occur including a warbler, long-tailed tit and robin. This is probably valuable habitat for a wide range of taxa, so is included as an extension of Hi BII 07 [River Pinn and Manor Fm SBINCII].*
- 4.2.3 It goes on to state that *'to the north, the defunct Field Heath Nursery comprises a number of pony- and horse- grazed paddocks on both sides of the river. There is a well-structured patchwork of grassland, tall-herbs, ruderals and hedgerow remnants with trees...to the north margin is a broad naturalised track divided from the paddocks by a fragmented and outgrown historically-laid hornbeam/elder hedgerow with the occasional pedunculate oak standard.'*
- 4.2.4 Whilst the track along Nursery Lane remains present, bordered by an outgrown native hedgerow to the south, and grassland to the west of the River Pinn, land to the east of the River Pinn appears to have changed in character since 2005 when the citation was amended. The area which is described in the citation as pony- and horse-grazed paddocks is now the Bicentennial Gardens, and this has been the case since at least 2011 when the Brunel University Biodiversity Action Plan (BAP) was prepared (Brunel University, 2011). The BAP describes Site 4 as *'divided into two main areas by the River Pinn flowing through the middle north to south, the east side consists of the Bicentennial gardens, an open mosaic habitat on previously developed land, while the west side is mainly open meadow. Both areas are fenced off with palisade fencing.'* The record in the Brunel University BAP is broadly consistent with the results of the Phase 1 habitat survey which recorded the gardens as characterised by parcels of scrub, separated by a network of grassed pathways and areas of semi-improved grassland / ruderal vegetation.
- 4.2.5 The Bicentennial Gardens does not support traditional orchard as indicated by the HPI corporate data set held by Natural England (see Figure 3). This data set largely contains information digitised from aerial photographs, and survey data collected during the extended Phase 1 habitat survey is superseded by this.
- 4.2.6 Whilst this area provides suitable habitat for a range of taxa (see Section 3.3), the presence or otherwise of these species is largely unknown as no species records are held by GiGL for this area (for protected species and species of conservation concern). Common and widespread bird species have been recorded in this area, however the bird species listed in the citation are generalist species and there is no reason to believe that populations associated with Site 4 are of particular conservation value at the Borough scale.
- 4.2.7 The River Pinn and surrounding habitat corridor is however, clearly of nature conservation value. The river channel and surrounding mature trees provide a range of habitats which are not readily recreated and form a network of semi-natural habitat at the Borough scale. Although there is limited survey data available to support this conclusion, it is reasonable to assume that the section of the river present within Site 4 is used by a range of mobile species including bat species which have been recorded in the vicinity. The immediate river corridor contains running water, secondary woodland and scrub habitats which are listed on the SBINCII citation.

5 Conclusion and Recommendation

- 5.1.1 The River Pinn itself and certain surrounding habitats form a network of semi-natural habitat of conservation value at the Borough scale. This is recognised in the original 1988 citation for the River Pinn and Manor Farm SBINCII, and the presence of other non-statutory designated areas along the river catchment and connecting water courses including the Grand Union Canal (see Figure 4).
- 5.1.2 The justification for the inclusion of Site 4 within the SBINCII designation is however unclear and would appear flawed, especially because the citation for this site describes the site as supporting habitats which in part are no longer present (replaced by the Bicentennial Gardens). The proposed site's allocation plan notes that the proposed extension was informed by *'field work and updated citations on the flora and fauna supported at sites'* however, the results of field work are not held by either Hillingdon Borough Council or GiGL. The extended Phase 1 habitat survey, completed in February 2015, identified habitats including scrub, semi-improved grassland, running water and ruderal vegetation to be present within Site 4. These are habitats listed on the SBINCII citation, however the conservation value of the particular habitat parcels is difficult to evaluate because detailed botanical species lists are not available and there are no records of protected and/or notable species.
- 5.1.3 At present there is no reason to believe that the early successional habitats present within the Bicentennial Gardens, which have established since the nursery buildings and associated access were removed, are of intrinsic nature conservation value. The grassland and scrub habitat types present are readily established and relatively common. Their location in proximity to the existing open green space to the south and the River Pinn increases their potential value to mobile fauna (such as birds and bats). There is however, no survey data available to evaluate the degree to which this habitat is used and hence whether it is of conservation value at the Borough scale for this reason. The citation for the River Pinn and Manor Farm SBINCII notes that the site is designated for the habitats present which support a range of bird species, no reference is specifically made to other species groups.
- 5.1.4 Prior to changes to River Pinn and Manor Farm SBINCII boundary, it is recommended that detailed botanical surveys are completed to verify the conservation value of grassland present to the east of the River Pinn. Whilst this area appears to be botanically species-poor the survey data available was collected during the winter period and therefore may not fully represent the species diversity present. This area may represent lowland meadow which would be of greater intrinsic conservation value, and worthy of designation. At this stage however, there is no clear evidence to support its inclusion within the SBINCII designation.

6 References

6.1 Project References

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- 6.1.4 Greater London Authority: SINC designations update document provided (February, 2015).

6.2 Technical References

- 6.2.1 CIEEM (Chartered Institute of Ecology and Environmental Management) (2013). *Guidelines for Preliminary Ecological Appraisal*. IEEM, Winchester.
- 6.2.2 Defra (2006). Local Sites: Guidance on their Identification, Selection and Management. Available online: <http://archive.defra.gov.uk/rural/documents/protected/localsites.pdf>. Accessed 4th March 2015.
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- 6.2.5 HMSO (2006) Natural Environment and Rural Communities Act.
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- 6.2.9 JNCC (Joint Nature Conservation Committee), (2010). Handbook for Phase I habitat survey: A Technique for Environmental Audit
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- 6.2.12 London Borough of Hillingdon (2014). The Local Plan: Part 2, Site Allocations and Designation (Proposed Submission Version, September 2014) Available online: <https://www.hillingdon.gov.uk/media.jsp?mediaid=32151&filetype=pdf>. Accessed 4th March 2015

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- 6.2.13 LWSB (2013). Process for selecting and confirming Sites of Importance for Nature Conservation (SINCs) in Greater London.
- 6.2.14 Mayor of London (2002). Connecting with London's nature The Mayor's Biodiversity Strategy. Available online: http://legacy.london.gov.uk/mayor/strategies/biodiversity/docs/strat_full.pdf
Accessed 4th March 2015:

7 Figures

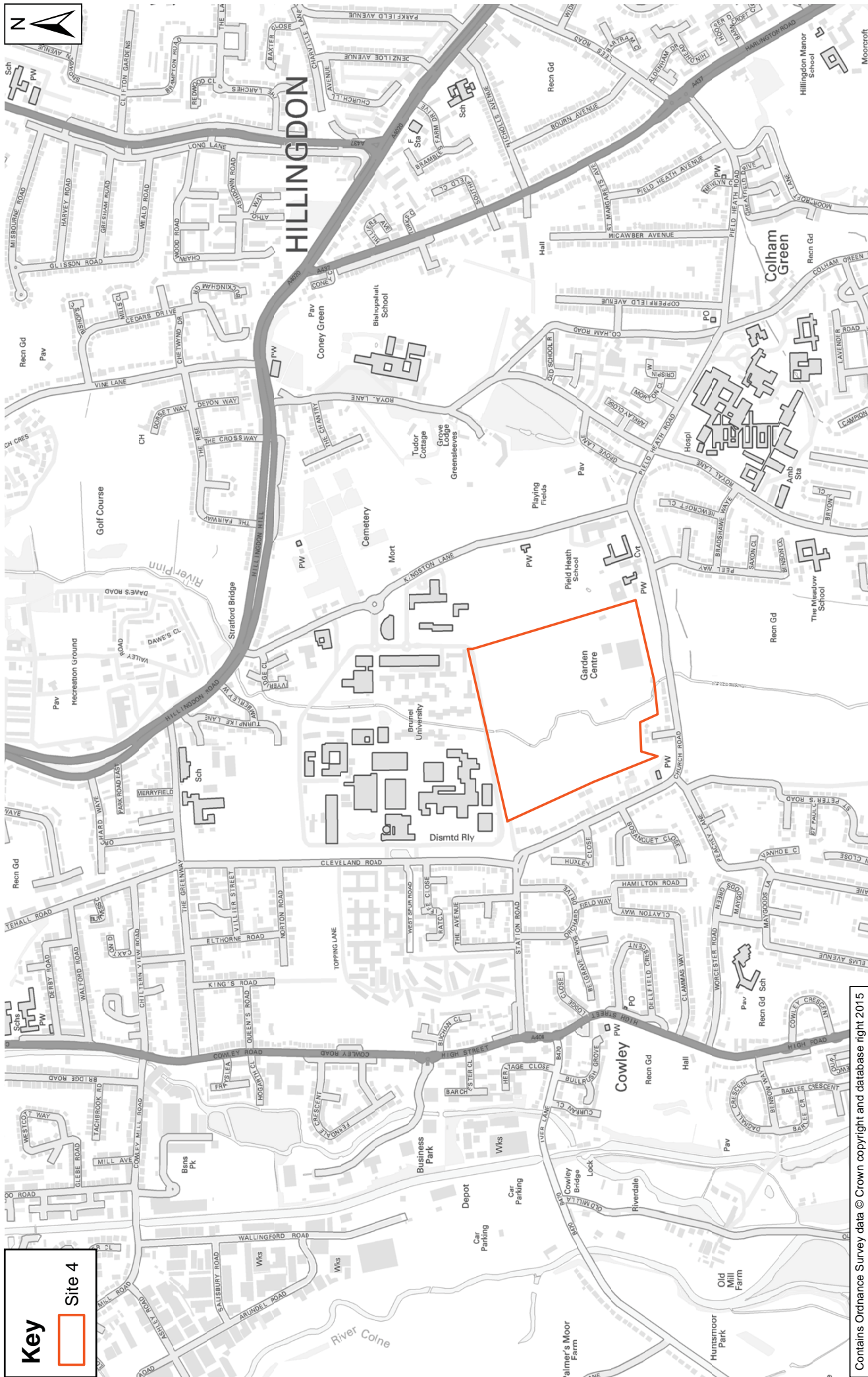
7.1 Figure 1 - Site Location Plan

7.2 Figure 2 - European Statutory Designated Sites

7.3 Figure 3 - UK statutory Designated Sites and Habitats of Principal Importance

7.4 Figure 4 – Non Statutory Sites (GiGL)

7.5 Figure 5 – Phase 1 Habitat Survey Results



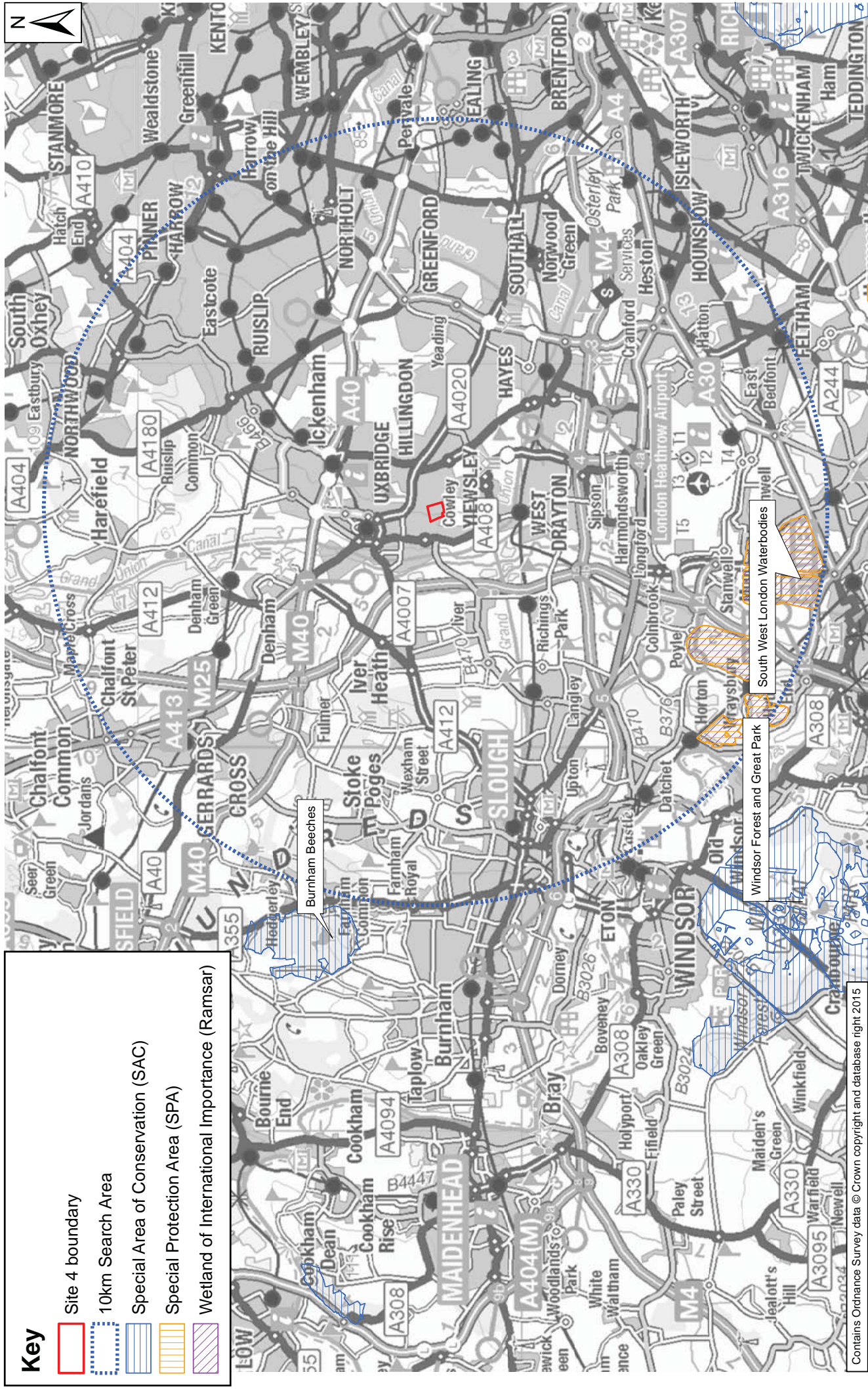
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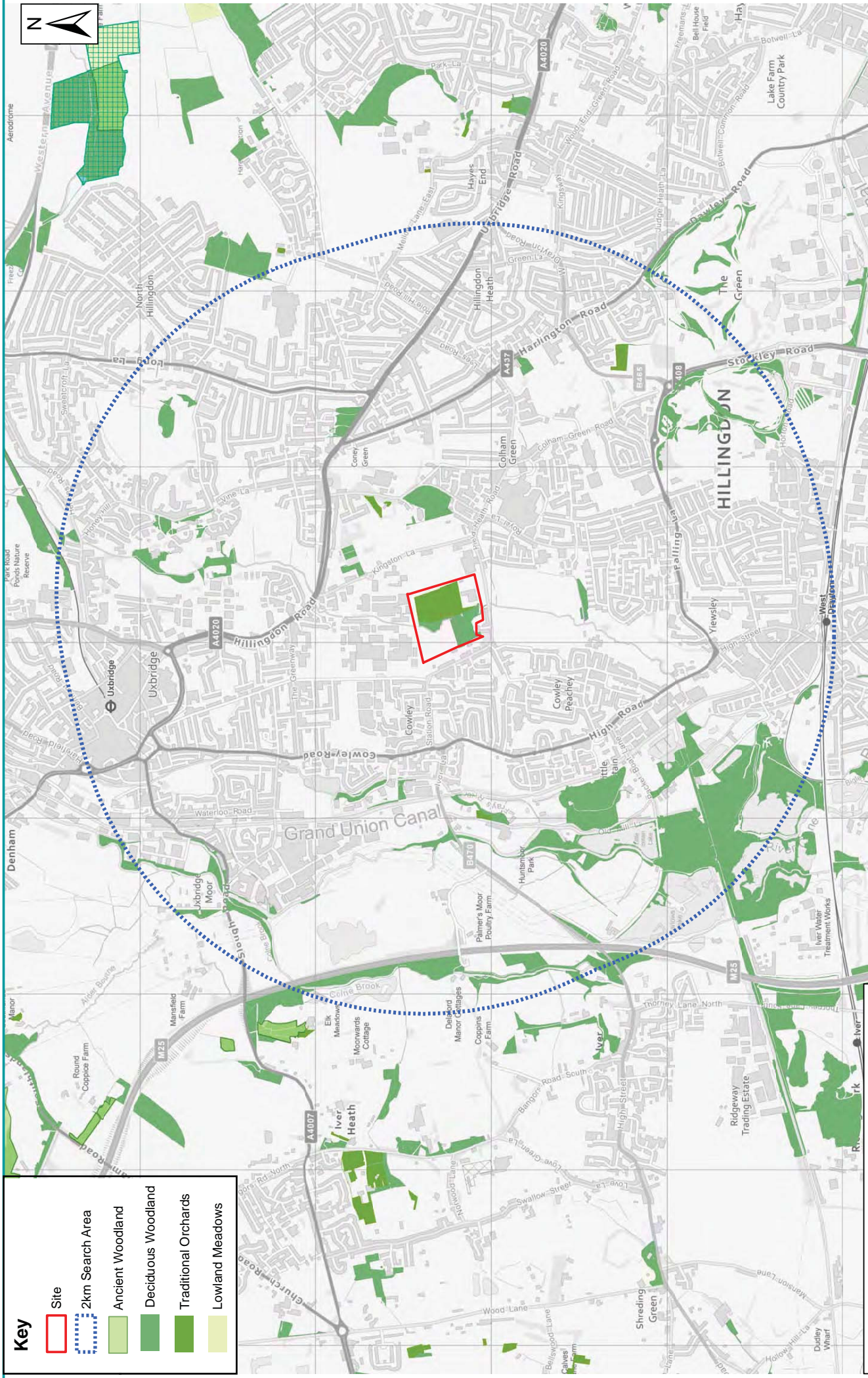
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 Checked: HS
 Approved: TK
 Revision: A
 Date: February 2015

PROJECT:
 PROJECT No: 700095685
 Client: Brunel University

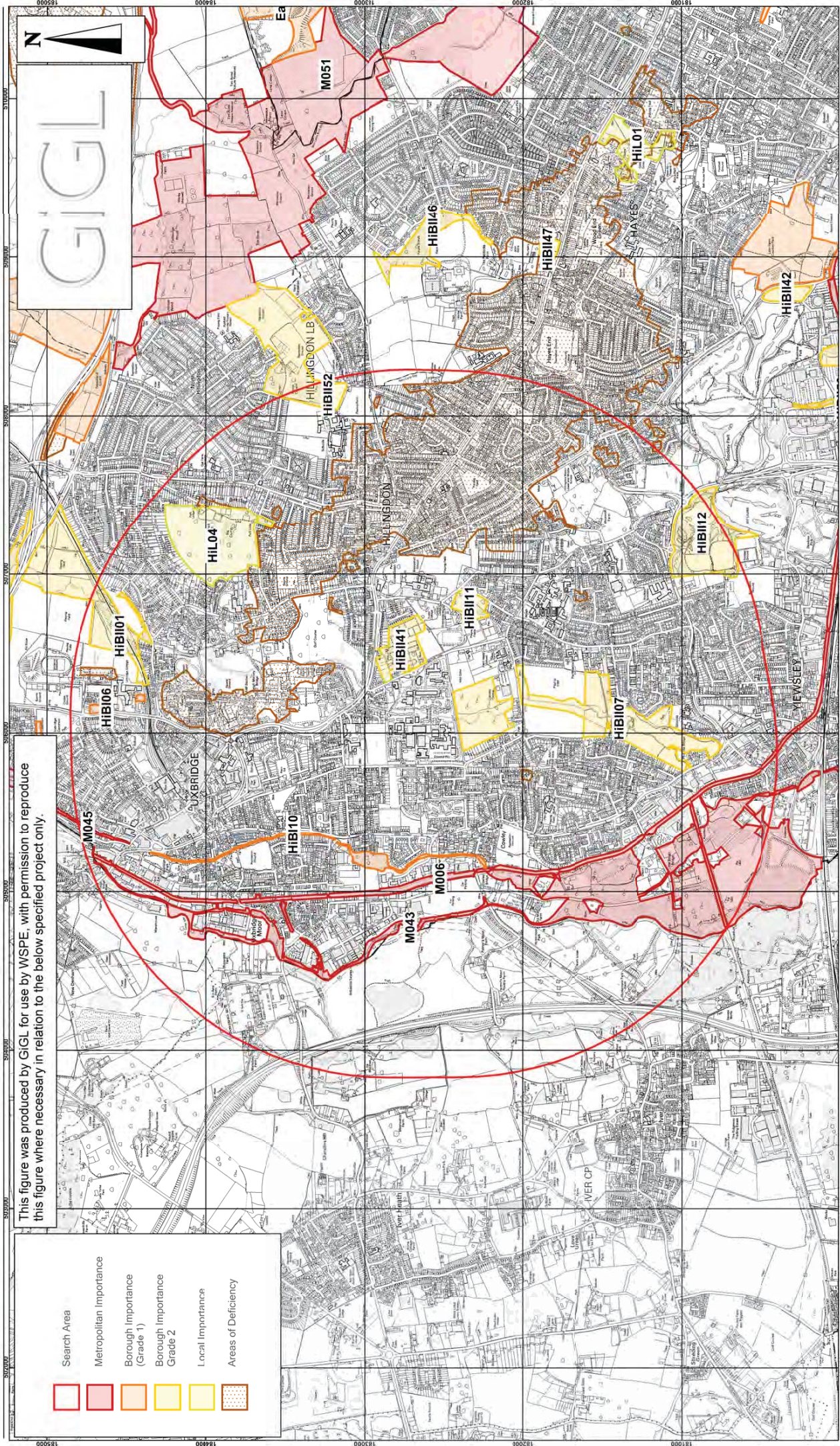
Brunel University
 Brunel University



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	Search Area
	Metropolitan Importance
	Borough Importance (Grade 1)
	Borough Importance Grade 2
	Local Importance
	Areas of Deficiency

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 Date: 17 February 2015

PROJECT: Brunel University, Uxbridge
 PROJECT No: 70009585
 Client: Brunel University



