

THE UNIVERSITY OF SHEFFIELD MASTERPLAN 2014

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by the Vice Chancellor		
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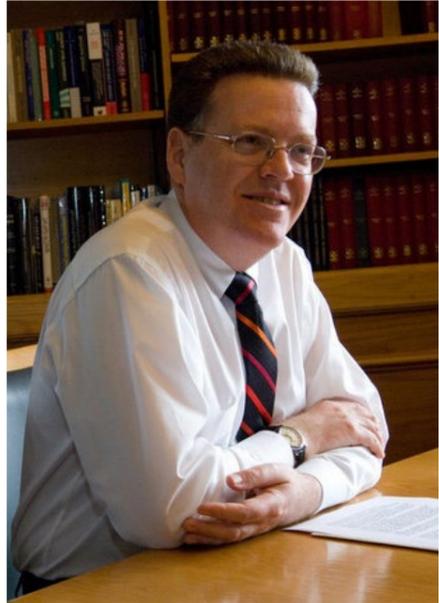


The
University
Of
Sheffield.



Above: Firth Court
(Photo University of Sheffield)

Foreword



From the earliest days when local people and organisations made penny donations to establish a fund to ensure its establishment, the University of Sheffield has been clear about the importance of its roots in one of Britain's greatest cities.

More than a century on, we have seen enormous social and political change, not least in the field of Higher Education, especially over the last decade. Those changes create both massive opportunities and significant challenges for all universities, with increasing competition for home and international students, a more challenging environment for securing research funding and the need for an ever more globalised perspective.

Developing an estate which allows us to provide world class teaching and learning facilities for our students and staff is certainly a major priority. But so too is the desire to be firmly part of our city and to create a safe and welcoming environment which encourages people from all walks of life to see it as their University.

We're proud of the city's heritage and our remarkable history of innovation and determination and we believe that we have an important role to play in contributing to city vibrancy. This Masterplan will help us to do that, by setting out an ambitious approach to improving the quality of the built environment in our part of the city and the spaces which tie the urban architecture together. We'll also invest in transport and travel networks so that everyone using our campus can enjoy a better, safer and healthier experience.

This Masterplan, which covers the period to 2025, sets out our vision for our estate. We've worked closely with staff, students, City Council colleagues and a team of internationally leading architects and transport planners to create a plan which responds to the needs of academic staff and students by providing the best possible spaces for teaching and learning – not just within the buildings, but across the campus, with attractive public spaces where people can meet, talk and share ideas – the ideas that are at the heart of what the University stands for.

The University's Campus Masterplan focuses on four main themes:

- To manage growth within the University
- To radically improve the public realm and the civic spaces within the built environment
- To develop an integrative transport strategy which improves safety and enjoyment of our campus, whether walking, cycling or using public transport
- And to make a positive contribution to the challenge of building, working and living in an environment which is more sustainable and has the least possible impact on the world's finite resources.

We want to foster our valuable links with the City of Sheffield and the wider region and its businesses, and to encourage our staff and students to achieve their full potential. Creating the right environment for that to happen is vital and we believe that this Masterplan shows our commitment to achieving that through collaborative and inspirational ways.

VC Professor Sir Keith Burnett CBE
Vice Chancellor of the University of Sheffield

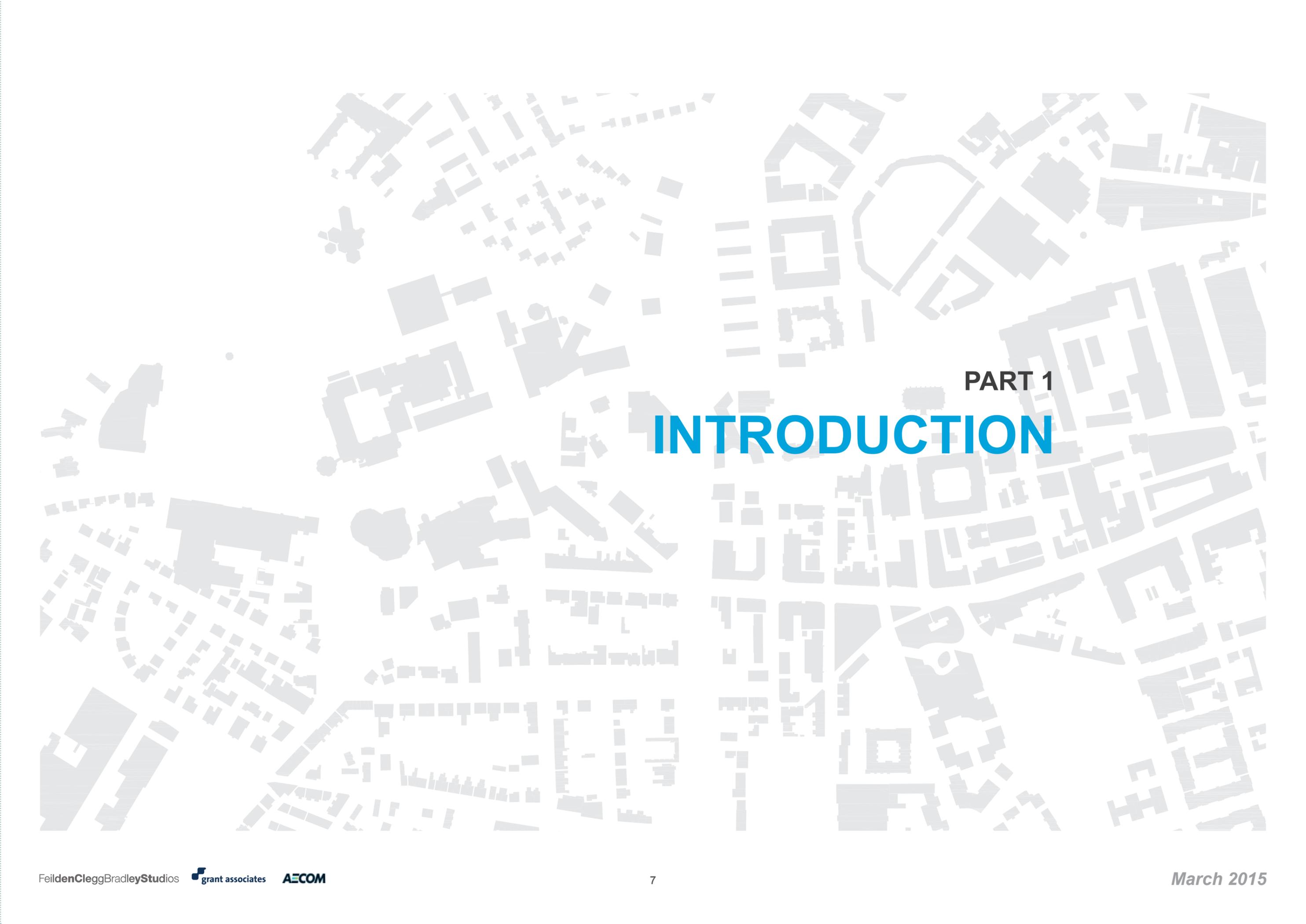
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The Arts Tower and Western Bank Library
(Photo Henk Snoek)

The background of the page is a detailed, light gray architectural site plan or floor plan. It shows a complex arrangement of buildings, courtyards, and walkways, typical of a large institutional or university campus. The plan is oriented diagonally, with the top-left corner of the page being the top-left of the site plan.

PART 1 INTRODUCTION



Above: Sir Frederick Mappin Building Right: Cafe terrace at Jessop West
(Photo Ian Spooner / Shaun Bloodworth)

1.1 Purpose and Approach

The University of Sheffield appointed FCBS, Grant Associates and AECOM Highways to undertake a Masterplan Study in February 2013, working with key representatives within the University.

The Masterplan is to build upon University Estates Strategy 2010-2015 and integrate with the Sheffield City Centre Masterplan and wider planning policies. These are listed in the following section 1.2.

This Masterplan is designed specifically to support the University's academic excellence through the built environment. It is informed by the University's mission, vision, identity and underpins our ambition to maintain and grow the success of the University.

The University is also changing; we are now operating at three principle sites

- Endcliffe and Ranmoor Student accomodation
- The Central Campus
- Our AMRC/Campus East

Our activities have changed and now include a much greater extent of research with the private sector, and teaching of apprentice engineers.

From the outset the specific aims of the Masterplan study are:

A review of the development opportunities for future buildings to allow the University to grow over the next 15-20 years in line with academic/faculty plans

The development of a public realm strategy to establish the fundamental characteristics of the University quarter and reflect the high quality of the University's academic performance

The development of a transport strategy that complements the Masterplan principles, enhancing pedestrian routes and encouraging the use of bicycles and public transport

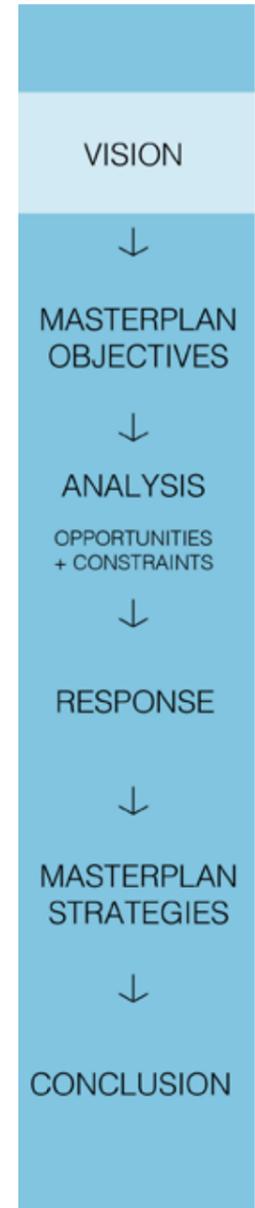
To work closely with Sheffield City Council to complement and enhance our city and promote Sheffield as a place to live and work

The development of a sustainability strategy for the public realm, and a wider review of the University Energy Strategy making a positive contribution to the University and the management of climate change.

The overarching purpose of this study is to recommend a series of strategies for the creation of a unified University campus that is both identifiable and integrated with the city, providing an outdoor environment that enhances the experience of students, staff, visitors and the wider community, and encourages interdisciplinary opportunities by creating space for researchers, academics and students to meet. These interactions are essential activity in a successful University. The estate must provide spaces for this activity to occur.

The campus will also promote health and well being by providing environments that encourage healthy working and living.

Strategies for new or transformed spaces have been developed hand-in-hand with strategies for new or modified building opportunities. The output of this study in terms of recognised development potential is intended to help inform the University's capital project framework for the next 15-20 years.



1.2 Reference Documents

The following documents have informed this study:

UNIVERSITY DOCUMENTS

TUoS Estates Strategy 2010-2015 + Appendices, January 2011

TUoS Energy Strategy, May 2102, by Arup

Masterplan Stage 1 Study 2012, by Hawkins Brown

Estates and FM List of Capital Projects 2012

Development Framework, January 2003, by Turnberry Consulting

TUoS Biodiversity Action Plan

TUoS Space Property Boundaries 2013

Integrated Transport Policy

TUoS Draft Travel Plan 2013

TUoS Pedestrian Surveys

Arts Tower and Library Conservation and Management Plan

CITY DOCUMENTS

Sheffield City Centre Masterplan 2013 Consultation Draft

Sheffield City Centre Urban Design Compendium

Sheffield Economic Masterplan

Sheffield City Centre Breathing Spaces Strategy

City Centre Masterplan 2008

Sheffield Unitary Development Plan

The Gold Route - Sheffield City Centre Public Realm



St George's Church

(Photo University of Sheffield)

1.3 The University's Brief

The following is an extract from the University Briefing Document for a New Masterplan 2012:

Higher Education has seen significant changes to the funding regimes following the Lord Browne review. Increasingly our students will seek value in all aspects of their University life not just academic excellence. The introduction of full fees capped at £9,000.00 per annum will represent a significant investment for students and their families. With some courses extending to 5 years duration together with living expenses students could be investing up to £90,000.00 in their Higher Education.

Sheffield, as Times Higher Education (THE) University of the Year for 2011/12, has developed a strategy based on our values which are rooted in the founding principles of the University. The THE awards particularly praised the University's determination and grit in focusing on our local community. The University was assessed as a high quality research led, with values of confidence, flare and determination to 'roll our sleeves up'. In addition the University was voted Number 1 in THE Student Experience Survey 2014. This included the award of #1 for Facilities, Accommodation and Students Union. The University is determined to continue this success and to further enhance the experience of studying at Sheffield both academically and in all other aspects of the student experience.

The quality of the built environment at Sheffield has some very notable iconic buildings which are maintained to a high standard. The recent refurbishment of the landmark Arts Tower is one such building. Newer examples such as the Information Commons, Jessop West and the refurbishment of Jessop Victorian all represent varied style and design of the built environment but provide excellent high quality facilities for staff and students alike.

The increasingly interdisciplinary nature of the University's teaching and research has a significant impact on co-locating departments. This interdisciplinary approach also requires staff and students to move quickly, efficiently and safely across campus.

The previous Masterplans have provided a template for the organisation to progress in terms of the built environment. Significant challenges however remain with regards to cohesion of the campus, a genuine point of arrival, pedestrian movement, travel and access and in particular the public realm which is generally of poor quality with little provision of green space.

As a city centre campus the University is challenged by the lack of green space and in particular public open spaces which provide opportunities for informal meeting and gathering.

The University has in recent years provided increasing numbers of high quality informal meeting spaces particularly where interdisciplinary discussions can take place. These spaces are essential in a modern research based University which is relying upon innovation between disciplines in order to explore the potential for new research and development. Similar high quality external spaces are lacking and will form a vital component of our Masterplan.



Jessop West
(Photo Shaun Bloodworth)

1.4 Estates Strategy 2010-2015

From the Estates Strategy 2010-2015:

Vision

The Estates Strategy sets out the vision for the University estate through to 2015. It builds upon the previous strategy from 2007 and the development framework of 2003. The time span of the strategy is designed to address the challenges facing the University and its estate over the next five years. The strategy also considers the next tranche of government funding for capital investment which covers the period to 2014, should this allocation be realised. The strategy is designed to support the academic planning horizon to 2015.