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8 Appendices

8.1 Appendix A: River Pinn & Manor Fm SBINCII Citation

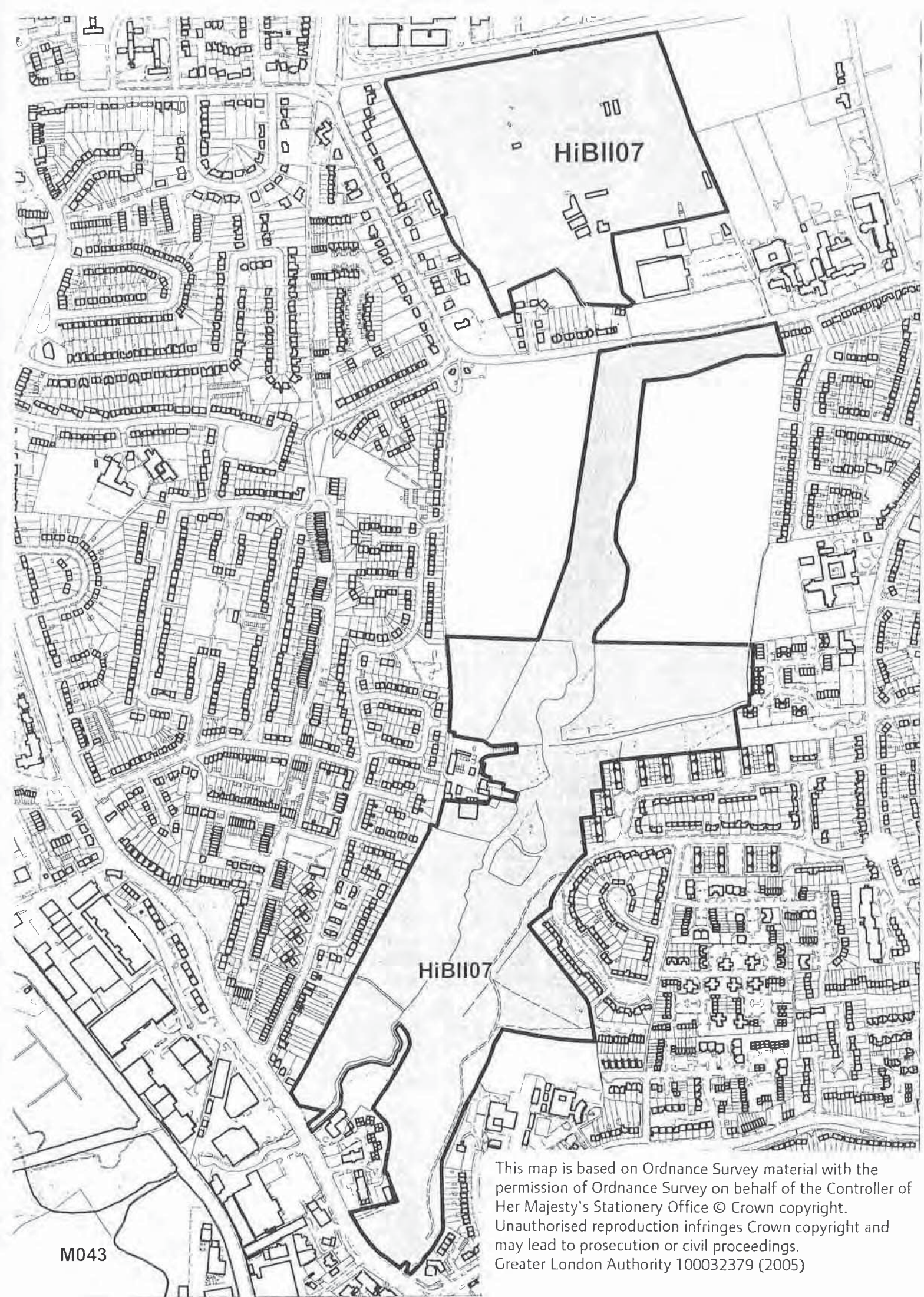
Site of Importance for Nature Conservation

Hi BII 07 **River Pinn and Manor Farm Pastures**
Grid ref: **TQ 061 814**
Area (ha): **33.32**
Borough: **Hillingdon**
Site first notified: **1/1/88** **Boundary last changed:** **1/2/05**
Citation last edited: **23/2/05**
Habitat: **Neutral grassland (semi-improved), secondary woodland, running water, tall herbs, native hedge, scrub, scattered trees, bare soil, ruderal.**

This stretch of the River Pinn is bordered on both sides by open grassland, much of which comprises rank grasses and tall herbs with scattered scrub, although some of it is managed as sports fields. The river is generally lined by trees and shrubs such as alder (*Alnus glutinosa*), crack willow (*Salix fragilis*), ash (*Fraxinus excelsior*), hawthorn (*Crataegus monogyna*) and blackthorn (*Prunus spinosa*) but open areas of the banks are smothered in bramble (*Rubus fruticosus* agg.) and nettle (*Urtica dioica*). The heavy shade and competition has led to a dearth of aquatic and wetland plants except for the introduced species, Japanese knotweed (*Fallopia japonica*), giant hogweed (*Heracleum mantegazzanum*) and Indian balsam (*Impatiens glandulifera*). Two of the fields to the west of the Pinn are grazed by horses and contain false oat-grass (*Arrhenatherum elatius*), bent (*Agrostis* sp.) and yarrow (*Achillea millefolium*). The rest are either mown infrequently or have been left unmanaged for a year or so. These tend to be dominated by false oat-grass, perennial rye-grass (*Lolium perenne*), creeping bent (*Agrostis stolonifera*), red fescue (*Festuca rubra*), etc. with a good range of herbs including teasel (*Dipsacus fullonum*), vetches (*Vicia cracca* and *V. sativa*), autumn hawkbit (*Leontodon autumnalis*), meadow buttercup (*Ranunculus acris*) and horse-radish (*Armoracia rusticana*). The area between Church Road and Nursery Lane comprises rough horse-grazed pasture with scrub to the west and roughland to the east, separated by the River Pinn, along with native hedges and scattered trees. Pedunculate oak (*Quercus robur*), hornbeam (*Carpinus betulus*) and ash are present along with bramble, false oat-grass, couch (*Elytrigia repens*) and yarrow. Several species of bird occur including a warbler, long-tailed tit and robin. This is probably valuable habitat for a wide range of taxa, so is included as an extension of Hi BII 07. The ownership is undetermined, and there is no public access. To the north, the defunct Pield Heath Nursery comprises a number of pony- and horse-grazed paddocks on both sides of the river. There is a well-structured patchwork of grassland, tall-herbs, ruderals and hedgerow remnants with trees. Winter flocks of chaffinch and greenfinch occur here along with dunnoek and wren. To the north margin is a broad naturalised track divided from the paddocks by a fragmented and outgrown historically-laid hornbeam/elder (*Carpinus betulus/Sambucus nigra*) hedgerow with the occasional pedunculate oak standard.

The site extended to include: field to the north of Church Road and south of Nursery Lane; field to the south of Church Road and east of St. Peters Road; former nursery to the north and the naturalised trackway to its north margin.

There is public access across most of the site, some restricted to footpaths, except for the fenced former nursery to the north.



HiB1107

HiB1107

M043

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8.2 Appendix B: Desk Study Information

Table 3: Protected and notable species records identified within a 2km radius of Site 4

Common Name	Latin Name	Proximity of Closest Record to Site (m) ⁴	No. Records	Status / Protection ⁵
Mammals				
Eurasian Badger	<i>Meles meles</i>	Within 2km*	1	Protection of Badgers Act (1992)
Bats				
Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>	1060m NW	17	Habitat Regs (2010), W&CA (1981), NERC (2006) SPI, UKBAP, LBAP
Pipistrelle Species	<i>Pipistrellus Sp.</i>	1149m N	1	Habitat Regs (2010), W&CA (1981) Schedule 5
Brown Long-eared Bat	<i>Plecotus auritus</i>	1176m N	6	Habitat Regs (2010), W&CA (1981), NERC (2006) SPI, UKBAP, LBAP
Noctule Bat	<i>Nyctalus noctula</i>	1176m N	1	Habitat Regs (2010), W&CA (1981) Schedule 5, UKBAP, LBAP
Daubenton's Bat	<i>Myotis daubentonii</i>	1176m N	2	Habitat Regs (2010), W&CA (1981) Schedule 5, LBAP.
Common Pipistrelle	<i>Pipistrellus pipistrellus</i>	1834m N	2	Habitat Regs (2010), W&CA (1981)
Unidentified Bat	<i>Myotis Sp.</i>	3653m N	1	Habitat Regs (2010), W&CA (1981) Schedule 5
Serotine	<i>Eptesicus serotinus</i>	3762m N	1	Habitat Regs (2010), W&CA (1981) Schedule 5
Nathusius's Pipistrelle	<i>Pipistrellus nathusii</i>	3762m N	1	Habitat Regs (2010), W&CA (1981), LBAP.
Reptiles				
Common Lizard	<i>Zootoca vivipara</i>	1296m N	2	Schedule 5, W&CA (1981), NERC (2006) SPI, UKBAP (2006), LBAP.
Common Toad	<i>Bufo bufo</i>	1296m N	6	UKBAP (2006), NERC (2006) SPI
Great Crested Newt	<i>Triturus cristatus</i>	2327m N	1	Schedule 5, W&CA (1981); NERC (2006) SPI, UKBAP (2007) Habitat Regs (2010).
Plants⁶				
Bladderwort	<i>Utricularia australis</i>	486m NE	4	Local sp. of Cons Concern.
Long-stalked Crane's bill	<i>Geranium columbinum</i>	491m SW	1	Local sp. of Cons Concern.
Frogbit	<i>Hydrocharis morsus-ranae</i>	Within 2km resolution	1	Vulnerable on the IUCN Redlist, County Rare.
Lesser sea-spurrey	<i>Spergularia marina</i>	Within 2km resolution	1	County Scarce
Hairlike pondweed	<i>Potamogeton trichoides</i>	Within 2km resolution	1	County Scarce
Small pondweed	<i>Potamogeton berchtoldii</i>	Within 2km resolution	1	County Scarce
Invertebrates				
Brown Argus	<i>Aricia agestis</i>	624m N	1	Local sp. of Cons Concern.
Marbled White	<i>Melanargia galathea subsp. serena</i>	624m N	4	Local sp. of Cons Concern.

⁴Considering the nearest record to Site 4 within the study area.

⁵ Habitat Regs (2010) = Habitat Regulations, PBA (1992) = Protection of Badgers Act, 1992, NERC (2006) = Natural Environment and Rural Communities Act (2006), HPI = Habitat of Principal Importance, SPI = Species of Principal Importance, W&CA (1981) = Wildlife and Countryside Act (1981), with Schedules listed. IUCN Redlist categories: Rare, VU = vulnerable, NT = near threatened

⁶ Plant Records from Gigl and Buckinghamshire Environmental Record Centres

Small Heath	<i>Coenonympha pamphilus</i>	624m N	1	NERC 2006, UKBAP, LBAP, Local sp. of Cons Concern, IUCN Redlist- Near Threatened.
Blood Vein	<i>Timandra comae</i>	1145m NW	1	NERC 2006, UKBAP, LBAP, Local sp. of Cons Concern.
Brindled Beauty	<i>Lycia hirtaria</i>	1145m NW	1	NERC 2006, UKBAP, LBAP, Local sp. of Cons Concern.
Rustic	<i>Hoplodrina blanda</i>	1145m NW	15	NERC 2006, UKBAP, LBAP, Local sp. of Cons Concern.
White Ermine	<i>Spilosoma lubricipeda</i>	1145m NW	4	NERC 2006, UKBAP, LBAP, Local sp. of Cons Concern.
Powdered Quaker	<i>Orthosia gracilis</i>	1145m NW	1	NERC 2006, UKBAP, LBAP, Local sp. of Cons Concern.
Shoulder-striped Wainscot	<i>Mythimna comma</i>	1145m NW	2	NERC 2006, UKBAP, LBAP, Local sp. of Cons Concern.
Mother Shipton	<i>Callistege mi</i>	1162m N	1	Local sp. of Cons Concern.
Cinnabar	<i>Tyria jacobaeae</i>	1212m NW	1	NERC 2006, UKBAP, LBAP, Local sp. of Cons Concern.
Bulrush Veneer	<i>Calamotropha paludella</i>	1212m NW	1	Nationally Notable B.
Lackey	<i>Malacosoma neustria</i>	1212m NW	1	NERC 2006, UKBAP, LBAP, Local sp. of Cons Concern.
Barred Hook-tip	<i>Watsonalla cultraria</i>	1212m NW	1	Local sp. of Cons Concern.
Shaded Broad-bar	<i>Scotopteryx chenopodiata</i>	1212m NW	1	NERC 2006, UKBAP, LBAP, Local sp. of Cons Concern.
Small Phoenix	<i>Ecliptopera silaceata</i>	1212m NW	1	NERC 2006, UKBAP, LBAP, Local sp. of Cons Concern.
Streak	<i>Chesias legatella</i>	1212m NW	1	NERC 2006, UKBAP, LBAP, Local sp. of Cons Concern.
Rosy Rustic	<i>Hydraecia micacea</i>	1212m NW	1	NERC 2006, UKBAP, LBAP, Local sp. of Cons Concern.
Mottled Rustic	<i>Caradrina morpheus</i>	1212m NW	1	NERC 2006, UKBAP, LBAP, Local sp. of Cons Concern.
Dingy Footman	<i>Eilema griseola</i>	1212m NW	2	Local sp. of Cons Concern.
Toadflax Brocade	<i>Calophasia lunula</i>	1212m NW	1	Local sp. of Cons Concern.
Deep-brown Dart	<i>Aporophyla lutulenta</i>	1212m NW	1	NERC 2006, UKBAP, LBAP, Local sp. of Cons Concern.
Green-brindled Crescent	<i>Allophyes oxyacanthae</i>	1212m NW	1	NERC 2006, UKBAP, LBAP, Local sp. of Cons Concern.
Beaded Chestnut	<i>Agrochola lychnidis</i>	1212m NW	1	NERC 2006, UKBAP, LBAP, Local sp. of Cons Concern.
Centre-barred Sallow	<i>Atethmia centrargo</i>	1212m NW	1	NERC 2006, UKBAP, LBAP, Local sp. of Cons Concern.
Sallow	<i>Xanthia ictertia</i>	1212m NW	1	NERC 2006, UKBAP, LBAP, Local sp. of Cons Concern.
Knot Grass	<i>Acronicta rumicis</i>	1212m NW	1	NERC 2006, UKBAP, LBAP, Local sp. of Cons Concern.

Large Nutmeg	<i>Apamea anceps</i>	1212m NW	1	NERC 2006, UKBAP, LBAP, Local sp. of Cons Concern.
Rosy Minor	<i>Mesoligia literosa</i>	1212m NW	1	NERC 2006, UKBAP, LBAP, Local sp. of Cons Concern.
Stag Beetle	<i>Luncanus cervus</i>	1414m N	10	Habitats & Species Directive; Annex 2, NERC 2006, UKBAP, LBAP, Local sp. of Cons Concern, Nationally Notable B.

Table 4: Protected and Notable Bird Species recorded within a 2km radius of Site 4

Common Name	Latin Name	Red list	Amber list	Schedule 1	UK BAP	NERC
Bullfinch	<i>Pyrrhula pyrrhula</i>		✓		✓	✓
Cuckoo	<i>Cuculus canorus</i>	✓			✓	✓
Fieldfare	<i>Turdus pilaris</i>	✓		✓		
Firecrest	<i>Regulus ignicapilla</i>		✓	✓		
Gadwall	<i>Anas strepera</i>		✓			
Hobby	<i>Falco subbuteo</i>			✓		
Kingfisher	<i>Alcedo atthis</i>		✓	✓		
Kestrel	<i>Falco tinnunculus</i>		✓			
Lapwing	<i>Vanellus vanellus</i>	✓			✓	✓
Little Egret	<i>Egretta garzetta</i>		✓			
Meadow Pipit	<i>Anthus pratensis</i>		✓			
Red Kite	<i>Milvus milvus</i>		✓	✓		
Redwing	<i>Turdus iliacus</i>	✓		✓		
Skylark	<i>Alauda arvensis</i>	✓			✓	✓
Song Thrush	<i>Turdus philomelos</i>	✓			✓	✓
Swallow	<i>Hirundo rustica</i>		✓			
Swift	<i>Apus apus</i>		✓			
Teal	<i>Anas crecca</i>		✓			
Turtle Dove	<i>Streptopelia turtur</i>	✓			✓	✓
Woodcock	<i>Scolopax rusticola</i>		✓			

8.3 Appendix C: Site Photographs

Table 5: Photographs of Site 4 (taken 19th February, 2015)




Image	Description
	<p>Photograph 1</p> <ul style="list-style-type: none">■ Showing pathways through areas of scrub which have developed above the former nursery foundations. The grass is generally short in these areas and present above compacted substrate / hard standing remaining from the former uses of the land.
	<p>Photograph 2</p> <ul style="list-style-type: none">■ Showing porta cabin present within Bicentennial Gardens near to the boundary fence in the south east. The cabin is boarded up and provides negligible potential for use by nesting birds or roosting bats.
	<p>Photograph 3</p> <ul style="list-style-type: none">■ Showing concrete foundations from previous built structures on Site 4 now overgrown by scrub (birch <i>Betula</i> sp. and beech <i>Fagus sylvatica</i>)

Image	Description
	<p>Photograph 4</p> <ul style="list-style-type: none"> Along the southern boundary of the Bicentennial Gardens a series of block walled compartments are present to the north of the boundary fence. These contain piles of debris and in part have become overgrown by bramble scrub.
	<p>Photograph 5</p> <ul style="list-style-type: none"> Showing the more open, central, section of the Bicentennial Gardens. Here although the pathways appear to be regularly mown taller grasses and ruderal vegetation are present around the margins grading into the adjacent scrub habitat.
	<p>Photograph 6</p> <ul style="list-style-type: none"> The River Pinn viewed from Nursery Lane, showing the open channel and semi-natural bank form.




Image	Description
	<p>Photograph 7</p> <ul style="list-style-type: none"> ■ Showing River Pinn towards the southern extent of the river which lies within Site 4. In this section it is heavily shaded, a defunct bridge remains present within the tree cover.
	<p>Photograph 8</p> <ul style="list-style-type: none"> ■ Showing the species poor, outgrown hedgerow present between Nursery Lane and the grass field to the west of the River Pinn within Site 4.
	<p>Photograph 9</p> <ul style="list-style-type: none"> ■ Showing the grass field to the west of the River Pinn within Site 4. The field is poached in places because a horse is currently grazing this area. The grass is tussocky and appears otherwise unmanaged.

Image	Description
	<p>Photograph 10</p> <ul style="list-style-type: none"> ■ Showing debris present near to western boundary with residential properties.
	<p>Photograph 11</p> <ul style="list-style-type: none"> ■ Showing debris present near western boundary with residential properties and evidence of public access to this area
	<p>Photograph 12</p> <ul style="list-style-type: none"> ■ Showing evidence of previous fire within the grassland area west of the River Pinn, and debris present near western boundary with residential properties

WSP UK Ltd
Mountbatten House

[Redacted contact information]

UNITED
BY OUR
DIFFERENCE



Your Ref:

Our Ref: 70009585

03 October 2016

CONFIDENTIAL

David Bannister
Director of Estates, Brunel University



Mountbatten House



www.wsp-pb.com

Dear David,

Subject: Site 4: Botanical Survey and SINC Review Appraisal

INTRODUCTION

Site 4, which forms part of the Brunel University Campus in Uxbridge is proposed by London Borough of Hillingdon (LBH), for designation as a new Site of Importance for Nature Conservation (SINC) named the 'Former Field Heath Nursery'. Site 4 is approximately 10.7ha in size, and located immediately to the south of Nursery Lane, Uxbridge. Site 4 is currently not accessible to the public or students; the land is fenced to prevent unauthorised access.

The proposed designation is set out in the current Site Allocation and Designations Document dated October 2015¹, which has been updated from an earlier revision which proposed that Site 4 formed part of an extension to an existing SINC named 'River Pinn and Manor Farm Pastures' (which lies to the south of Site 4), rather than designation as a new SINC. The land currently has no designation relating to nature conservation value.

The proposed designation is for Site 4 to be listed as a SINC of Borough Importance, Grade II. This is a non-statutory designation which identifies sites which are important at a borough level. Guidelines explain their conservation status as follows:

'Although sites of similar quality may be found elsewhere in London, damage to these sites would mean a significant loss to the borough'.²

To better understand the reasons and justification for the proposed designation, Brunel University instructed WSP | PB to complete a botanical survey of Site 4, and review documents used by LBH to inform the Site Allocation and Designations Document. The results of this work, which builds upon an extended Phase 1 habitat survey (incl. desk study) completed in February 2015³, are set out in this letter.

¹ Hillingdon Borough Council (2015). Site Allocation and Designations Document (Version dated October 2015). [Available online](#), accessed 15th July 2016.

² Since updated slightly in: London Wildlife Sites Board (2013). ADVICE NOTE: Process for selecting and confirming Sites of Importance for Nature Conservation (SINCs) in Greater London. [Available online](#), accessed 15th July 2016.

³ WSP|PB (2015). Site 4, Brunel University Uxbridge: Preliminary Ecological Appraisal. WSP|PB, London.

CONTEXT

The London Plan recommends ‘*identifying and protecting a suite of sites of importance at Metropolitan, Borough and Local level in order to protect the most important areas of wildlife habitat in London and provide Londoners with opportunities for contact with the natural world*’⁴. Criteria for the designation of non-statutory designation sites should be clearly defined in any given local authority area; certain local authorities choose to define area-specific criteria; others depend upon guidance produced by regional bodies. To inform the updated Site Allocation and Designations Document, LBH states that it has ‘*reviewed and updated the findings of the Ecology Handbook 8 in the Hillingdon SINC Review 2015*’ which has been used to inform the selection process.

The Hillingdon SINC Review 2015⁵ (the ‘2015 SINC Review’) comprised a review of the proposed SINC identified in 2005 by the London Ecology Unit of the Greater London Authority (GLA) which were included in the Site Allocations and Designations Document version dated September 2014. The 2015 SINC Review did not consider the conservation value of existing SINC or land beyond the proposed SINC identified in 2005, eleven years ago.

The 2015 SINC Review reports that each proposed SINC was surveyed, subject to access, in accordance with the Greater London Authority’s Open Space and Habitat Survey Methodology and that the results were assessed following criteria described by the London Wildlife sites Board published in 2011. The criteria listed include:

- Representation
- Habitat rarity
- Species rarity
- Habitat richness
- Species richness
- Size
- Important populations of species
- Ancient character
- Recreatability
- Typical urban character
- Cultural or historic character
- Geographic position
- Access
- Use
- Potential
- Aesthetic appeal

It is acknowledged in the 2015 SINC Review report that ‘*Given the nature of these criteria, and also the rapid nature of the survey method, assessments were subjective and based on the professional judgement of experienced ecologists.*’ The report also

⁴ London Wildlife Sites Board (2013). ADVICE NOTE: Process for selecting and confirming Sites of Importance for Nature Conservation (SINCs) in Greater London. [Available online](#), accessed 29th September 2016.

⁵ Land Use Consultants (2015). London Borough of Hillingdon: Review of Proposed New and Extended SINC (Version II dated October 2015). [Available online](#), accessed 15th July 2016.

states that *'where access was not available to a site, and it was not possible to view enough of the site to reach a robust conclusion regarding its value, the proposed new/extended SINC's were recommended for removal.'*

Site 4 was not accessed as part of the 2015 SINC Review; the surveyor viewed parts of the land from Nursery Lane to the north of the area, through the metal fence and hedgerow located along the northern boundary. The survey forms appended to the report indicate that no information was gathered in relation to the proportion of different habitats present or habitat qualifiers. Suitable habitat for invertebrates, reptiles, small mammals and birds was identified and overall species richness was described as 'average/rich'. On the basis of information gathered, the 2015 Review Report concludes that:

'No direct access⁶ although viewing from adjacent land the site appeared to support similar habitats as previously although with greater scrub colonisation of grasslands. Habitat mosaic appears to include semi-improved neutral grassland, scrub, scattered trees, ruderal communities and the River Pinn corridor. Site likely to be of value for bird species, particularly passerines, given scrub habitats and low disturbance. Area to East of River Pinn identified as an area for the study of nature by the University'

Recommend designation as a New SINC of Borough Grade II value'

This description makes reference to the following criteria above; habitat richness (diversity), geographic position (on the River Pinn) and species richness (potential to be of value to fauna including birds).

It is of note that, following the 2015 SINC review twelve of the proposed SINC's (previously identified in 2005) were recommended for partial removal either due to surveys showing that there was insufficient ecological value to warrant the designation or because areas could not be accessed, or possibly due to inaccurate digitisation in 2005 which has since been adjusted. Although Site 4 was not accessed, and a considerable proportion of the land was not viewed during the survey used to inform the 2015 SINC Review, no suggested changes to the proposed SINC boundary were put forward.