Academic Strategy

The University's academic strategy continues to focus on quality and growth. Home undergraduate student numbers have previously been constrained by government caps. The University has however achieved success in attracting additional home undergraduates following the changes to the recruitment regulations. Government announced in December 2013 the abolition to recruitment caps. This change underscores the need for the University to compete representing both an opportunity and a threat. The University has been successful in attracting increases in postgraduate taught and postgraduate research students. The University is pursuing growth in overseas undergraduate students, particularly in the faculties of Engineering and Science, where demand continues to grow.

Carbon Management and Sustainability

The future direction of the estate is strongly influenced by the growing and urgent need to reduce our impact on the environment and in particular to reduce our CO2 emissions in response to climate change. This strategy is intended to focus the emphasis on efficient use of the University estate, with investment to refurbish existing accommodation representing a key tenet of investment. This approach will deliver improvement in space utilisation, environmental performance and will reduce CO2 emissions wherever possible.

Condition

The condition of the estate has improved significantly over the last three years up to 2013. A total of 56 per cent of the occupied non-residential space was in good or excellent condition (RICS assessment A/B). The emphasis on refurbishment of existing accommodation rather than new build will continue and underscore this improvement in the estate. The Estates Strategy originally set out a target of achieving 65% of the estate at condition A/B by the end of 2015. With targeted investment and continued capital development of the estate, this is already exceeded and at the end of the academic year 2012/13 the assessed condition was 72.9%.

Efficient and Effective Estate

The achievement of expansion in student numbers will place changing and increasing demands on the physical estate which will require new ways of working to deliver increasingly efficient use of space. In particular, the number and capacity of teaching spaces to support large cohort teaching to undergraduate students is being explored alongside changes to the delivery of the teaching timetable.



Sir Frederick Mappin Building

(Photo Ian Spooner)

1.5 Masterplan Objectives

This Masterplan will set the strategic context for the next Estates Strategy which will need to be developed for the academic year 2015/16 through to 2020/2021. The Estates Strategy articulates the framework for developing the University's capital investment programme and is written with detailed reference to academic faculty plans and faculty estate requirements. Set in the context of the Masterplan, the Estates Strategy will allow the University to develop a detailed delivery programme for the necessary changes to support the University's mission, vision and identity with specific reference to the estate supporting our academic plans and aspirations. The Masterplan will also focus on the campus external realm and development potential. The objectives for the Masterplan can be identified as follows:

IDENTITY

To create a unique and unified identity for the campus public realm, that befits a world class university.

INTEGRATION

To celebrate the campus setting within the City of Sheffield by being both an identifiable 'University Quarter', and an integrated and permeable part of the City.

COHESION

To create an external realm that promotes the cohesion of all aspects of the campus, whether it be reconnecting a campus fragmented by roads, consolidating diverse buildings, or promoting inter-faculty connection around shared outdoor teaching spaces.

GROWTH

To develop a framework for future acquisition and development that will safeguard the University's ability to grow and supply future demand with excellent facilities.

POSITIVE MOVEMENT

To give precedence and ease in the campus to walkers and cyclists, to both encourage sustainable forms of transport and also enliven the campus spaces with positive forms of movement and support safe efficient movement across campus.

A SUSTAINABLE CAMPUS

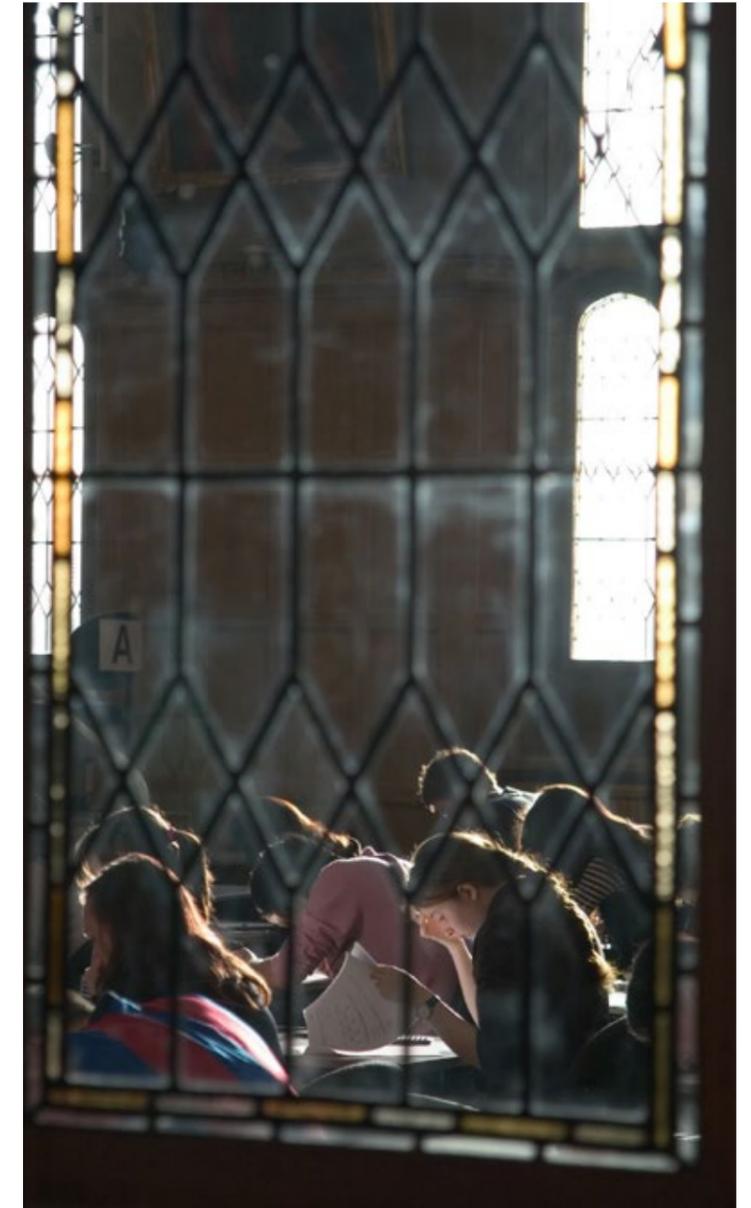
To create a campus external realm that truly embodies the University's ethos and ambition in environmental design, exemplified by their 2010-15 carbon reduction targets.

GREEN SPACE

To create an external realm that is appropriate to an Urban Campus, but that is also rich with green spaces of all scales to help promote learning, well being and healthy lifestyles.

LEARNING SPACE

To create a campus landscape that forms an integral part of the University's study and teaching assets; one that provides space and sometimes the subject matter for study and teaching.



Firth Court
(Photo University of Sheffield)



The Students' Union and Concourse
(Photo Andy Brown)



PART 2

THE CAMPUS IN CONTEXT

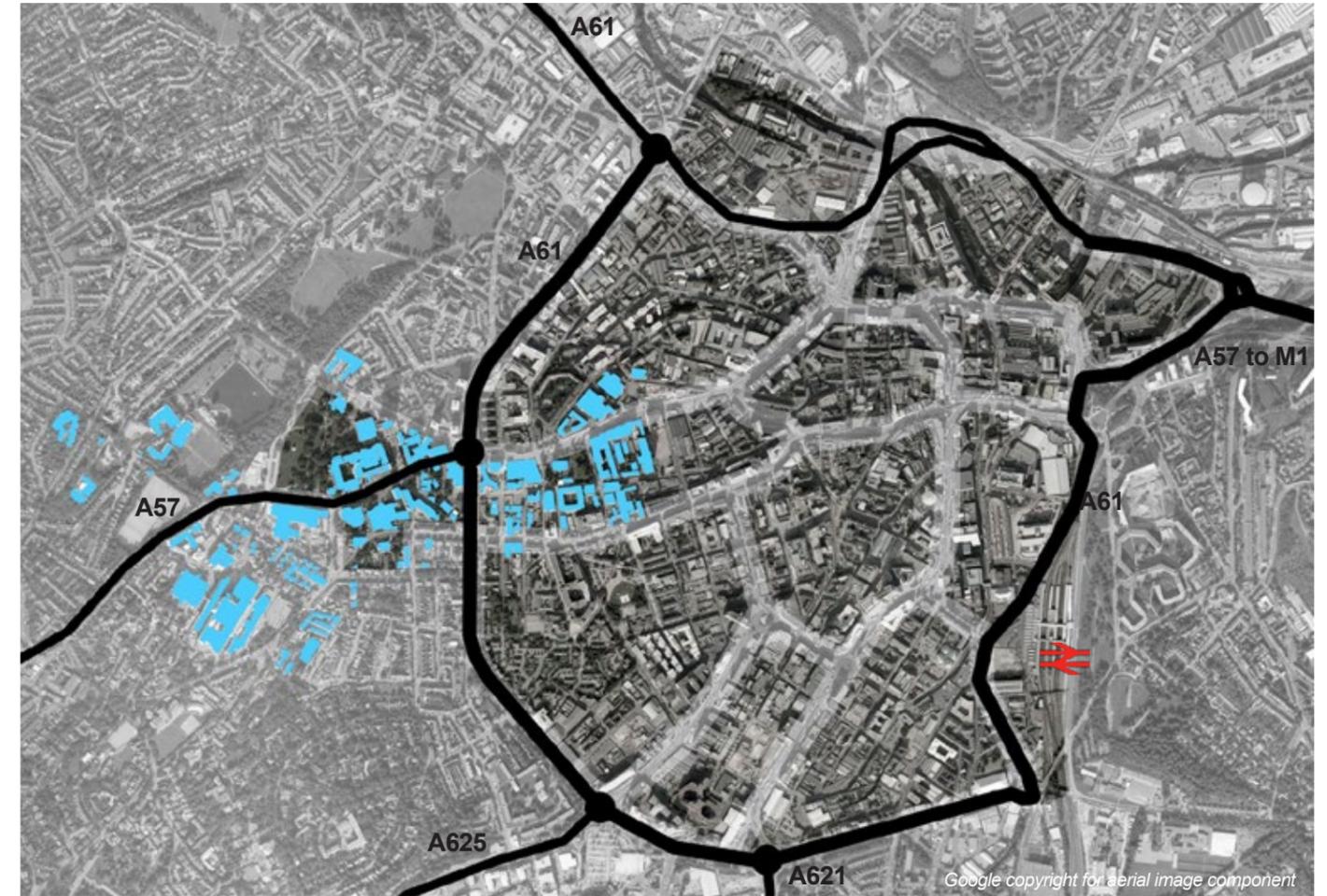
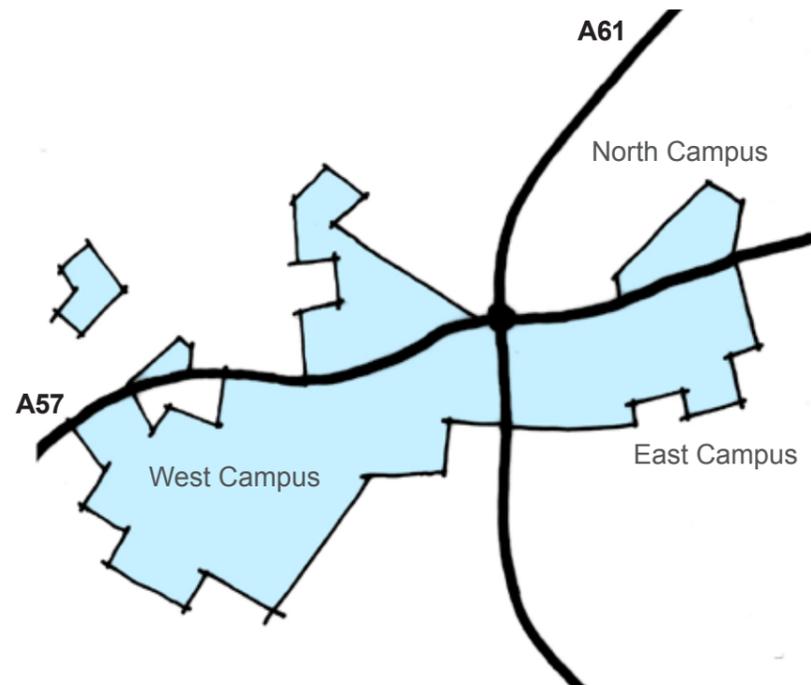
OPPORTUNITIES + CONSTRAINTS

2.1 Location

The University of Sheffield central campus is located on the west slopes of the city centre. The campus forms a city gateway characterised by a change from leafy suburbia to a more built up urban environment.

The central campus is often identified as sitting within the St George's Quarter of the city, though reaches beyond this quarter in all directions, and as such has highly permeable boundaries. The central campus is divided by Upper Hanover Street, a north-south section of the A61 city ring road, and further divided by significant east-west roads Western Bank and Broad Lane. The resulting campus zones are known as the east, north and west campus. The academic and social shape of these is described in later sections.

On foot, the centre of the campus is approximately 15 minutes from the city centre, and 25 minutes from Midland Rail Station, the Bus Station and Sheffield Hallam University, which are east of the city centre.



Principal routes to the city



LOCATION KEY

- 1 Weston Park
- 2 Royal Hallamshire Hospital
- 3 Firth Hall
- 4 UoS Students' Union
- 5 St George's Church
- 6 Devonshire Green
- 7 City Hall
- 8 Sheffield Town Hall
- 9 Sheffield Hallam University
- 10 Bus Station
- 11 Midland Station
- 12 A61 Ring Road

University buildings shaded blue

Whilst the Hallamshire Hospital and Sheffield Children's Hospital are not owned by the University of Sheffield, we do have significant numbers of staff based in these two locations under long-term arrangements which is why they are included here.

Google copyright for aerial image component

2.2 The Wider Estate

The University Estate extends beyond the central campus, and includes student accommodation, sporting facilities, and the Advanced Manufacturing Research Centre with Boeing.

These wider links with the City are all fundamental aspects of the University's social, educational and commercial integration with Sheffield.

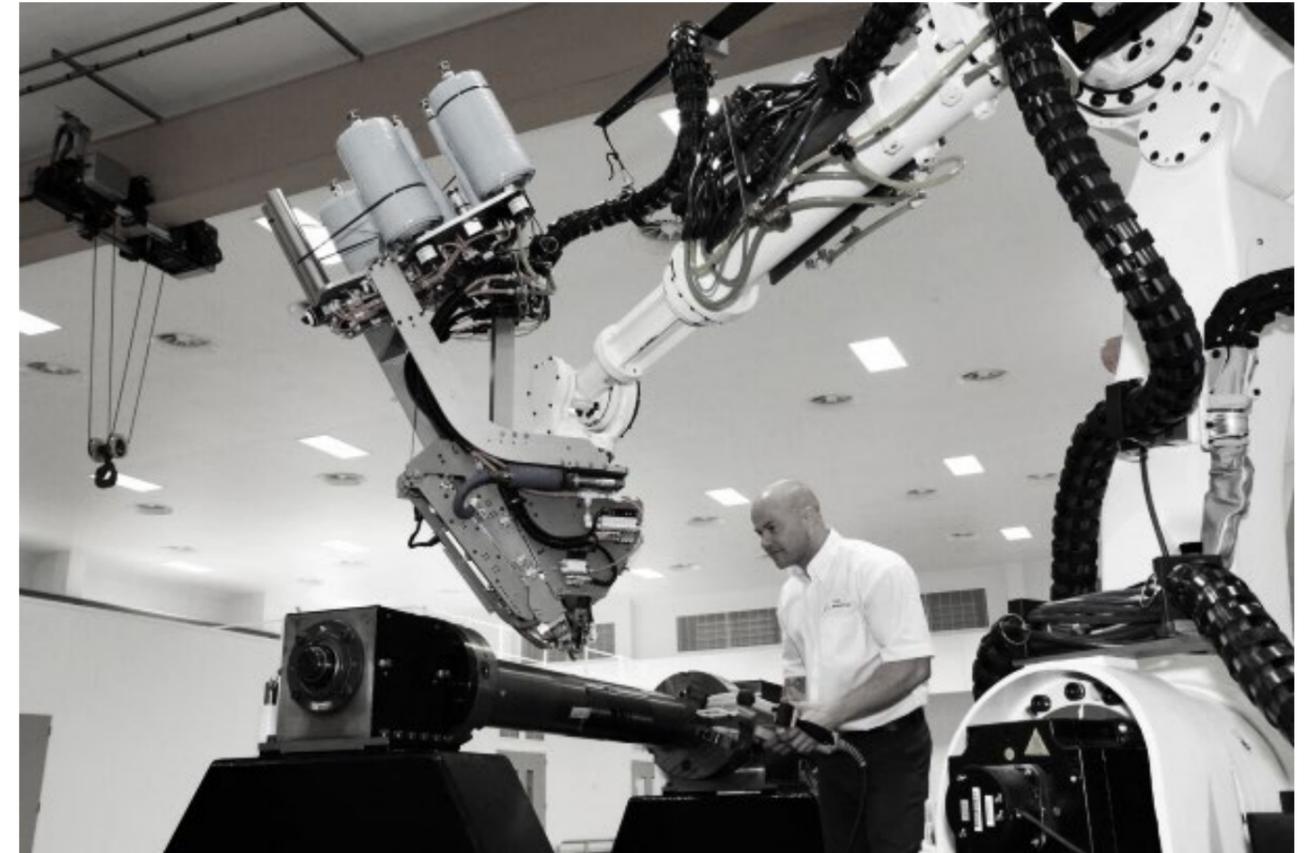
The University estate reaches well beyond the central campus.

The Halls of Residence are concentrated to the west of campus, primarily in the Ranmoor and Endcliffe accommodation, and further north in Tapton Hall on Crookes Road. The context for these buildings is one of leafy streets lined with Victorian terrace, semi-detached or detached houses; many of which are owned by staff, students or private landlords letting to students. These neighbourhoods are characterised by this successful overlap of university and city life in commercial and social terms. This is particularly the case for the local shops and businesses in Broomhill, near the University Halls of Residence, and on Ecclesall Road, further to the south, a popular choice for privately owned student flats. Typically students and staff travel from these neighbourhoods to the central campus on foot, by bicycle or bus.

The University's sport facilities are located between the residential neighbourhood of Broomhill and the central campus. They include the Goodwin Centre with indoor courts, pitches and a swimming pool, and externally a group of artificial grass pitches. These facilities, and the adjacent Weston Park, create a sense of open space between the residential districts and the denser central campus fabric. The University also provides sports pitches at the Norton Playing Fields to the south of the city.

The University occupies c.1700sqm net on the Northern General Hospital site dealing with two key areas: the delivery of clinical training within the new state of the art Clinical Skills Facility at Samuel Fox House; and the Clinical Research areas for Cardiovascular and Metabolic Bone, utilising the joint Sheffield Teaching Hospitals Clinical Research Facility. All areas are directly linked to the University's Faculty of Medicine Dentistry & Health.

The University's Advanced Manufacturing Research Centre is located in South Yorkshire on the border of Sheffield and Rotherham. This is a 15 minute car/taxi journey from Midland Station, and can also be reached by the TM Travel A1 bus service from the station. The success of AMRC has necessitated the acquisition of additional land at Sheffield Business Park. Circa 50 acres has been secured to deliver our ongoing developments over the coming 5-10 years, known as AMRC2. Independent analysis of our AMRC activities have forecast that at current rates of development the site at AMRC2 will deliver up to £218million per annum to the economy.



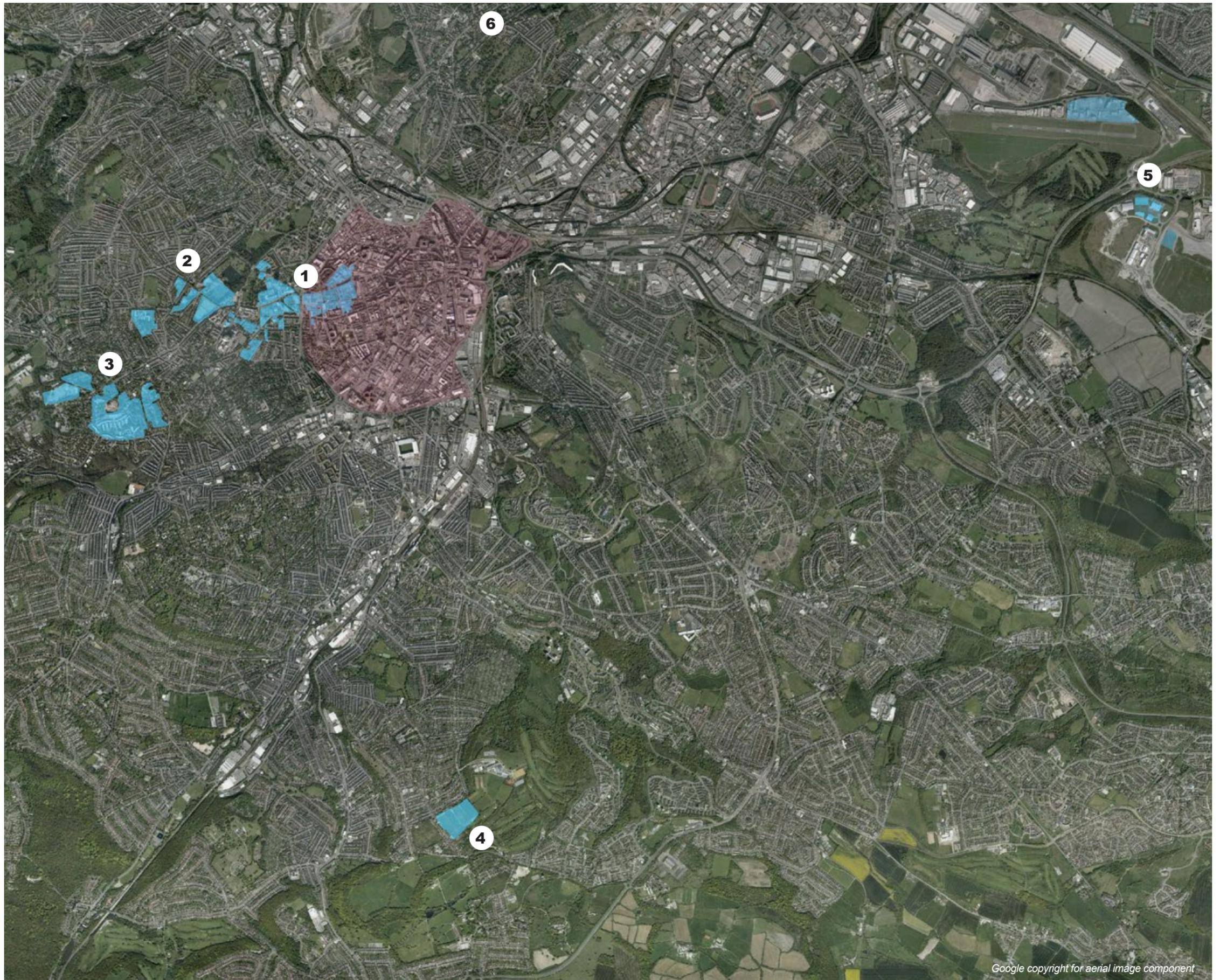
AMRC Composite Centre

The AMRC was established in 2001 as a £15 million collaboration between the University and aerospace giant Boeing, with support from Yorkshire Forward and the European Regional Development Fund. In 2004 the AMRC moved into a purpose-built facility as the anchor tenant for the privately owned Advanced Manufacturing Park. The centre grew rapidly and opened the 4,500 sqm AMRC Rolls-Royce Factory of the Future in 2008. A 1,800 sqm extension was opened in 2012 to house an expanded Composite Centre. The highly successful and growing centre exemplifies the University's long tradition as a world leader in metallurgy and engineering research; and its strong ties with industry in the city.

WIDER ESTATE KEY

- 1 Central Campus
- 2 Sports Facilities and Social Sciences
- 3 Student Residences
- 4 Norton Playing Fields
- 5 Advanced Manufacturing Research Centre
- 6 Northern General Hospital (to north of map)

City Centre shaded pink



Google copyright for aerial image component

2.3 Historic Context

In 1905, the amalgamation by Royal Charter of three local institutions: The Sheffield School of Medicine, Firth College and the Sheffield Technical School, saw the beginning of the institution that would become the University of Sheffield. At the time of the University's foundation in 1905 there were 114 full-time students.

The fact that three independent colleges came together to form the University has affected the physical development ever since. The original creation produced two academic foci approximately one kilometre apart, and this has persisted until the present day. Following the First World War in 1919, when returning ex-servicemen were admitted in large numbers, the full time student figure rose to a short-lived peak of about 1,000, however, between the two wars full time student numbers stabilized at about 750 and expansion into new areas of specialist teaching and research continued slowly.

The Second World War brought with it new areas of specialist research and training in, for example, radar, dietary and vitamin studies, production of anaesthetics and chemicals, magnetism, fuel production and economy, naval cartography, glass manufacture and English language teaching. The benefits of universities during the war alerted the government to their importance and the need to expand them in the post-war years.

In 1943 the Grants Committee announced that universities should look forward to expansion in the years immediately following the war. Predictions for a 50% increase in student population meant that Sheffield, like all other institutions, was unprepared for such growth. Even if that level of growth was not achieved, it was clear that a re-think of the competition-winning scheme for Western Bank was required. By 1946 the University population had grown to 3000 and there was great pressure on the university to expand. In 1947 the University announced the findings of its development committee in the University Development Plan, which outlined sites to be purchased to allow development. The 1950's saw the proposals that led to the largest expansion in the 1960's. The need for new Departments for Chemistry and Physics, the completion of the Western Bank Quadrangles for the Faculties of Art and Law, a new Medical School, the development of Engineering, a new library, the extension of the Students' Union, a new Great Hall and Administration Building and new Halls of Residence were highlighted. The building of the Chemistry Building at the base of Western Bank allowed some of the above needs to be answered, however, more development needed to be undertaken.

In 1953 GMW and Partners won the open competition to find a 'new architecture' to solve the changing face of the University. The realization of the scheme took a considerable time, due to the heavy cost of financing the grand GMW plan. The scheme also underwent considerable development through time. In particular, the Arts Tower changed greatly and was the tallest academic building in Europe at the time. This highlights the fact that the University was striving to present itself as a dynamic and grand institution.

At the same time the University was also growing at other sites, notably St. Georges, once again reinforcing the two centres of academic focus. By the 1970's the University required a new development strategy, since the GMW master plan was effectively complete. The principal aspect of the brief was the desire to resolve the situation created back in 1897 with the splitting of the institution into two sites. The limited competition was intended to address the issue of unifying the campus. One of the main issues to be faced was the proposed ring road at Upper Hanover Street that would reinforce the split of campus accommodation. The winning scheme by Arup Associates managed to overcome the difficulties of the split by placing a glazed concourse over the ring road linking the two halves of the site. The development of the scheme was never realized, only the Computer Centre on Hounsfield Road was completed. Since the Arup master plan the University has built a number of more isolated schemes making use of available land in and around the main area of the campus.