It is also of note that, Fore Street Meadows (2.67ha in size), which was proposed for SINC designation in the 2005 review is recommended for removal in the 2015 SINC Review. Removal is recommended because *'The site was dominated by neutral grassland of low species diversity and no notable species recorded...The grassland habitats, and small areas of other habitats (woodland, trees and scrub) are common habitats in the Borough, with extensive areas of higher quality habitats present in the wider area. In addition, the site had no public access and did not provide a resource for the local community, with other public open spaces present in the vicinity.'*

BOTANICAL SURVEY

METHODS

Site 4 ('the Site') was surveyed on 14th July by Dr Peter Shepherd and Hattie Spray. The survey lasted from 10.00 hrs to 16.30 hrs and was completed during fine, warm weather conditions.

Dr Peter Shepherd is a botanist with over 25 years professional and research experience. His research on the classification and ecology of vegetation communities of urban and post-industrial habitats is one of the few studies of British plant

⁶ It is understood that Brunel University have no record of access permission being sought.

communities of urban and industrial environments. He has also undertaken urban habitat surveys of Nottingham, Norwich, Newark, Mansfield, Tyne and Wear and Kuala Lumpur. He is the author of the Flora of the City of Nottingham. Dr Shepherd has also been involved in preparing selection guidelines for non-statutory site designation systems in Nottinghamshire and North Yorkshire.

The site was walked and habitats mapped using the Phase 1 habitat survey methodology. Mapping was assisted by use of up to date aerial photographs. A species list was prepared and a National Vegetation Classification (NVC) survey of the grassland communities was completed with randomly located quadrats being taken from homogenous stands of vegetation. The quadrat data was analysed using the software package MAVIS which creates a coefficient of fit to the NVC plant communities. In addition the data was run through the NVC grassland identification key and the summary table was compared to the NVC descriptions of neutral grassland communities. The quadrat data and the analysis are presented in the appendix to this letter.

Access to the River Pinn corridor and the woodland in the south western part of the site was limited by the presence of stands of giant hogweed *Heracleum mantegazzianum*, security fencing and dense thickets of scrub. As such these areas were not surveyed in detail and the habitat classification and mapping of habitat extent has been undertaken from observation from the edges of the habitat and aerial photographs.

RESULTS

The Site can be broadly divided into four separate areas: the former nursery to the east of the River Pinn; the River Pinn and fringing woodland; the former pasture to the west of the River Pinn; and the secondary woodland in the south west corner of the Site.

The former nursery / Bicentennial Gardens

This part of the Site is dominated by dense scrub and developing secondary woodland with patches of neutral grassland, tall ruderal herbs, a small stand of swamp and bare ground associated with former buildings. Access around the Site is largely restricted to the network of grass paths and more open areas, but this enabled most parts of this area to be surveyed in detail.

The scrub is dominated by bramble *Rubus fruticosus* agg. and hawthorn *Crataegus monogyna*, with a wide variety of other tree and shrub species also being present including a number of fruit trees that reflect the former use of this part of the Site. A list of trees and shrubs is provided in the appendix to this report.

The grassland is dominated by tall coarse grasses, in particular false oat grass *Arrhenatherum elatius*. The stands of this grassland in target note 6 were sampled using the NVC methodology. The community is classified as MG1a. Whilst dominated by false oat grass, the grassland supports a variety of grasses and herbs with species associated with traditionally managed meadows alongside ruderal species that reflects the disturbed former developed nature of this part of the site

One area (target note 5) has been sown with a perennial rye grass *Lolium perenne* seed mix. This grassland vegetation is classified as the NVC community OV23.

Tall ruderal vegetation is restricted to one large stand of hemlock *Conium maculatum* (target note 11) and small scattered stands of nettle *Urtica dioica* and hogweed *Heracleum sphondylium*.

One area (target note 8) supports an unusual mixture of lesser pond sedge *Carex acutiformis* with tall herbs indicating wet ground, although it was dry at the time of survey. Due to the dominance of lesser pond sedge this habitat has been classified as swamp, but it is atypical being dry and supporting a mixture of tall herbs.

The River Pinn corridor

This area was accessed at two locations due to stands of giant hogweed restricting safe access to the river bank. The river is heavily shaded by fringing trees and shrubs and no in-channel or marginal vegetation was recorded at the two points where access was possible. The woodland comprises a variety of trees and shrubs including planted alder *Alnus glutinosa*, white willow *Salix alba* and sycamore *Acer pseudoplatanus*. The ground flora comprises tall herbs including cow parsley *Anthriscus sylvestris*, nettle and wood dock *Rumex sanguineus*. Along the river bank are numerous plants of giant hogweed and a few plants of Himalayan balsam *Impatiens glandulifera* were also noted. Scattered throughout the wooded areas is a variety of debris, and fly tipped material.

Former pasture

This part of the site to the west of the River Pinn is a former pasture that has not been in positive management for a number of years. As such it now supports a mosaic of agriculturally semi-improved former pasture classified as the NVC community MG6, tall grassland and herb dominated by false oat grass, dense stands of tall herb dominated by nettle and hogweed and scrub dominated by bramble and hawthorn. There is also a small stand of bracken *Pteridium aquilinum* on the western boundary.

There are two small patches of more diverse grassland at location Target Note 4. Here the sward supports crested dogs-tail *Cynosurus cristatus* co-dominant with Yorkshire fog *Holcus lanatus* with frequent common bent *Agrostis capillaris* and sweet vernal grass *Anthoxanthum odoratum*. Other species included small timothy *Phleum bertolonii*, meadow vetchling *Lathyrus pratensis*, perennial rye grass, cut-leaved cranesbill *Geranium dissectum*, soft brome *Bromus hordeaceus* and common knapweed *Centaurea nigra*. These small stands are more reminiscent of unimproved meadow, but are very small and isolated.

Woodland

The secondary woodland in the south western corner of the site was not fully accessible at the time of the survey but comprises a dense stand of shrub and tree species. The central part of this area is more open with stands of tall grassland and tall ruderal vegetation.

INTERPRETATION

The botanical and habitat survey has recorded a variety of habitats and a good range of vascular plants. The former nursery to the east of the River Pinn is the most botanically diverse area within Site 4 supporting dense and scattered scrub, tall ruderal herbs, neutral grassland, small stands of swamp and bare ground in the form of hardstandings. This area supports a good range of plant species including small population of pyramidal orchid *Anacamptis pyramidalis*. The habitat mosaic is likely to support a range of invertebrates and breeding birds.

The River Pinn corridor supports secondary woodland and running water. It also supports the invasive giant hogweed and Himalayan balsam. Much of the woodland has developed on former developed land and the Site is contaminated with a variety of

fly tipped materials. Although no plant species of note have been recorded the river and its associated woodland provides an undisturbed section of a green corridor.

In the 2015 SINC Review of the proposed designation of Site 4 the reasons put forward for designation were as follows: *Habitat mosaic appears to include semi-improved neutral grassland, scrub, scattered trees, ruderal communities and the River Pinn corridor. Site likely to be of value for bird species, particularly passerines, given scrub habitats and low disturbance. Area to East of River Pinn identified as an area for the study of nature by the University'*

It is considered that this is an accurate description of the nursery and River Pinn corridor. Although with the exception of the OV23 grassland at Target Note 5 the grassland on Site would be better described as unimproved relatively species-rich neutral grassland. As such it is considered that these parts of Site 4 do probably qualify as a SINC of Borough Importance in terms of the habitats present.

It is of relevance that the former nursery contains Asbestos Containing Materials (ACMs) and in due course will require extensive remediation requiring the removal of vegetation and stripping of surface materials. For safety reasons there is no public access to the former nursery, and this will remain the case for the foreseeable future. It is therefore not an area that can be used for the study of nature or recreation as identified in the 2015 SINC Review, and its use for these purposes should not be factored into the decision regarding SINC designation.

The former pasture to the west of the River Pinn, however, is relatively species-poor comprising an agriculturally improved grass sward. It is also in poor condition and succession from grassland to tall ruderal vegetation and scrub is taking place. Although there are two small patches of more diverse grassland, overall this part of Site 4 is species-poor improved former pasture with an abundance of Yorkshire Fog and perennial rye grass.

Given the low species diversity and unmanaged character of the former pasture it is considered that this part of the site has limited nature conservation value and as such its inclusion within the proposed SINC is questionable. As noted above, the 2015 SINC Review of Fore Street Meadows (2.67 ha) recommended removal as a SINC because *'The site was dominated by neutral grassland of low species diversity and no notable species recorded...The grassland habitats, and small areas of other habitats (woodland, trees and scrub) are common habitats in the Borough, with extensive areas of higher quality habitats present in the wider area. In addition, the site had no public access and did not provide a resource for the local community, with other public open spaces present in the vicinity.'*

This description of Fore Street Meadows also describes the circumstances at the former pasture at Site 4, which is of a similar size to Fore Street Meadows.


CONCLUSION

The results of the botanical survey show that land to the east of the River Pinn, within the Bicentennial Gardens, supports relatively species-rich neutral grassland. This part of Site 4 which supports a mosaic of grassland and shrub habitats, and the band of trees and shrubs along the River Pinn, is likely to be of value to fauna as described in the 2015 SINC Review. The collection of habitats present in this area, and botanical diversity, is likely to be of conservation value at the Borough scale and is comparable to other sites designated / proposed for designation as SINCS in the Borough. The land is not publically accessible however, and will not be for the foreseeable future due to the presence of ACMs, therefore its use for the study of nature conservation or recreation should not contribute to the decision regarding SINC designation.

Further, we have been told by the University that various options for the remediation of the site are under consideration, including full removal of ACMs which would require significant clearance of vegetation.

Land to the west of the River Pinn supports relatively species-poor agriculturally improved grassland encroached by tall ruderal and scrub vegetation. This part of Site 4 is similar to other areas which were considered for SINC designation and removed from the Site Allocation and Designations Document. The land has no public access and therefore does not provide a resource for the community. The survey results indicate that the proposed designation boundary should be reviewed to exclude land which is not of particular conservation value at the Borough scale.

Yours sincerely,

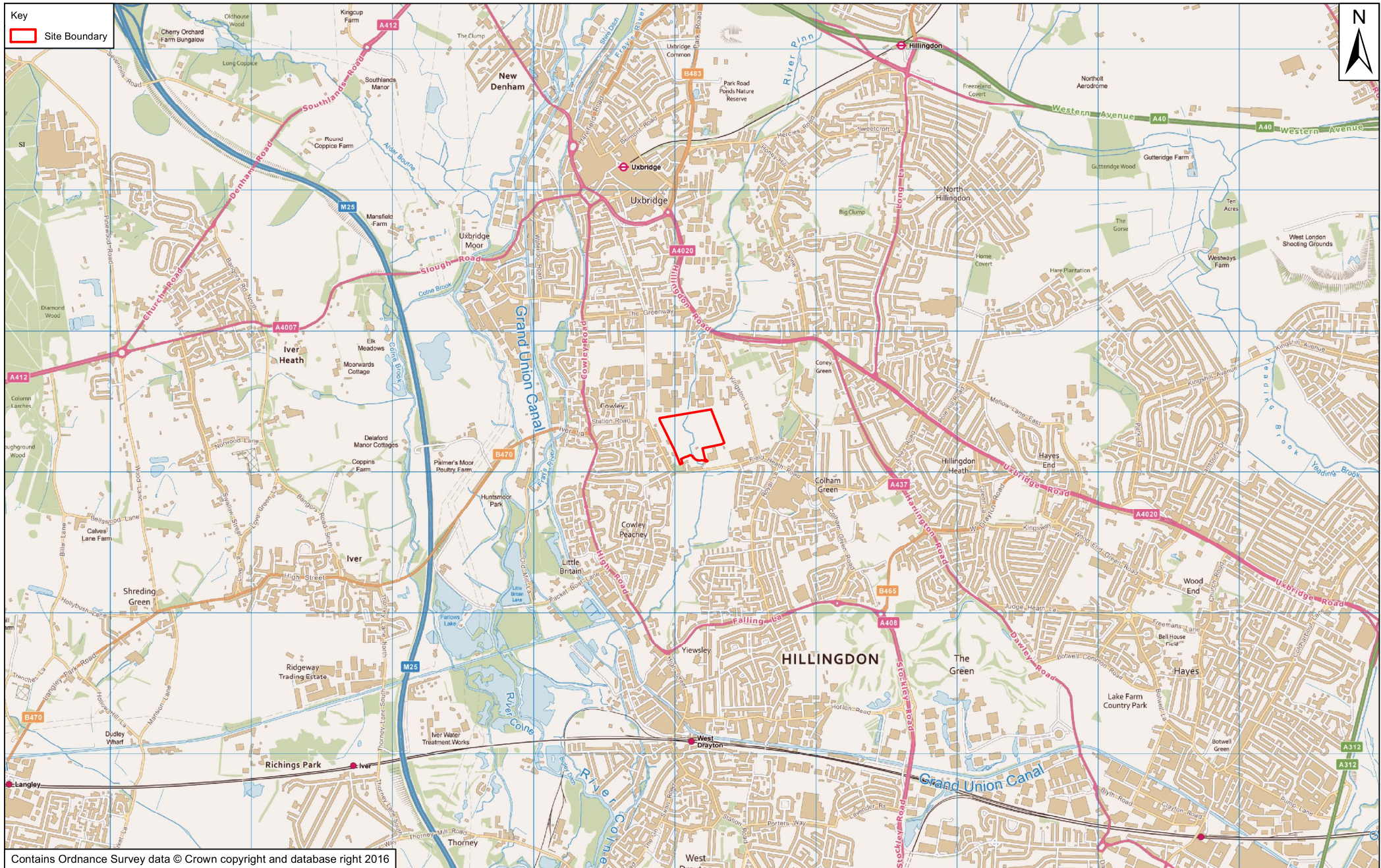
 Spray, Hattie
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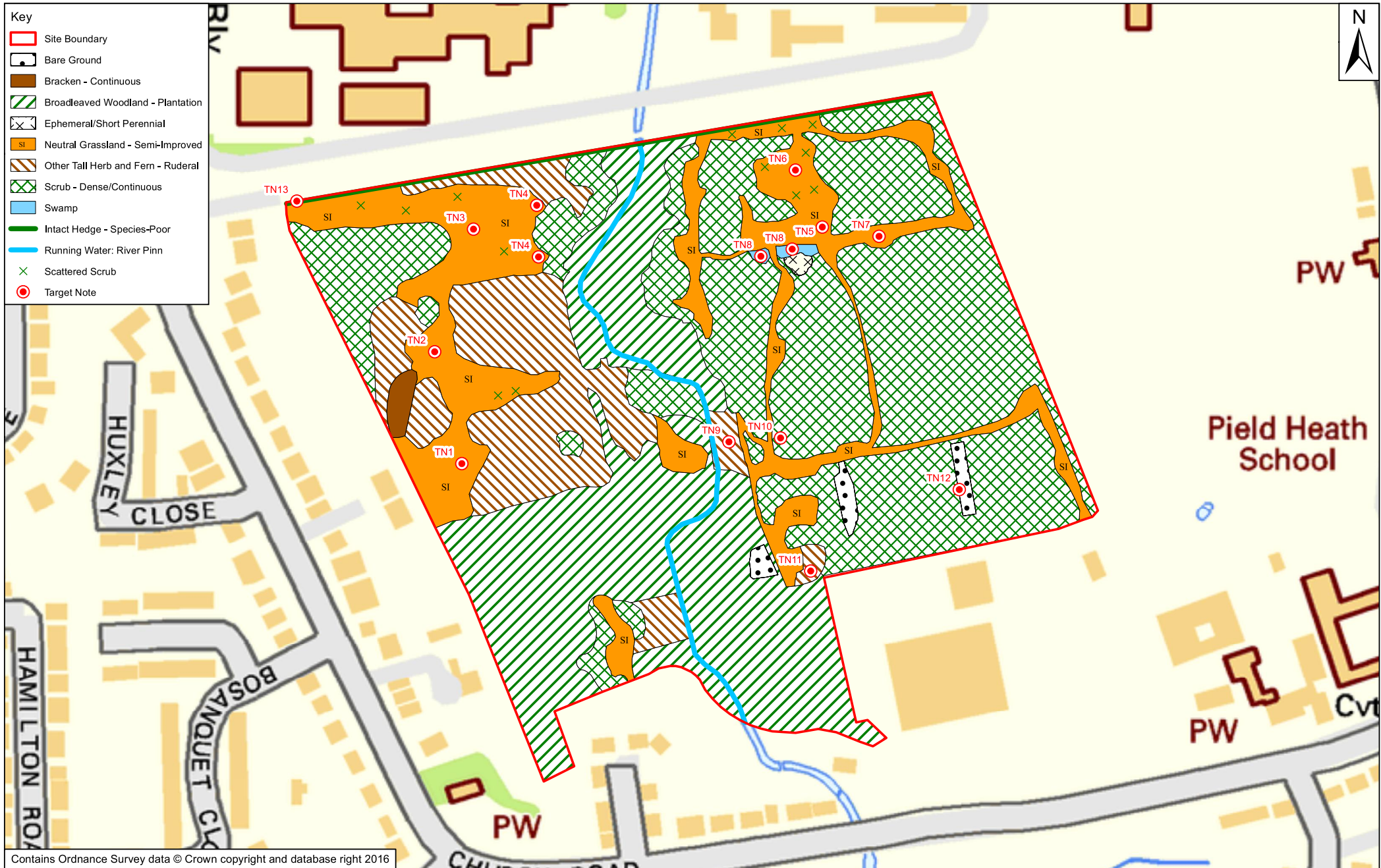
Hattie Spray MCIEEM CEnv
Associate Director (Ecologist)

cc: Karen McAllister, WSP|PB
Nick Alston, GVA

Encl.

Appendix 1: Site 4, Brunel University – Target Notes
Appendix 2: Site 4, Brunel University – Grassland NVC Analysis
Appendix 3: Site 4, Brunel University – Overall Species List





APPENDIX 1 – BOTANICAL AND HABITAT SURVEY OF SITE 4, BRUNEL UNIVERSITY - TARGET NOTES

TARGET NOTES

Number	Description
1	Former pasture now supporting a mosaic of grassland and stands of tall herbs. The sward at this location is dominated by Yorkshire Fog <i>Holcus lanatus</i> and Perennial rye grass <i>Lolium perenne</i> with few herbs.
2	Former pasture. This area of grassland is dominated by <i>Lolium perenne</i> and Yorkshire fog but also support small timothy <i>Phleum bertolonii</i> .
3	Former pasture dominated by Yorkshire Fog but with less Perennial rye grass than elsewhere in the field
4	Two small patches of more diverse grassland with crested dogs-tail <i>Cynosurus cristatus</i> becoming co-dominant with Yorkshire fog with frequent common bent <i>Agrostis capillaris</i> and sweet vernal grass <i>Anthoxanthum odoratum</i> . Other species included small timothy, meadow vetchling <i>Lathyrus pratensis</i> , perennial rye grass, cut-leaved cranesbill <i>Geranium dissectum</i> , soft brome <i>Bromus hordeaceus</i> and common knapweed <i>Centaurea nigra</i> .
5	Flat area of sown neutral grassland dominated by perennial rye grass. NVC quadrats indicate most likely a stand of OV23 <i>Lolium perenne</i> – <i>Dactylis glomerata</i> community.
6	Tall coarse grassland dominated by false oat grass <i>Arrhenatherum elatius</i> with a good variety of herbs and other grasses. Grades into tall herb and scrub communities
7	Small stand of pyramidal orchid <i>Anacamptis pyramidalis</i> , 30 spikes counted, being encroached by scrub
8	Two stands of missed tall herb and sedge vegetation. Dense stands of lesser pond sedge <i>Carex acutiformis</i> with pendulous sedge <i>Carex pendula</i> .
9	Four plants of giant hogweed <i>Heracleum mantegazzianum</i> .
10	Stand of pyramidal orchid amongst dense scrub.
11	Stand of tall hemlock <i>Conium maculatum</i> on a mound of nutrient rich soil.
12	Small damp depression supporting wood sedge <i>Carex sylvatica</i> .
13	Single plant of remote sedge <i>Carex remota</i> in base of hedge
14	Flattened meadow grass <i>Poa compressa</i>
15	Secondary plantation mixed broadleaved woodland along the River Pinn corridor. Numerous plants of giant hogweed and small amounts of Himalayan balsam <i>Impatiens glandulifera</i> .

APPENDIX 2 - BOTANICAL AND HABITAT SURVEY OF SITE 4, BRUNEL UNIVERSITY – GRASSLAND NVC ANALYSIS

Table 1: NVC Table for the former pasture. Location: TNs 1, 2 and 3

Quadrat No.	1.1	1.2	1.3	1.4	1.5	1.6	Class	Range	Table value
<i>Holcus lanatus</i>	9	9	1	9	8	8	V	1-9	V (1-9)
<i>Agrostis capillaris</i>	4	5	5	5	5	4	V	4-5	V (4-5)
<i>Lolium perenne</i>	4	2	-	1	4	-	IV	1-4	IV (1-4)
<i>Arrhenatherum elatius</i>	-	1	1	-	-	4	III	1-4	III (1-4)
<i>Convolvulus arvensis</i>	-	-	2	-	-	4	II	2-4	II (2-4)
<i>Agrostis stolonifera</i>	-	-	1	1	-	-	II	1-1	II (1-1)
<i>Phleum bertolonii</i>	-	-	-	-	4	4	II	4-4	II (4-4)
<i>Dactylis glomerata</i>	-	2	-	-	-	-	I	2-2	I (2-2)
<i>Senecio jacobaea</i>	-	1	-	-	-	-	I	1-1	I (1-1)
<i>Vicia sativa</i>	-	-	1	-	-	-	I	1-1	I (1-1)
Additional species									
<i>Trifolium pratense</i>									
<i>Rumex crispus</i>									
<i>Ranunculus acris</i>									
<i>Hypochaeris radicata</i>									
<i>Hirschfeldia incana</i>									

MAVIS result	Co-efficient Score
MG9b	35.89
MG11a	35.33
MG6a	34.12
MG9	33.52
MG7D	33.51
OV23d	33.43
MG10a	32.98
MG7	32.97
MG6b	32.61
MG7B	32.13

The MAVIS analysis clearly indicates that this is a neutral (mesotrophic) grassland community. However none of the communities listed provided a good fit to the NVC descriptions. MG9 – *Holcus lanatus-Deschampsia cespitosa* grassland community and the MG11 - *Festuca rubra - Agrostis stolonifera - Potentilla anserina* grassland community are given the highest coefficient score. However both of these communities are typical of damp, periodically inundated communities. In the case of MG9 the sward

supports constant and often dominant tufts of *Deschampsia cespitosa*. In terms of MG11 the constant species include *Festuca rubra*, *Agrostis stolonifera* and *Potentilla anserina*. Only one of these is present occasionally in the sward. The near constant frequency of *Lolium perenne* and the absence of forbs characteristic of unimproved mesotrophic grassland indicate that this pasture has been agriculturally improved in the past. The presence of *Arrhenatherum elatius* within the sward and the encroachment by tall ruderal vegetation dominated by *Heracleum sphondylium* and *Urtica dioica* reflects the absence of management. Although not a good fit it is considered that the sward should be classified as a species poor MG6 - *Lolium perenne* - *Cynosurus cristatus* grassland.

Table 2: NVC Table for the sown stand of perennial rye grass. Location: northern end of the nursery site, TN 5.