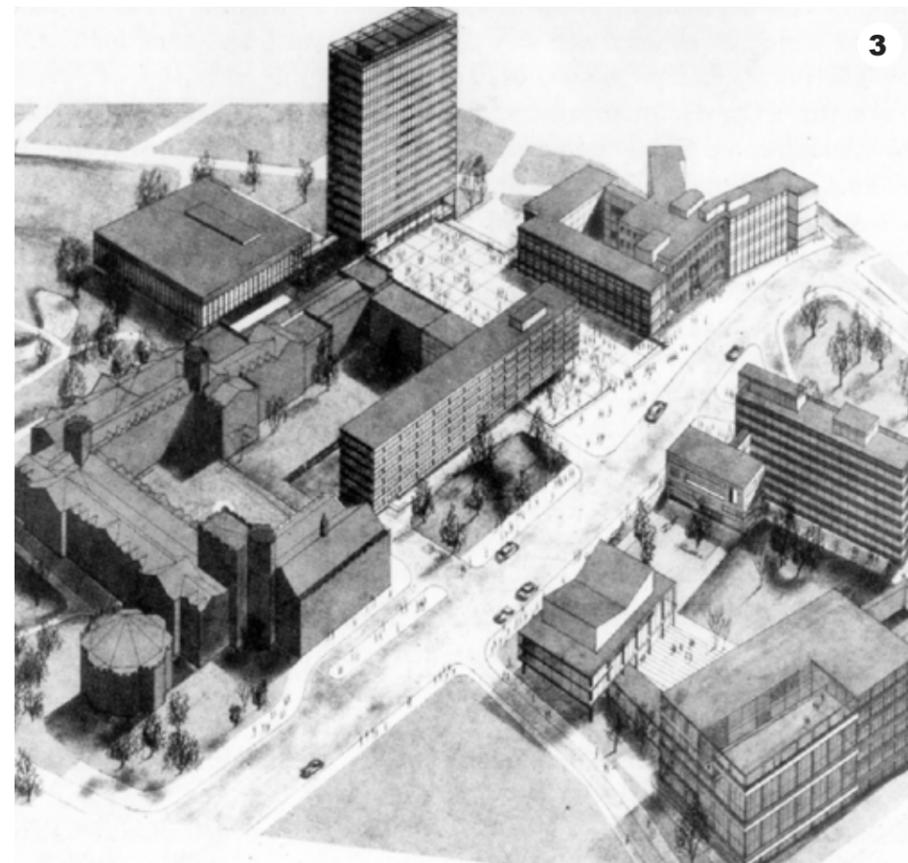
The 1980's saw the opening of the Octagon Centre, the Sir Henry Stephenson Building, and major extensions at the Northern General Hospital. In the 1990's, new premises for the School of Clinical Dentistry, the Management School, the Division of Education and St Georges Library (incorporating Blackwell's University Book Shop) were opened, together with extensions to Stephenson, Halifax and Tipton Halls of Residence, three new blocks of student flats, and the Regents Court building which houses the departments of Computer Science and Information Studies.

In 2003 Turnberry Consulting were commissioned to produce a Development Framework. The phased proposals looked to densify the campus, notably the areas immediately to the east and west of Upper Hanover Street. This in turn has led to a number of projects including the Information Commons and Jessop West which though departing from some of the framework principles, help to visually connect the east and west campus. Work has now begun on the The Diamond adjacent to St George's Church.

The present Academic Estate stands at around 365,000 sqm with a population of 25,664 students (2013-2014) and 7,000 staff.



- 1 Postcard view from Weston Park
- 2 Firth Court
- 3 GMW Masterplan
- 4 Western Bank before the Concourse



2.4 The Growth of the University

Since its origin the University has expanded from two ends, Firth Court and Sir Frederick Mappin Building, rather than from a single centre. As a consequence the geographical centre of the campus lies on the Upper Hanover Street ring road, and the East and North Campus are distanced from existing recognisable University public spaces.

The Masterplan provides the necessary opportunity to re-think the central area of the campus which at the present time lacks any cohesion or focus for the campus. This must be a significant opportunity to improve the sense of place for the University and this Masterplan is therefore critical in helping to develop the University campus.

The adjacent sequence of diagrams illustrates the growth of the central campus from its foundation in 1905, as described in the previous section of this report. This growth from two academic foci, approximately one kilometre apart, explains the academic shape of the University today.

The two halves may have successfully fused in time were it not for the introduction, in the 1960's, of the city A61 ring road (superimposed on the 1958 diagram). This and the increased status of Western Bank to dual-carriageway (also shown) served to fix the perception which prevails today of a campus segregated into parts. The University's most recent developments, adjacent to the ring road (Information Commons and Jessop East), go some way towards visually bridging the divide between east and west campus; however the physical connection remains just as weak, worsened by the existing low-grade pedestrian crossings.

University Buildings

c 1900

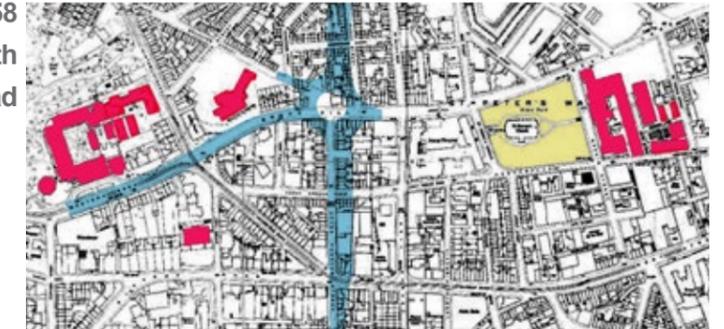


c 1923



c 1958

superimposed with
planned ring road

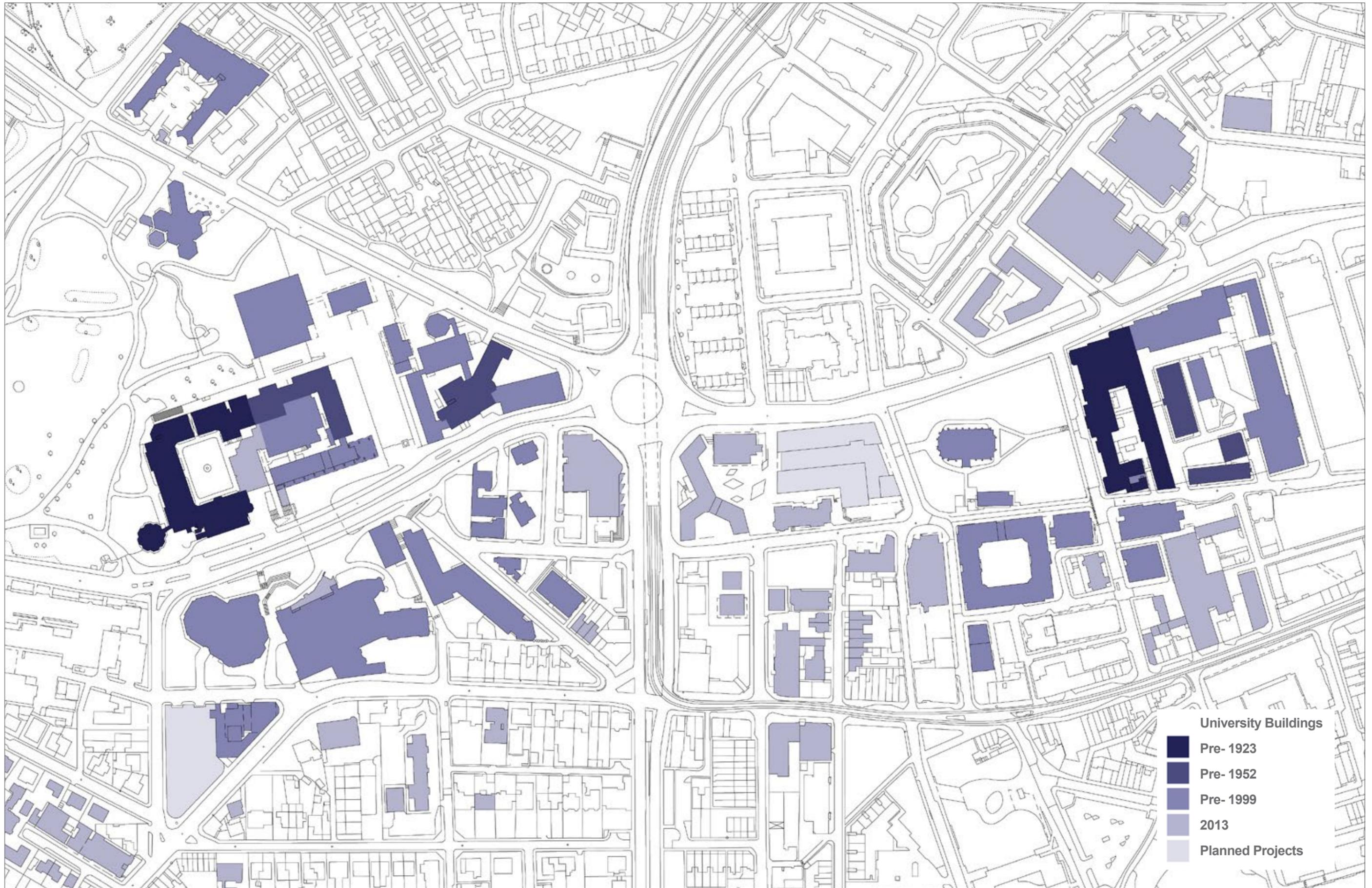


c 1999



c 2013





2.5 The Campus and the City

The campus straddles the boundary, physically marked by the ring road, between suburb and city centre. The perceived University axis aligns with the extension of the City Gold Route. In creating a unique identity for the ‘Urban Campus’, there is an opportunity to weave together the civic grain with the suburban green.

The Sheffield City Urban Design Compendium identifies the following targets in the transformation of the city:

- A city that offers a diversity of experience, culture and activity. The streets are the focus of the city’s life and the quality of the pedestrian experience is paramount.
- A city that expresses the many layers of its history and evolution in its urban fabric. While preserving the diverse wealth of Sheffield’s historic buildings, the potential of sites which are ripe for redevelopment is simultaneously embraced to create the heritage of the future.
- A city that actively promotes sustainable development - not only in terms of reducing energy consumption, but also producing a quality of development which will function well and be a pleasure to experience.
- A city that is reconnected with its natural heritage, where the rivers become vital green spaces running through the city, alive with waterway activity.
- A city that rewards quality development with a high return on investment.

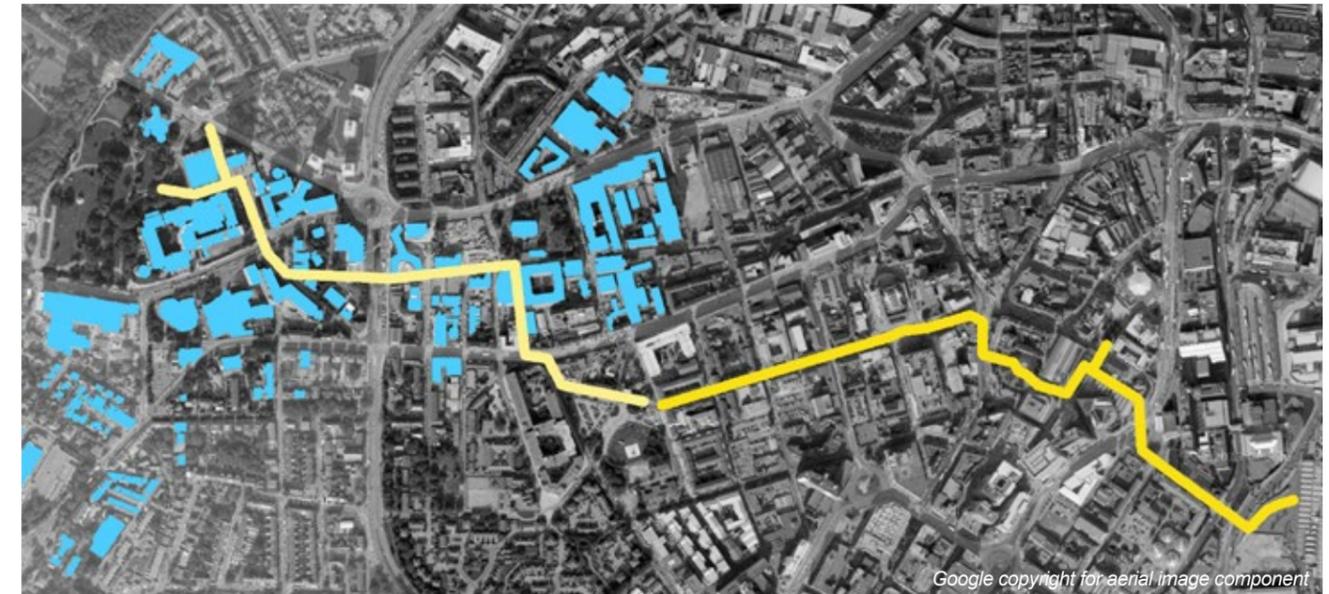
The Compendium identifies the St George’s Quarter, with the University of Sheffield at its focus, as an ‘integral part of Sheffield’s regeneration as a city driven by a new knowledge based economy’. The University Masterplan should reinforce this strategy as an integral part of defining the character of St George’s as the ‘University Quarter’.

In addition the University will need to grow outside of the St George’s Quarter, particularly moving north, south and west of this segment within the Urban Design Compendium. The predominance of the University within St Georges and the need to keep the segment flexible as part of the City’s Local Plan are essential prerequisites in order to support the University into the future.

The draft 2013 Sheffield City Centre Masterplan recognises the opportunity to extend the highly successful City Gold Route west through the campus terminating at Weston Park. The challenges faced in doing this are the same as those faced in consolidating the campus identity: the negative impact of Upper Hanover Street and Western Bank intersecting these pedestrian and bicycle desire lines from the City Centre to the west.

A key element of the City’s Gold Route is the ability to move pedestrians and cyclists across the city centre through to the University campus. The most successful Gold Route will be exclusively pedestrian and cycles only, which will in part require pedestrianisation of roads in and around the University campus. This Masterplan strongly underscores this need. The City Gold Route connects the most significant urban and green spaces in the City Centre. It follows that an extension of this route should also engage with significant public spaces. This Masterplan study will identify opportunities to enhance or create these spaces, in particular the potential for a new University Square in the Hounsfield Site. This public space will deliver an essential meeting space for staff and students, at the heart of the campus.

The UDC guidance on tall buildings has also been referred to in assessing potential development sites. In particular the Hounsfield Favell Site is identified as a suitable location for a tall building.



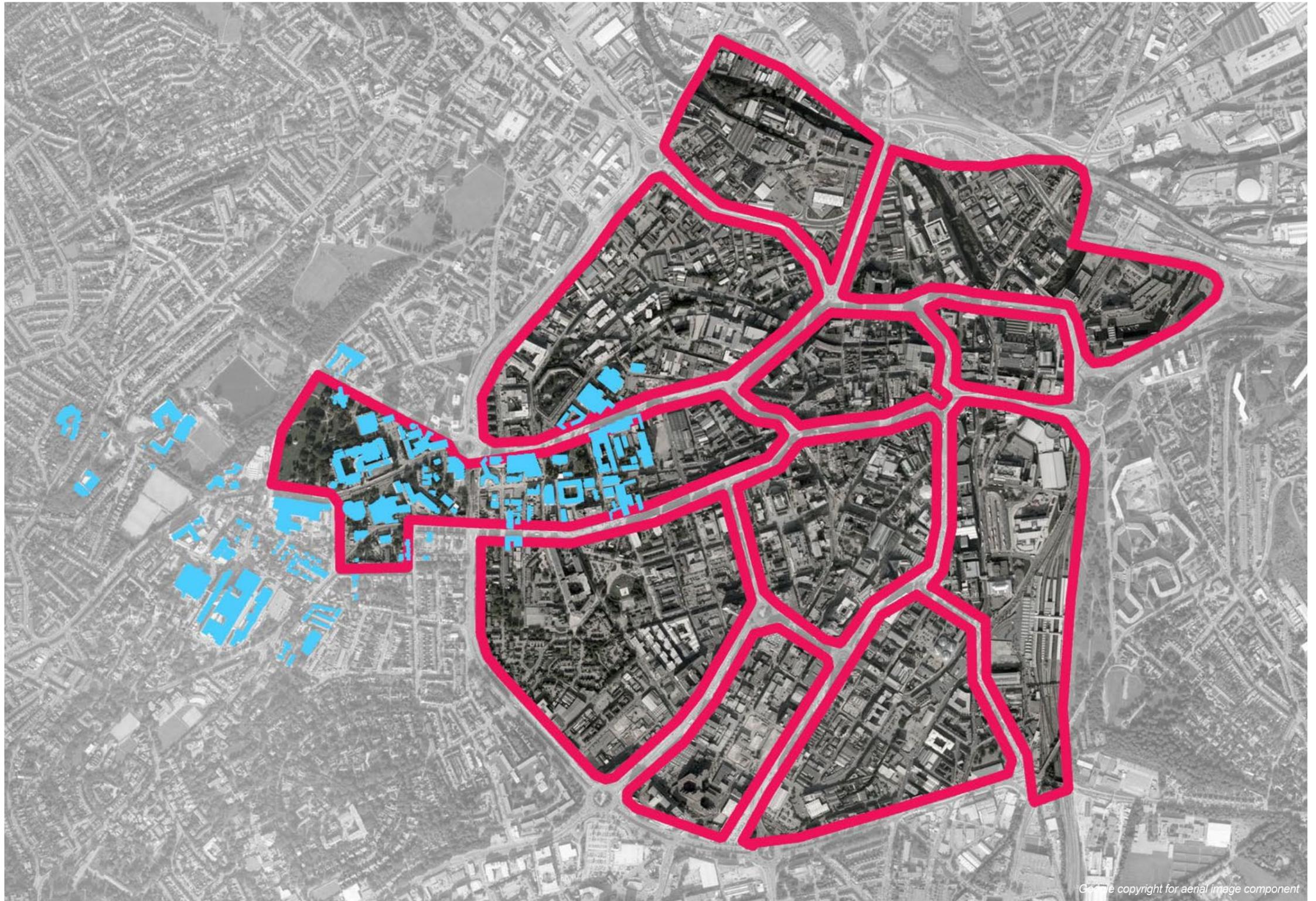
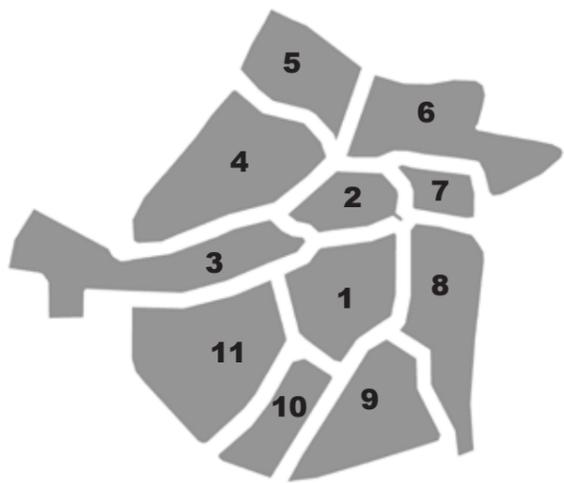
The draft 2013 Sheffield City Centre Masterplan recognises the opportunity to extend the highly successful City Gold Route west through the campus terminating at Weston Park

Sheffield City Centre Masterplan 2013 Consultation Draft



KEY TO CITY QUARTERS

- 1 City Centre
- 2 Cathedral
- 3 St George's
- 4 St Vincent's
- 5 Kelham Island
- 6 Riverside
- 7 Castlegate
- 8 Sheaf Valley
- 9 Cultural Industries Quarter
- 10 The Moor
- 11 Devonshire



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2.6 Academic Shape

The University faculties are largely clustered as a result of their historic origins; this is emphasised by subsequent introduction of major roads. This is potentially most problematic for the Faculty of Engineering which though lively itself, is isolated from the central administrative and social functions of the University.

Recent and planned projects ensure that the University is generally aligned to meet faculty growth in Engineering, Medicine, and Arts and Humanities. However the Science and Social Science Faculties require consolidation and expansion to meet demand and condition targets.

Social Sciences will need to consolidate their growth and the dispersed nature of the Faculty, which operates from 19 separate locations. Science however requires significant support to develop and deliver estate improvements to meet the growing demand for this discipline.

The table opposite gives approximate areas for each Faculty and summarises the University’s growth requirements for each.

The plan diagram opposite illustrates the Faculty clusters that make up the central campus. This zoning is seen as a positive attribute of the campus: new students quickly become familiar with the academic ‘neighbourhoods’ of the campus – Medical, Engineering, Science, and Arts - and begin to identify with their own whilst quickly becoming cognisant of the overall picture. Social Sciences rely on departmental areas due to the dispersed nature of their accommodation. The central social and administrative functions of the University are well located in University House and the Union to the south of Western Bank, and Firth Court and the Arts Tower to the north.

Arguably the weakest area of the campus in terms of ‘academic identity’ is the Hounsfield Favell Quarter, immediately to the west of the ring road, which due to its building scale and poor external realm lacks the academic character of other parts of the campus.

The continued growth of Engineering presents an ongoing challenge to deliver sufficient accommodation. Social Sciences also present challenges with departments dispersed across campus. There is a significant opportunity to consolidate Social Sciences adjacent to their new Management School. As such, by developing a significant facility in Northumberland Road, space will be released for Engineering in existing spaces, and Social Sciences can create a new heart for the Faculty.

Sport Sheffield plays a major role in the life of the campus and our students. The facilities are at capacity and expansion of our artificial grass pitches is necessary at our Norton site. Replacing the existing pool and gym will be necessary as the buildings are over 50 years old. This will require the provision of new facilities on site as well as expansion of indoor sporting activities.

The Masterplan offers the opportunity to both celebrate the identity of the Faculty neighbourhoods in their external spaces, but to also celebrate the possibly more intriguing interplay between Faculties in the spaces in-between. The provision of learning and social environments in these ‘shared spaces’ will significantly enhance the external realm character; and also the University’s reputation as place of shared knowledge.

Current space provision

<i>Faculty</i>	<i>Area</i>	<i>Status</i>
Faculty of Arts	10,695	No significant changes planned, consolidate performance spaces
Faculty of Engineering	124,287	Significant expansion required*
Faculty of Medicine, Dentistry & Health	35,468	Expansion planned
Faculty of Science	59,520	Consolidation and expansion required
Faculty of Social Sciences	30,977	Growth associated with Management School, Economics and Politics, and consolidation of the highly dispersed accommodation
Professional Services	40,328	Reductions of 10% associated with space efficiencies
Learning Infrastructure	52,774	-
Social & Commercial	33,426	On-going review
Residential	49,682	Disposal of vacant space and refurbishment of legacy buildings
Other	67,669	-
Total	504,826 sqm	

* The Diamond under construction and included in area, is meeting this requirement

KEY TO PRINCIPAL FACULTY USE

- Medical
- Science
- Social Science
- Arts
- Engineering
- Other Facilities

Whilst the Hallamshire Hospital and Sheffield Children's Hospital are not owned by the University of Sheffield, we do have significant numbers of staff based in these two locations under long-term arrangements which is why they are included here.



2.7 Central Campus

Following an appraisal of the existing campus buildings in terms of quality and condition, potential sites for new buildings have been identified. There is an opportunity for these new projects to help shape and enhance the external realm.

Listed buildings

The estate comprises a number of Sheffield's significant Listed Buildings, including Firth Court, the Arts Tower and Western Bank Library. The University also has the Sir Frederick Mappin Building, St George's Church and Jessop Victorian. A number of other smaller grade II listed buildings are included within the University estate portfolio totaling 36 individual buildings. These buildings all have visual prominence on the main pedestrian axis through the campus and help to consolidate the campus identity. It is noteworthy that part of the landscape and retaining wall surrounding the Arts Tower and Western Bank Library is included within the buildings' listing status, as described within their Conservation Management Plan. Although St George's Church building is specifically listed there is no reference to the churchyard or gravestones which are in urgent need of landscaping to provide a more attractive environment for staff and students to utilise. Weston Park is on the Parks List, and the gateway to the Park on its south-east corner is a listed structure.

Projects in progress

There are a number of redevelopments, refurbishments and new buildings currently under construction or nearing completion. These include the provision of a multi-storey car park on Durham Road to the west of the campus. This development is an essential precursor to moving cars from the centre of campus to the periphery and will gradually support this change over time. In addition the former University House has been redeveloped to provide extended Students' Union facilities and has been renamed the University of Sheffield Students' Union. The Pam Liversidge Building was completed in early 2014 providing much needed accommodation for post graduates from all disciplines within the Faculty of Engineering. Recently completed projects including the new Management School at Crookesmoor and an ongoing and significant investment within the quality of teaching spaces continue at a pace. Redeveloping the Engineering estate with a series of detail refurbishment projects and the creation of an atrium between the Sir Frederick Mappin building and central wing are essential to support the Faculty in their continued growth of student recruitment and research income.

Short life buildings

The buildings shown have been identified as RICS Condition C or D, defined as 'Operational but in need of major repair or replacement' and 'Inoperable' respectively. Whilst these buildings remain in condition C/D a long term plan for disposal, redevelopment or refurbishment needs to be agreed through the detailed Estates Strategy for the period 2015 – 2020. Maintaining these buildings in their current state is not acceptable and in particular those within the Hounsfeld/Favell Quarter will require substantial review in order to deliver developable space for the expansion of academic buildings most notably the Information Commons as self-managed learning space as well academic facilities allied to the Faculty of Science.

Potential development sites

The sites of the above buildings have formed the initial basis for a review of potential development sites in both the Hounsfeld and Portobello Quarters. Further opportunities are recognised on the site opposite Jessop East to help enhance the Leavygreave streetscape, and also a small building or pavilion in the Arts Tower Court to help activate the external realm.

Listed buildings



Projects in progress

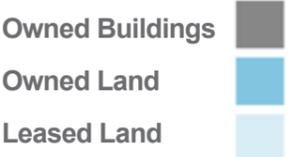
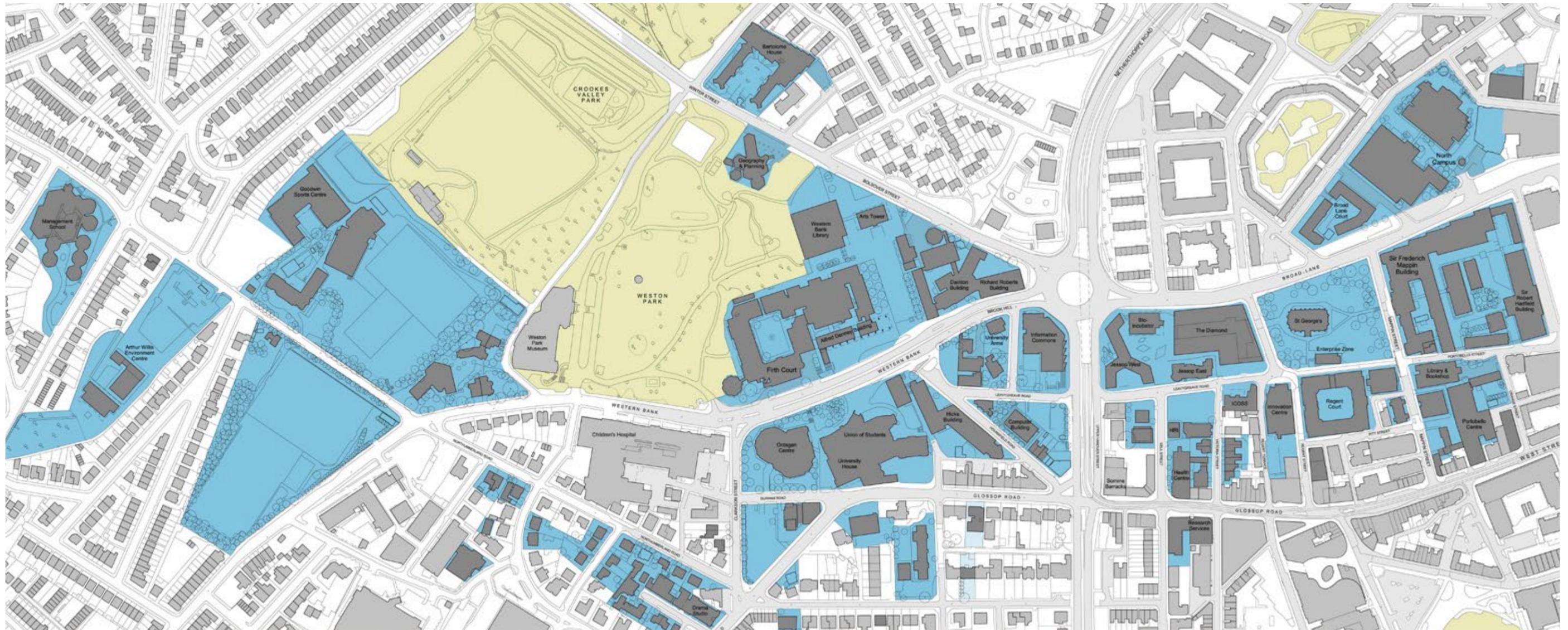


Short-life buildings



Potential development sites





2.8 Advanced Manufacturing Research Centre with Boeing

The University began developing its Advanced Manufacturing Research Centre (AMRC) facility over ten years ago. In the subsequent ten years the AMRC has become the world leading centre of advanced manufacturing.

The success of AMRC has necessitated the acquisition of circa 50 acres at the Sheffield Business Park located to the north of the current AMRC centres which are on the Advanced Manufacturing Park at Waverley, Rotherham.