Quadrat No.	5.1	5.2	5.3	5.4	5.5	Class	Range	Table value
<i>Lolium perenne</i>	1	1	1	9	9	V	1-9	V (1-9)
<i>Bromus hordeaceus</i>	5	5	5	3	4	V	3-5	V (3-5)
<i>Bellis perennis</i>	2	2	1	2	3	V	1-3	V (1-3)
<i>Plantago lanceolata</i>	3	1	2	3	3	V	1-3	V (1-3)
<i>Poa pratensis</i>	5	5	5	3	-	IV	3-5	IV (3-5)
<i>Medicago lupulina</i>	5	4	-	2	4	IV	2-5	IV (2-5)
<i>Trifolium arvense</i>	5	4	-	2	4	IV	2-5	IV (2-5)
<i>Taraxacum officinale</i>	1	1	1	-	1	IV	1-1	IV (1-1)
<i>Achillea millefolium</i>	-	2	2	3	1	IV	1-3	IV (1-3)
<i>Vulpia myuros</i>	5	5	-	5	-	III	5-5	III (5-5)
<i>Trifolium repens</i>	1	-	2	-	1	III	1-2	III (1-2)
<i>Hieracium sp.</i>	1	1	-	-	-	II	1-1	II (1-1)
<i>Sonchus asper</i>	1	-	-	1	-	II	1-1	II (1-1)
<i>Geranium dissectum</i>	-	-	1	1	-	II	1-1	II (1-1)
<i>Sedum acre</i>	-	-	-	2	1	II	1-2	II (1-2)
<i>Dactylis glomerata</i>	-	-	3	-	-	I	3-3	I (3-3)
<i>Trifolium pratense</i>	-	-	3	-	-	I	3-3	I (3-3)
<i>Anisantha sterilis</i>	-	-	2	-	-	I	2-2	I (2-2)
<i>Plantago coronopus</i>	-	-	-	1	-	I	1-1	I (1-1)
<i>Trifolium campestre</i>	-	-	-	1	-	I	1-1	I (1-1)
<i>Agrostis capillaris</i>	-	-	-	-	4	I	4-4	I (4-4)
<i>Vicia sativa</i>	-	-	-	-	1	I	1-1	I (1-1)

MAVIS result	Co-efficient Score
OV23	52.46
OV23a	52.40
OV23c	51.80
MG7F	44.91
MG7E	43.55
SD8a	42.39
OV23d	40.79
MG6c	39.85
MG7	39.74
MG7A	39.72

The MAVIS analysis provides a good coefficient of fit for the OV23 – *Lolium perenne-Dactylis glomerata* community. There are similarities with the sown grassland leys of the MG7 community but the variety of other grasses and forbs (flowering plants other than grasses and sedges) places the community within the OV23 typical community.

Table 3: NVC table for the tall false oat grassland in the nursery site at TN 6

Species	6.1	6.2	6.3	6.4	6.5	Class	Range	Table value
<i>Arrhenatherum elatius</i>	8	8	8	8	8	V	8-8	V (8-8)
<i>Poa pratensis</i>	6	5	5	6	5	V	5-6	V (5-6)
<i>Achillea millefolium</i>	3	4-	2	2	3	V	2-4	V (2-4)
<i>Plantago lanceolata</i>	3	2	2	3	3	V	2-3	V (2-3)
<i>Geranium dissectum</i>	1	2	1	-	3	IV	1-3	IV (1-3)
<i>Hieracium sp.</i>	1	-	2	2	1	IV	1-2	IV (1-2)
<i>Dactylis glomerata</i>	-	-	4	3	2	III	2-4	III (2-4)
<i>Taraxacum officinale</i>	1	1	1	-	-	III	1-1	III (1-1)
<i>Vicia sativa</i>	1	1	1	-	-	III	1-1	III (1-1)
<i>Hypericum perforatum</i>	1	3	2	-	-	III	1-3	III (1-3)
<i>Tragopogon pratensis</i>	-	1	1	-	-	II	1-1	II (1-1)
<i>Agrostis capillaris</i>	-	-	-	-	2	I	2-2	I (2-2)
<i>Vicia tetrasperma</i>	1	-	-	-	-	I	1-1	I (1-1)
<i>Trifolium campestre</i>	1	-	-	-	-	I	1-1	I (1-1)
<i>Geranium pyrenaicum</i>	1	-	-	-	-0	I	1-1	I (1-1)
<i>Quercus robur (seedling)</i>	1	-	-	-	-0	I	1-1	I (1-1)
<i>Carex spicata</i>	-	-	1	-	-	I	1-1	I (1-1)
<i>Crataegus monogyna (seedling)</i>	-	-	1	-	-	I	1-1	I (1-1)
<i>Galium verum</i>	-	-	-	2	-	I	2-2	I (2-2)
<i>Bellis perennis</i>	-	-	-	-	1	I	1-1	I (1-1)
<i>Medicago lupulina</i>	-	-	-	-	1	I	1-1	I (1-1)
Additional species								
<i>Agrimonia eupatoria</i>								
<i>Daucus carota</i>								
<i>Rubus fruticosus</i>								
<i>Anisantha sterilis</i>								
<i>Lathyrus pratensis</i>								
<i>Trifolium repens</i>								
<i>Trifolium pratense</i>								
<i>Conium maculatum</i>								
<i>Cirsium vulgare</i>								
<i>Trifolium arvense</i>								
<i>Lotus corniculatus</i>								

MAVIS result	Co-efficient Score
SD9a	42.93

MAVIS result	Co-efficient Score
SD9	40.44
MG1a	39.14
OV23	38.43
SD8a	38.36
OV23a	38.28
SD9b	37.77
OV23d	36.39
OV23c	35.51
MG1	34.81

SD9 – *Ammophila arenaria*- *Arrhenatherum elatius* community, is a community of sand dune habitats and is characterised by the presence of marram grass *Ammophila arenaria*. Owing to the absence of this species and urban, inland location of the site it is considered that this community does not correspond to SD9 vegetation. The next nearest fit is the MG1a – *Arrhenatherum elatius* community, *Festuca rubra* sub-community. This is a typical and widespread tall grassland community that develops on abandoned unmanaged land. The other grassland community selected through the MAVIS analysis is OV23 – *Lolium perenne*- *Dactylis glomerata* community, but the absence of *Lolium perenne* and dominance and high cover abundance of *Arrhenatherum elatius* clearly places the vegetation within the MG1 community.

APPENDIX 3 – BOTANICAL AND HABITAT SURVEY OF SITE 4, BRUNEL UNIVERSITY – SPECIES LIST

Species	Notes
Grasses, sedges and rushes	
<i>Agrostis capillaris</i>	
<i>Agrostis stolonifera</i>	
<i>Anisantha sterilis</i>	
<i>Anthoxanthum odoratum</i>	Recorded in one small area of former pasture
<i>Arhenatherum elatius</i>	
<i>Bromus hordeaceus</i>	
<i>Carex acutiformis</i>	One location in nursery garden
<i>Carex flacca</i>	One location in nursery garden
<i>Carex hirta</i>	
<i>Carex pendula</i>	One location in nursery garden
<i>Carex remota</i>	One plant in hedge by entrance to former pasture
<i>Carex spicata</i>	Scattered through the tall false oat grass community
<i>Carex sylvatica</i>	One location in nursery garden
<i>Cynosurus cristatus</i>	Small area in former pasture
<i>Dactylis glomerata</i>	
<i>Deschampsia cespitosa</i>	
<i>Elytrigia repens</i>	
<i>Festuca rubra</i>	
<i>Holcus lanatus</i>	
<i>Hordeum murinum</i>	
<i>Juncus bufonius</i>	
<i>Lolium perenne</i>	
<i>Phleum bertolonii</i>	
<i>Phleum pratense</i>	
<i>Poa compressa</i>	One location in nursery garden
<i>Poa pratensis</i>	
<i>Vulpia myuros</i>	
Forbs	
<i>Achillea millefolium</i>	
<i>Agrimonia eupatoria</i>	
<i>Alcea rosea</i>	
<i>Alchemilla mollis</i>	
<i>Allium vineale</i>	
<i>Anacamptis pyramidalis</i>	Two locations both being encroached by scrub

Species	Notes
<i>Anthriscus sylvestris</i>	
<i>Aquilegia vulgaris</i> (garden escape)	
<i>Arctium lappa</i>	
<i>Artemisia vulgaris</i>	
<i>Asparagus officinalis</i>	
<i>Aster nova-belgii</i>	
<i>Bellis perennis</i>	
<i>Calystegia sepium</i>	
<i>Centaurea nigra</i>	
<i>Centaureum erythraea</i>	
<i>Cerastium fontanum</i>	
<i>Chamerion angustifolium</i>	
<i>Chelidonium majus</i>	
<i>Cheonopodium album</i>	
<i>Cirsium arvense</i>	
<i>Cirsium vulgare</i>	
<i>Conium maculatum</i>	
<i>Convolvulus arvensis</i>	
<i>Conyza Canadensis</i>	
<i>Crepis vesicaria</i>	
<i>Daucus carota</i>	
<i>Digitalis purpurea</i>	
<i>Dipsacus fullonum</i>	
<i>Epilobium hirsutum</i>	
<i>Epilobium montanum</i>	
<i>Epilobium parviflorum</i>	
<i>Epilobium tetragonum</i>	
<i>Fragaria vesca</i>	
<i>Galium aparine</i>	
<i>Galium verum</i>	
<i>Geranium dissectum</i>	
<i>Geranium pyrenaicum</i>	
<i>Geranium robertianum</i>	
<i>Hedera helix</i>	
<i>Heracleum mantegazzianum</i>	<u>Invasive plant that can cause burns and rashes located along River Pinn</u>

Species	Notes
<i>Heracleum sphondylium</i>	
<i>Hieracium</i> spp.	
<i>Hirshfeldia incana</i>	
<i>Hypericum androseamum</i>	
<i>Hypericum perforatum</i>	
<i>Hypochaeris radicata</i>	
<i>Impatiens glandulifera</i>	Invasive species in the River Pinn corridor
<i>Iris</i> sp. (garden escape)	
<i>Lactuca serriola</i>	
<i>Lathyrus latifolius</i>	
<i>Lathyrus nissolia</i>	
<i>Lathyrus pratensis</i>	
<i>Leucanthemum vulgare</i>	
<i>Linaria vulgaris</i>	
<i>Linum catharticum</i>	
<i>Lotus corniculatus</i>	
<i>Malva sylvestris</i>	
<i>Medicago lupulina</i>	
<i>Melilotus alba</i>	
<i>Myosotis arvensis</i>	
<i>Odontites verna</i>	
<i>Origanum vulgare</i>	
<i>Papaver somniferum</i>	
<i>Plantago coronopus</i>	
<i>Plantago lanceolate</i>	
<i>Polygonum aviculare</i>	
<i>Potentilla reptans</i>	
<i>Prunella vulgaris</i>	
<i>Pteridium aquilinum</i>	
<i>Ranunculus acris</i>	
<i>Ranunculus repens</i>	
<i>Rumex conglomeratus</i>	
<i>Rumex crispus</i>	
<i>Rumex obtusifolius</i>	
<i>Rumex sanguineus</i>	
<i>Senecio jacobaea</i>	

Species	Notes
<i>Solanum dulcamara</i>	
<i>Solidago canadensis</i>	
<i>Sonchus arvensis</i>	
<i>Sonchus asper</i>	
<i>Stachys sylvatica</i>	
<i>Taraxacum officinale</i>	
<i>Torilis japonica</i>	
<i>Tragopogon pratensis</i>	
<i>Trifolium arvense</i>	
<i>Trifolium campestre</i>	
<i>Trifolium pratense</i>	
<i>Trifolium repens</i>	
<i>Tripleurospermum inodorum</i>	
<i>Urtica dioica</i>	
<i>Veronica serpyllifolia</i>	
<i>Vicia sativa</i>	
<i>Vicia sepium</i>	
<i>Vicia tetrasperma</i>	
Trees and shrubs	
<i>Acer campestre</i>	
<i>Acer platinoides</i>	
<i>Acer pseudoplatanus</i>	
<i>Alnus glutinosa</i>	
<i>Betula pendula</i>	
<i>Buddleja davidii</i>	Invasive species
<i>Carpinus betulus</i>	
<i>Cotoneaster</i> sp.	Invasive species
<i>Crataegus monogyna</i>	
<i>Cytisus scoparius</i>	
<i>Fraxinus excelsior</i>	
<i>Ligustrum ovalifolium</i>	
<i>Malus</i> sp.	
<i>Prunus spinose</i>	
<i>Pyrus</i> sp.	
<i>Quercus cerris</i>	
<i>Quercus robur</i>	

Species	Notes
<i>Rosa canina</i>	
<i>Rubus fruticosus</i>	
<i>Rubus idaeus</i>	
<i>Salix alba</i>	
<i>Salix caprea</i>	
<i>Salix cinerea</i>	
<i>Sambucus nigra</i>	
<i>Sorbus aria</i>	
<i>Sorbus aucuparia</i>	
<i>Sorbus intermedia</i>	

Appendix M

Site 4 Asbestos Survey



ASBESTOS SURVEY OF SITE AND THE SOIL AT DEPTH OF 0.3M

EXECUTIVE SUMMARY

ASP was commissioned by Mr David Bannister, Director of Estates, BUL, to undertake an asbestos survey and investigation into the extent of contamination in the soil of Site 4 at Brunel University London (BUL).