The new site, known as AMRC 2/AMRC Campus, will allow the University to Masterplan the campus. The site will be able to support upto 100,000m² of the developable accommodation. The Masterplan will promote opportunities for the engineering research staff to meet and collaborate within a pedestrianised campus.

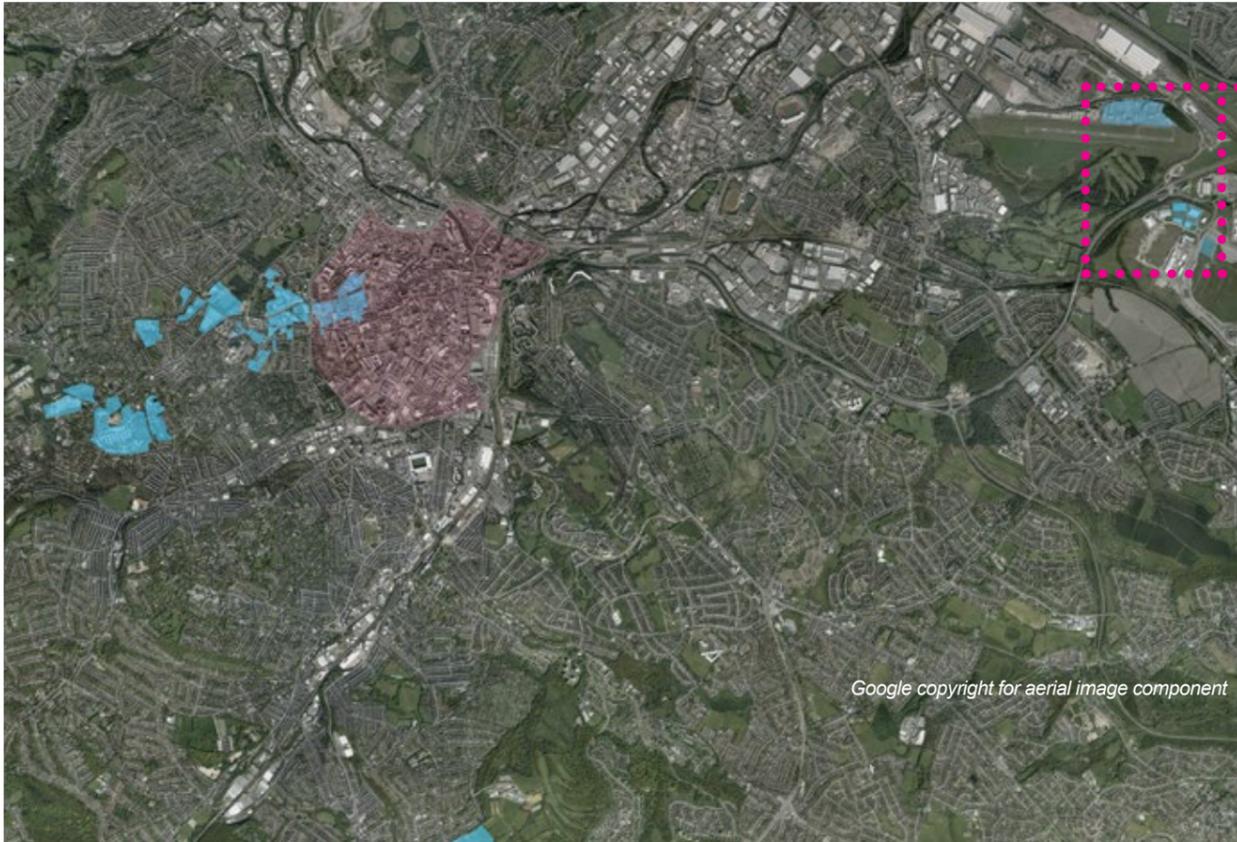
The Masterplan also promotes the opportunities for original equipment manufacturers (OEM's) to co-locate on adjacent land, strengthening the collaborative research and manufacturing initiatives where AMRC has created world leading centres.

The first centre to be developed at the AMRC 2/AMRC Campus is 'Factory 2050'. This £22 million project commenced on site in September 2014 and is due for completion autumn 2015.

When planning Factory 2050 the University commissioned Oxford Economics to undertake an economic impact survey. This report forecasted that AMRC activities could add up to £218 million GVA to the economy annually.

AMRC is a significant research and manufacturing centre of excellence and is strategic within the University's future development.





Above: Aerial view locating AMRC
Right: AMRC Masterplan



2.9 University Buildings

The campus is composed of an eclectic range of buildings from the identifiable ‘red brick university’ Victorian style to classic Modernism to contemporary International. This creates much interest in the built environment but also creates challenges in terms of identity. It is all the more important that the external realm gives cohesion to the campus.

Sheffield is, or perhaps was, one of the six Universities informally known as Red Brick Universities, along with Birmingham, Liverpool, Leeds, Bristol and Manchester. The term was coined to describe civic universities, built before the first world war, and was inspired by the Victoria Building at the University of Liverpool, built from a distinctive red pressed brick; a feature common to all of the six.

Following the Second World War, new developments at the University represented the prevailing style of the era, and the outcome is an architecturally diverse campus. In attempting to consolidate the identity of the campus realm, careful consideration should be given to the balance between diversity and continuity in the estate buildings. There may be an opportunity to play on the strengths of the still-prevailing red brick character when developing new buildings, whilst achieving diversity in contemporary form and detail.



1 Firth Court and Alfred Denny Building



2 Sir Frederick Mappin Building



3 St George's Church



4 Jessop East





5 Bartolome House



6 Arts Tower and Library



7 Geography Building



8 Faculty of Science

Photography:
1,3 University of Sheffield
2 Ian Spooner
4, 5, 6, 8, 11, 12 Andy Brown
7, 9, 10 Shaun Bloodworth

9 Information Commons



10 Students' Union



11 The Black Box



12 Jessop West



2.10 Transport and Infrastructure

The University has a commitment to sustainable transport. In 1997 an Integrated Transport Policy was introduced with the aim of developing the most sustainable means of accessing the campus. In particular the aim of the University is to reduce the impact of the private car by encouraging staff and students to travel more sustainably. The key principles have been maintained in the Travel Plan approved in 2013. A key tenet of the new Travel Plan is to maintain a modal shift from cars to more sustainable means of travel and access.

In addition the current fragmented provision of car parking creates many challenges on the campus with pocket car parks liberally sprinkled throughout the estate. Moving cars to the periphery of campus to deliver open spaces more easily traversed by pedestrians and cyclists is an important objective which the Masterplan can build upon. The key principle set out in this policy should inform this new Masterplan.

The University of Sheffield is divided geographically by the Sheffield inner ring road, Upper Hanover Street. The ring road is a significant dissection of campus splitting the estate into the Western Bank and the St George's campus area. The St George's area of campus covers that part east of Upper Hanover Street. The St George's campus is bounded by Broad Lane to the north, Rockingham Street to the east, West Street to the south and Upper Hanover Street to the west. Located within the St George's campus are the Faculty of Arts and Humanities, all five departments which make up the Faculty of Engineering, and large parts of the Faculty of Social Sciences. St Georges Church is a dominant feature and provides the University with centrally bookable lecture theatres which are some of the largest on campus.

The Western Bank campus is bounded by Bolsover Street to the north, Upper Hanover Street to the east, Glossop Road to the south and Clarkson Street to the west. Within the Western Bank campus are the Biology, Chemistry and Geography buildings and the Arts Tower located to the north of Western Bank, and the Octagon Centre, the Students' Union,

Hicks building and the Information Commons to the south.

In addition there is also a smaller cluster of buildings on North campus which can be found to the north of Broad Lane opposite the main Engineering campus. These buildings include the Kroto Research Institute of Nanoscience and Technology, George Porter Building, a temporary Modular Village for teaching and research in Engineering, and the new Garden Street laboratories, again used for Engineering. Sheffield International College is currently located within North Campus as are a number of estates support activities such as the University's main post room, central archive and maintenance department.

Located on the western boundary of the city centre, the St George's and Western Bank University campuses are segregated by Upper Hanover Street, which forms a section of the A61 ring road around Sheffield city centre. The Western Bank campus is also divided by Western Bank (A57) which runs from the south west of the city, past the University student residences, Endcliffe and Ranmoor, located circa 1.7km to the south west of the main University campus, and meets Upper Hanover Street at the Brook Hill roundabout. This roundabout forms a congestion hotspot, with queues regularly building up along Upper Hanover Street and Western Bank, particularly during AM and PM peak hours. Primary routes from the University into Sheffield city centre run along Western Bank and Upper Hanover Street, branching off along Leavygreave Road east through the St George's campus, and Glossop Road.

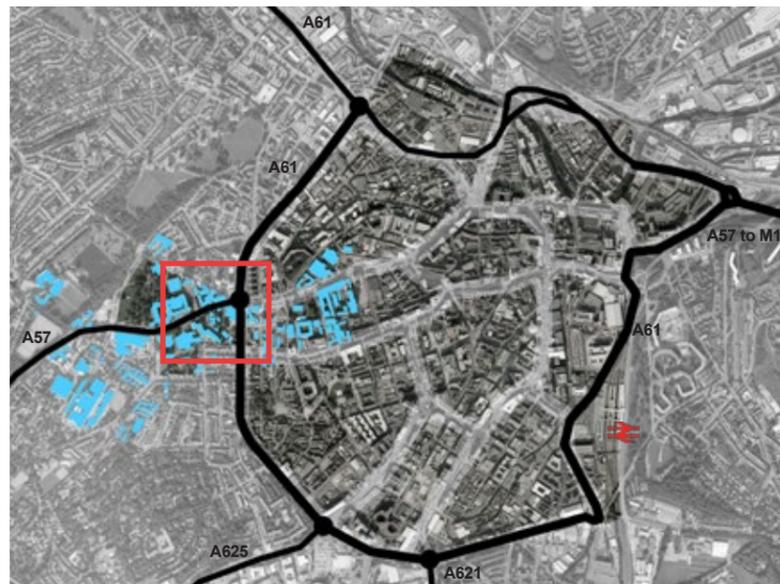
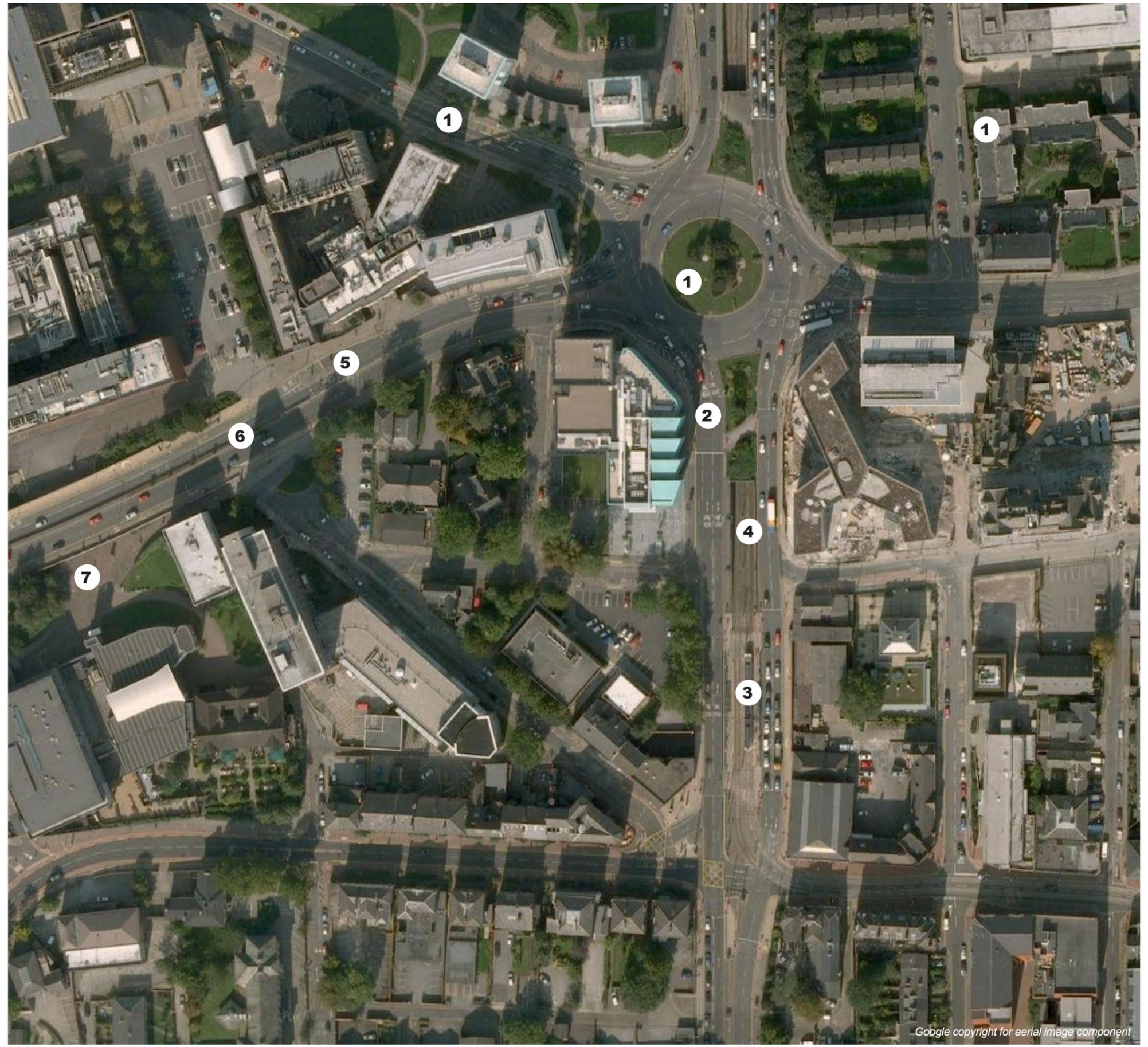
There are a number of more minor, internal roads which make up the area within the University. Within the Western Bank campus Hounsfield Road, Leavygreave Road and Favell Road currently provide internal vehicular access to the area around the Information Commons building, the Corporate Information and Computing Services (CICS) building and the Hicks building and their respective car parks.

Leavygreave Road is dissected by Upper Hanover Street. To the east Leavygreave Road runs through the St George's Campus linking Upper Hanover Street to Rockingham Street. Internal roads branch off, with Gell Street, Victoria Street, Regent Terrace, and Regent Street servicing the University buildings to the south, and St George's Terrace extending north alongside St George's Church. Mappin Street extends from north to south through the St George's campus, from Broad Lane to West Street adjacent to the Mappin and Portobello Buildings. The Diamond building is currently under construction in the St George's campus adjacent to St George's Terrace, further increasing the pedestrian footfall to this area.

The 2013 Sheffield City Centre Masterplan outlines two major pedestrian routes through the city, the Steel Route and the Gold Route. The Steel Route running from Wicker Riverside in the north east to Moorfoot in the south west of the city intersects the Gold Route in the heart of the city centre, which runs from Sheffield Train Station in the east towards the University campus. These pedestrian friendly routes will provide connectivity from the University to a large area of the city via a range of key spaces including Devonshire Green, the Peace Gardens, Millennium Square and the Winder Gardens.

KEY

- 1 Brook Hill roundabout
- 2 Upper Hanover Street
- 3 Tram Stop
- 4 Tram ramp (below roundabout)
- 5 Western Bank
- 6 Central Barrier
- 7 Concourse underpass



Google copyright for aerial image component

2.10 Transport and Infrastructure

Bus links

The bus network serving the University is both frequent and extensive. The most frequent bus routes run from the west of the main University campus where Endcliffe and Ranmoor Student accommodation are located, along Western Bank and Glossop Road towards West Street and the city centre. The number 52 bus service is the most frequent, running every four minutes through the University campus. Other services including the 10, 51, 70, 120, 123 and 95 run with frequencies between 8 minutes and 60 minutes. The diagram below illustrates the bus provision which serves the University, with the orange route illustrating the number 10 bus service, the red route illustrating the number 51 bus service, the blue route illustrating the number 70 and 120 bus services and the green route illustrating the number 52, 95 and 123 bus services.

The bus services running through the University campus provide links to a wide range of destinations, including the popular student housing locations of Broomhill and Crookesmoor, along with regular links to destinations further afield including Hillsborough, Ecclesall, Manor Park, Heeley, Lodge Moor and Charnock. There are also frequent links to the train station and The Royal Hallamshire Hospital, Weston Park Hospital and Sheffield Children's Hospital.



Existing Bus Routes

Sheffield Supertram

The University is a named stop on the Sheffield Supertram network, which runs between the St George's and Western Bank campuses along Upper Hanover Street. The University stop is located just south of Leavygreave Road, on the main arterial route through the campus. A pedestrian crossing is located across the tracks at the northern end of the platform. From here the track cuts under the Brook Hill roundabout, emerging on the northern arm onto Netherthorpe Road. The significance of a tram stop at the heart of the campus provides a huge asset for sustainable means of travel to and from campus. Signaling the arrival at the University's campus is however somewhat discreet and improvements to wayfinding and signage at this junction should be made.

The blue and yellow routes serve the University stop providing links to the city centre, Sheffield train station, Meadowhall Shopping Centre and Hillsborough amongst other stops. Both services operate with a 10 minute peak frequency.

Pedestrian Surveys

A survey of pedestrian walk patterns was undertaken by Travel Plan Services (TPS) in December 2012 which identified the most frequently used pedestrian desire lines around the University campus. The major routes were identified as follows and all were in excess of 600 persons per hour:

- 3591 people per hour from the University House / Students' Union buildings under the concourse towards the Arts Tower;
- 878 people per hour from Western Bank along Hounsfield Road;
- 930 people per hour across the central Upper Hanover Street pedestrian crossing (adjacent to the tram stop); and
- 626 and 1391 people per hour along Leavygreave Road east and Mappin Street respectively.

We expect these footfall figures to increase when The Diamond opens. Consequently the improvements and pedestrianisation need to progress in advance of the opening date in September 2015.

These make up the major arterial routes through the University campus and provide a basis for the proposed pedestrian improvements.

2.10 Transport and Infrastructure

Cycling

The University campus is well served for cyclists, with Leavygreave Road, Hounsfield Road, Glossop Road and Mappin Street south identified as Sheffield Council advised cycle routes. There are also a number of signed cycle routes located within the University campus on Victoria Street, Leavygreave Road and Portobello Street. Segregated cycle lanes are provided along Glossop Road, Leavygreave Road, Portobello Street and Mappin Street, providing a safe cycling environment around the University.

There is an extensive cycle network throughout Sheffield providing links from the University campus to the city centre and the train station. The diagram in section 3.4.1 shows both the existing and proposed cycle routes within the vicinity of the University, with advisory routes highlighted in green, signed routes in blue, designated traffic-free cycle paths outlined in red and the proposed university gold route shown in yellow.

Provision for cyclists and storage is relatively mixed; many buildings have Sheffield hoops, some covered and others open to the elements. The University will be investing in a cycle hub adjacent to the Hicks Building and Graves Building which will provide over 200 secure cycle spaces for the safe and secure storage of bicycles. The University will also provide secure cycling provision on land adjacent to the Soundhouse; to service The Diamond. The intention is to continue to encourage cycling as a sustainable means of travel and access to the campus. The University has very good provision of changing and shower facilities at various locations throughout the campus. Investing in cycling provision however is something that the University recognises as important to continue the modal shift as detailed within their Travel Plan.

Parking

Although there is no parking permitted on Western Bank and Upper Hanover Street, the internal roads that make up the University campus are accessible to vehicles and many provide on street parking and access to car parks. The St George's campus has parking restrictions on St George's Terrace and Regent Terrace, with on street parking provided along Leavygreave Road east, Gell Street, Victoria Street, Regent Street and Mappin Street.

In the Western Bank campus there are car parks at numerous locations. None of these are of any significant size and the University relies upon street parking and pocket car parks to support travel and access for those staff and students who do need to use a personal car to access the campus or indeed to support their work/studies. On street parking is also provided along Favell Road, Hounsfield Road and Leavygreave Road (west). As these are also the main pedestrian routes the experience of pedestrians moving through the campus is dominated by roads and not dedicated pedestrianised paths and routes.

The on street parking within the University campus is pay and display only. The University

car parks all require parking permits. There are a range of parking permit types, including Category A, guaranteeing staff a parking space in a designated Category A car park at a cost of £640 per year; Category B, allowing staff and students to use any Category B car park at an annual cost of £410; Category C, allowing staff to purchase a pay and display ticket at a cost of £3.40 per day with limited spaces available; and Category R, allowing staff and students to park at the University accommodation only at an annual cost of £75 for students and £80 for staff. Motorcycle permits, disabled parking permits and on call permits for staff are also available.

Servicing

In the Western Bank campus, the existing servicing arrangement to the north sees delivery vehicles entering the Arts Tower car park via Bolsover Street and undertaking a reversing manoeuvre between the Western Bank Library and Alfred Denny building. This is a problematic manoeuvre due to the narrow space available between the buildings. There are also service accesses from Western Bank towards Firth Court, and past the Alfred Denny building, under the concourse bridge to the Students' Union and Octagon buildings. To the south, service access is provided from Western Bank along Favell Road towards Leavygreave and Hounsfield Road and from Glossop Road along Leavygreave to the Hicks Building.

Statutory Undertakers' Equipment

AECOM have been commissioned to carry out an investigation into the existing Statutory Undertaker's Apparatus present within the University campus. Figure 3 below and in Appendix A illustrates the extent of the search throughout the University campus. The Hounsfield Favell Quarter (highlighted in yellow on the plan) is proposed to be an unadopted, pedestrianised zone and therefore the apparatus in this area has been studied to assess the requirement for its relocation.

Eight statutory undertakers were confirmed to have apparatus within the search area, these are: National Grid; Northern Power Grid; Yorkshire Water; BT; Kcom; Virgin Media; City Fibre; and Vodafone.

The Coal Authority has also identified an area of past underground mining under Upper Hanover Street, Western Bank, Leavygreave Road and Favell Road.

The majority of the electric, gas and water apparatus running along Favell Road, Leavygreave Road and Hounsfield Road is likely to be relatively inexpensive to stop up or move. The only major cost may arise from the Northern Power Grid 11Kv cable which runs across Western Bank and down Favell Road and Leavygreave Road.

The C2 request results have identified a number of telecoms cables which run through the site. Relocation of any fibre optic cables is likely to incur the greatest cost. A C3 request would confirm whether the telecoms apparatus running along Hounsfield Road, Leavygreave Road and Favell Road would be expensive to relocate.

2.11 Topography and Density

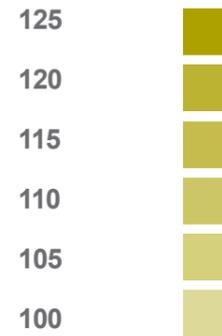
For a campus perceived to be on a hill, much of the external realm is relatively level. By strategically targeting access improvement to critical areas, the campus external realm can become accessible to all.

The topography diagram on the facing pages shows 1 metre contour ranges across the campus. This demonstrates that the gradients are relatively gentle within the Leavygreave area to the east and to the Concourse area to the west.

The most significant slopes within the campus are in the central Hounsfield and Favell area ranging from 103m AOD to 114m AOD over little more than 100m distance. This equates to gradients of between 1:10 and 1:15, and is not untypical of many streets in Sheffield. For context the minimum gradient within Building Regulation Part M Access is 1:20 over such distances, though the regulations would not be enforced in an existing natural streetscape condition such as this.

Nonetheless, in masterplanning the Hounsfield and Favell site there are opportunities to create access solutions within new buildings or the external realm to allow access for all across this part of the campus, and thus across all of the campus.

Topography
Contours at 5m intervals



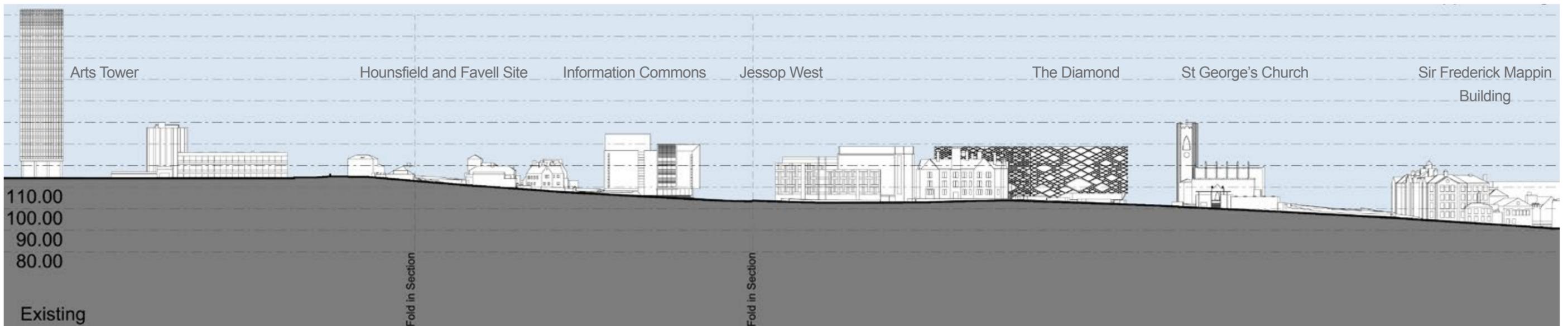
Building Heights



Topography
Contours at 1m intervals



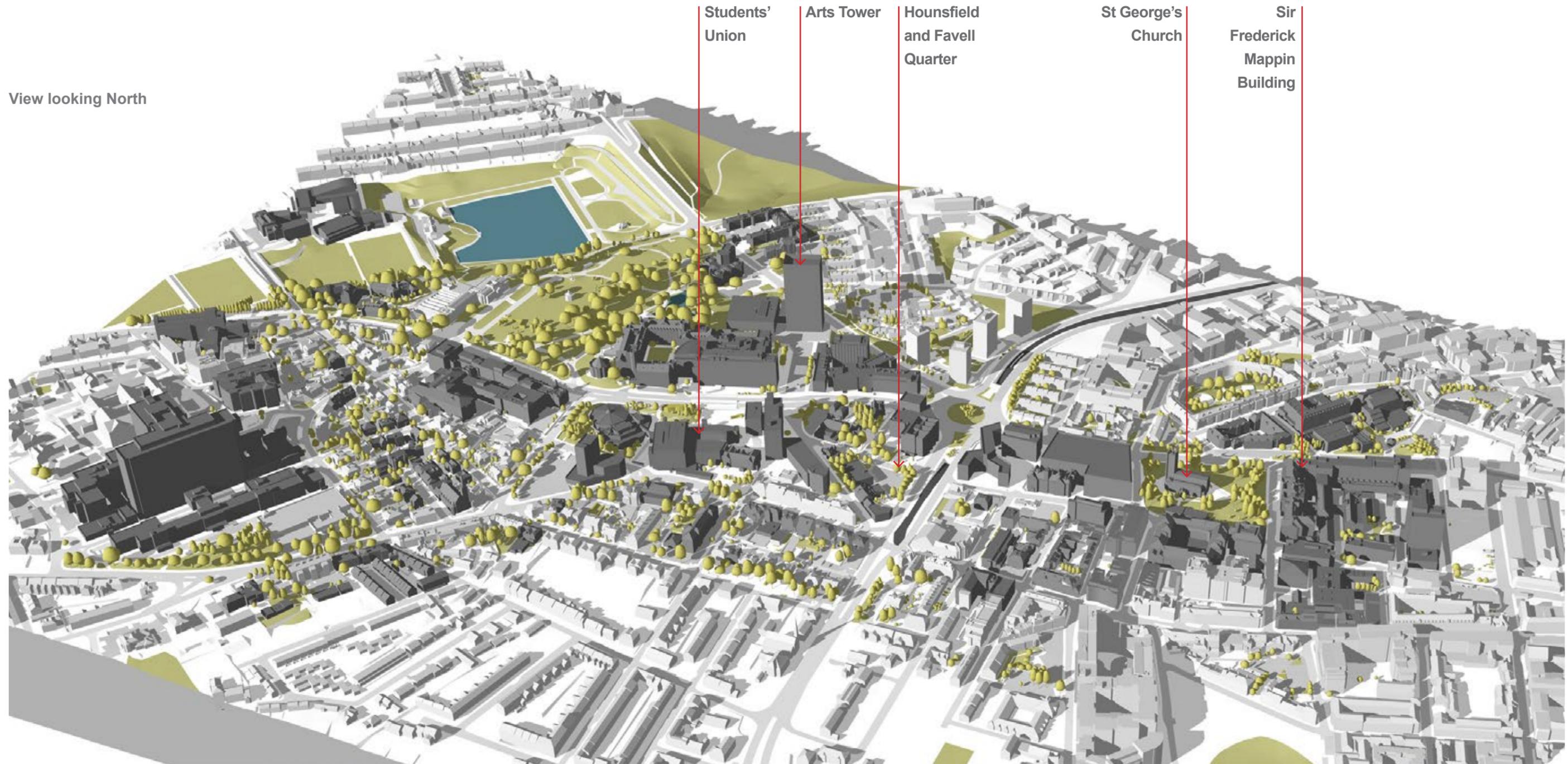
Section through the existing campus (along red line above)



2.11 Topography and Density

The 3d aerial views on this and the adjacent page illustrate the campus density. University buildings are highlighted by a darker grey tone, and key buildings are annotated.