The survey comprised of a combined approach of systematic inspection using a grid system to select the locations of the trial pits and investigations (Trial Pits 1-30), 'hot spot' investigations sites (31-41 & 51) and then a targeted inspection along the perimeter adjacent to the occupied neighbouring properties (42-50).

The site work was requested in order to support an ecological survey and to add the site 4 location to the existing Brunel 'Asbestos Register' as part of the annual re-inspection programme. Previous buildings located on of the site were known to contain ACMs and were subsequently demolished in 2004. In addition, the Artesian Well and the exposed pathways were subject to an isolated 'hand picking' exercise further to the identification of suspect asbestos cement materials in 2012. The purpose of this was to ensure safe access to the pathways for visitors accessing the site.

The site work was completed by ASP - Kate Johal (lead surveyor), James Apthorp and Kerry Darling-Wood between 15th and 22nd March 2015. The additional services were provided by Grace Turner (Ecologist WSP), Peter Parker (Asbestos Removal Operative EAS), John Dalrymple and Colum Monohan (Digger Operatives). Richard Lyon (Estates Assurance Manager BUL) was in attendance for the duration of the works.

As a result of the analysis of suspect materials taken from the site and the visual inspection of the area, we can confirm the presence of ACM in the following locations.

Location	Confirmed in Soil	Found surface on
Trial Pit 1	Positive	Positive
Trial Pit 2	Positive	Positive
Trial Pit 3	Negative	Negative
Trial Pit 4	Positive	Positive
Trial Pit 5	Negative	Negative
Trial Pit 6	Negative	Negative
Trial Pit 7	Positive	Positive
Trial Pit 8	Positive	Positive
Trial Pit 9	Negative	Positive
Trial Pit 10	Negative	Positive
Trial Pit 11	Positive	Positive
Trial Pit 12	Negative	Negative
Trial Pit 13	Positive	Positive
Trial Pit 14	Positive	Positive
Trial Pit 15	Positive	Positive
Trial Pit 16	Negative	Negative
Trial Pit 17	Positive	Negative
Trial Pit 18	Negative	Negative
Trial Pit 19	Negative	Positive
Trial Pit 20	Negative	Negative
Trial Pit 21	Negative	Negative
Trial Pit 22	Negative	Positive
Trial Pit 23	Negative	Negative
Trial Pit 24	Negative	Positive
Trial Pit 25	Negative	Negative

Location	Confirmed in Soil	Found surface on
Trial Pit 26	Negative	Negative
Trial Pit 27	Negative	Negative
Trial Pit 28	Negative	Negative
Trial Pit 29	Negative	Negative
Trial Pit 30	Negative	Negative
Trial Pit 31	Positive	Positive
Trial Pit 32	Positive	Positive
Trial Pit 33	Positive	Positive
Trial Pit 34	Negative	Positive
Trial Pit 35	Negative	Negative
Trial Pit 36	Negative	Negative
Trial Pit 37	Negative	Positive
Trial Pit 38	Negative	Positive
Trial Pit 39	Negative	Positive
Trial Pit 40	Positive	Positive
Trial Pit 41	Positive	Positive
Trial Pit 42	Negative	Negative
Trial Pit 43	Negative	Negative
Trial Pit 44	Negative	Negative
Trial Pit 45	Negative	Negative
Trial Pit 46	Negative	Negative
Trial Pit 47	Negative	Negative
Trial Pit 48	Negative	Negative
Trial Pit 49	Negative	Negative
Trial Pit 50	Negative	Negative
Trial Pit 51	Positive	Positive

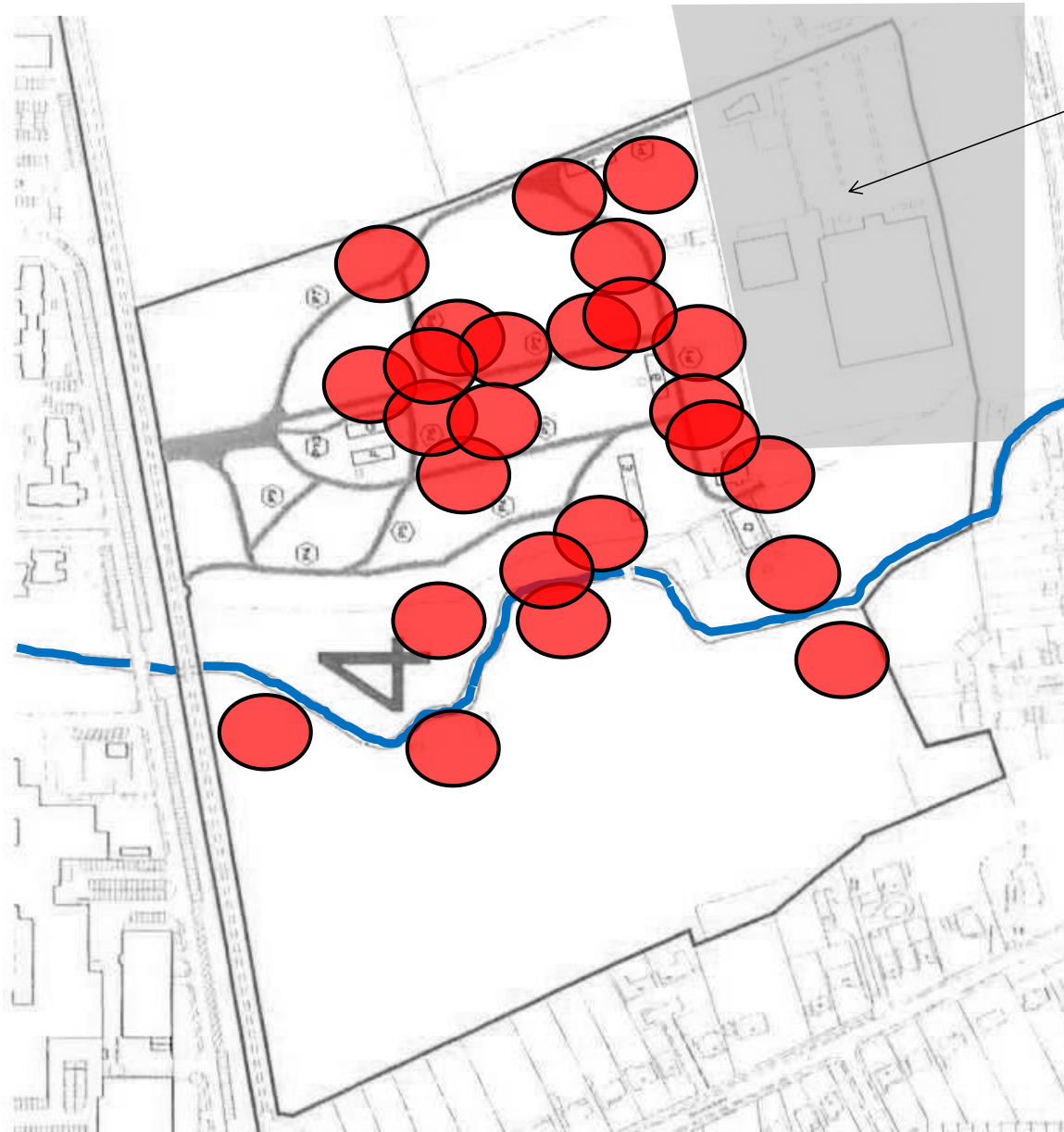
The locations of the findings detailed above have been summarised in the following location plans for the site that identify the pit location and the asbestos content.

The investigation was limited to a radius of approx. 5m from the plotted location in most cases and was significantly restricted due to the extent of shrubbery and undergrowth. The findings are limited to the inspection sites and extensive ACMs are strongly presumed to be located across the remainder of the site concealed within the undergrowth and vegetation coverage.

The ACMs identified were located off the main pathways previously accessed by visitors to the site and no significant or ACMs were identified on the grassed walkways.

Site 4
Brunel University London

○ Trial Pit &
Surrounding Area
Location



← Current Garden Centre
Excluded from the survey

Site 4
Brunel University London

○ Trial Pit &
Surrounding Area
Location



Current Garden Centre
Excluded from the survey

SUMMARY OF ACMS

Extensive amounts of asbestos containing material were identified in both the soil at a depth of 0.3m and exposed on the surface of the site during the survey.

Asbestos insulation (as free fibre), pipework insulation, insulating board, cement, vinyl, gasket materials, bitumen and debris were all positively identified during the investigation (as shown in the photographs below). Due to the friable and exposed nature of the product, additional controls will need to be implemented prior to further investigation of this type and extent of material.



In addition significant amounts of asbestos cement in both large sheets >1m² and small fragments have been found across the site and in the river bed in multiple locations. Other small amounts of non-friable materials and fragments were identified and removed as far as reasonably practicable during the survey. Thirty two bags of waste were removed.



Area 13 where extensive friable ACMs were identified on the surface of the soil has been cordoned off with hazard tape. This site is currently behind the safety barrier fence that separates the river and the main East Field of the site. Other friable materials identified during the survey have been re-enclosed with soil to minimise fibre release.

The survey was limited to the trial pit locations at a depth of 0.3m and the surrounding surface area within a 5m radius of the pit. There remains **'a significant likelihood'** that additional ACMs will be located beneath the surface of the soil and in the surrounding area that have not been identified in this survey. There is sufficient evidence to suggest that pipework insulation identified in multiple locations, runs sub ground level and there are currently no original plans available to identify the route taken or extent of such pipework.

In addition, the following restrictions of the site mean that the findings are not conclusive as a definitive list of ACMs for the site.

- The ecological disturbance,
- The overgrown nature,
- Size,
- Complexity,
- Friable nature of identified ACMs.

		
<p>AREA 8</p>	<p>AREA 14</p>	<p>AREA 23</p>

Due to the location of confirmed ACMs on the surface of the soil, ASP recommend that the site remains closed to all unauthorised visitors until further control actions have been implemented.

Access restriction signs should be installed immediately around the perimeter fence line to prevent access and provide warning to trespassers entering the site.

The horse located in the west field should be removed to prevent the migration of ACMs identified in the west field particularly, cement fragments across the site adjacent to the neighbouring properties.

Area 13 that has been cordoned off requires immediate remediation and the friable surface ACMs should be removed by a Licensed Contractor selected from the BUL approved list.

Further recommendations for remediation of the site will depend on the proposed use and future requirements of BUL.