The Hounsfield and Favell Quarter, also annotated, forms a central campus site, and is notable on these images for its low density compared to surrounding University areas.



Sir
Frederick
Mappin
Building

St George's
Church

Hounsfild
and Favell
Quarter

Arts Tower

Students'
Union

View looking South



2.12 External realm context

The University of Sheffield is a complex multi-site destination on the edge of the city centre severed by the ring road and Upper Hanover Street, and many of the key open spaces within the campus are dominated by car parking and vehicular movements. The central University estate has transparent campus boundaries, with multiple points of entry and exits with numerous front doors, depending on your mode of transport or approach from the city. As such the University estate has no clear identity or character within the city context, and this must be addressed.

The starting point for identifying opportunities and constraints within the public realm falls within 4 main areas:

1 Severed by infrastructure

Key pedestrian desire lines are made difficult to complete or are impassable due to highways infrastructure. The key desire line towards the Arts Tower is blocked by Western Bank, which is devoid of a designated crossing and made impassable by the concrete upstand within the central reservation. The key desire line from Leavygreave Road looking west is broken by Upper Hanover Street carriageway and tram infrastructure

2 Dominated by surface car parking

An analysis of the current surface car parks, exclusive of on street parking, located within the proposed key campus pedestrian zone, shows a combined total of 339 spaces. The Durham Street Car park will comprise 355 spaces after taking into account existing provision and Children's Hospital allocation. The release of surface car park land offers a prime opportunity as a catalyst for public realm spaces as well as for infill development opportunities.

3 Understanding pedestrian flows and concentration areas

Understanding the current pedestrian flows is key to unlocking the potential for future public realm improvements. The Diamond will support large scale teaching activity. Students and staff will travel hourly to the building in large numbers requiring improvements for pedestrians in particular to be made.

4 Inconsistent use of public realm materials

In addition to the eclectic range of buildings, the campus estate does not have a clear identity within the public realm. The lack of consistency in materials, street furniture and planting is further exacerbated by its location as an urban campus. Creating a distinct identity whilst fitting into its city context is a key objective for the Masterplan. No landscape and public realm strategy for the University exists yet is urgently needed to guide implementation over a phased approach to development.



Diagram showing the key pedestrian desire lines across Upper Hanover Street and Western Bank

SEVERED BY INFRASTRUCTURE

A

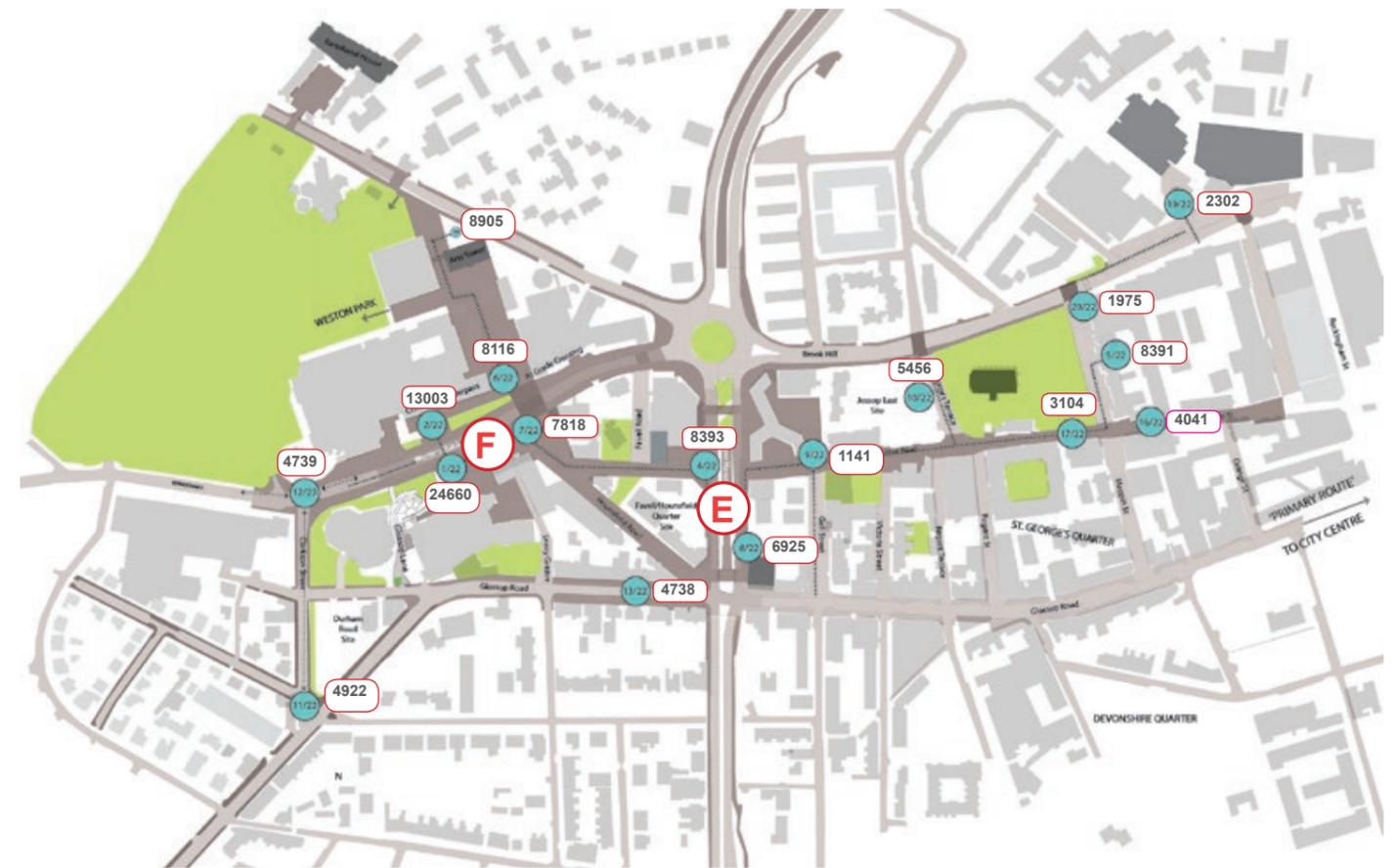
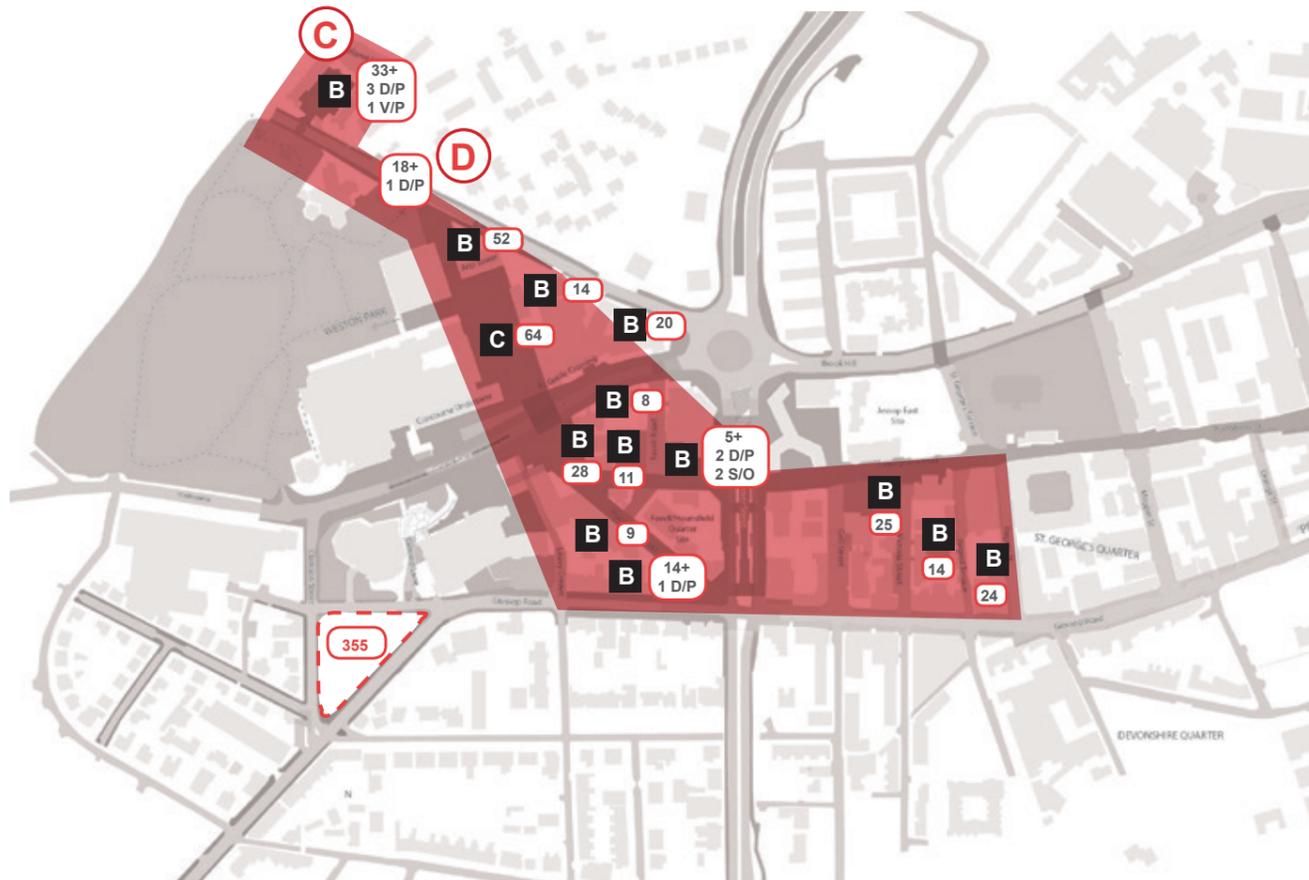
The key desire line from Leavygreave Road looking West across Upper Hanover Street is blocked by the Supertram infrastructure



B

The key desire line towards the Arts Tower is made impassable due to a lack of crossings and the concrete upstand in the central reservation





DOMINATED BY SURFACE CAR PARKING

C
Bartolomé House car park is identified as a prime opportunity for public realm improvement

D
The Geography Building car park interferes in the pedestrian link from the Arts Tower to Bartolomé House/ West Campus



UNDERSTANDING PEDESTRIAN FLOWS AND CONCENTRATION AREAS

E
Street clutter (railing, signage, pavement) and dog leg crossings interfere with pedestrian flow while prioritising the car user

F
Clutter and poorly detailed public realm lacks inspiration as one of the prime concentration points for pedestrian movement on campus





Google copyright for aerial image component

LOCATION OF UNIVERSITY TEACHING AND RESEARCH ACTIVITIES

Whilst the Hallamshire Hospital and Sheffield Children's Hospital are not owned by the University of Sheffield, we do have significant numbers of staff based in these two locations under long-term arrangements which is why they are included here.



PART 3

KEY STRATEGIES

3.1 Shaping a Response

It is essential for the University to continue to grow which it has clearly demonstrated over a long period of time. The transparent nature of the campus needs to be maintained and the boundaries of the campus must allow the opportunity to grow and continue to contribute to the economic regeneration of the city.

Based on this organic growth there is a need to ensure through the public realm the arrival at campus for visitors, staff and students. Visitors must recognise that they have entered into the campus through wayfinding and a distinctive public realm.

The previous section described the challenges that need to be overcome, and opportunities that should be taken towards meeting the Strategic Objectives and delivering a transformational Masterplan for the University of Sheffield Campus.

The response to these challenges and opportunities is summarised as follows:



IDENTITY

The campus lacks identity. The Masterplan must offer strategies that give coherence, consistency and legibility to the visual identity of the campus built environment and external realm. These qualities apply at all scales: the hierarchy of public spaces, the palette of materials, and the furniture and fabric that allows people to settle. The University delivers excellence in education, research and employment, and it similarly aspires to excellence in the visual identity of the campus.

INTEGRATION

In parallel to establishing an identity, there is a need to create coherent thresholds and gateways at the perceived edges of the campus. These should balance the needs for both continuity in the external realm and a strong sense of arrival at the University Quarter. The extension of the City Gold Route provides an excellent opportunity for the University Quarter to integrate with the City Vision.

COHESION

The campus lacks cohesion. The Masterplan should look to consolidate its estate via a consistency in the external realm combined with an activation of facades to certain buildings. New buildings could potentially align more with a consistent architectural identity. First and foremost the campus can be knitted together by improving crossings on Upper Hanover Street and Western Bank.

GROWTH

The Masterplan demonstrates that there is room to grow, with a significant opportunity to be found in the Hounsfield Favell Site. The foremost requirement for expansion is with the Science Faculty. The positioning of this Faculty at the centre of the campus would help to consolidate the east and west campus.

POSITIVE MOVEMENT

The experience of walking or cycling around the campus is not a positive experience. Car movement prevails, and the Masterplan must give maximum priority to redressing this imbalance. There are also opportunities to improve access to all in the Hounsfield Site.

A SUSTAINABLE CAMPUS

The design of the external realm can help to improve the environmental performance of the University in many ways: from making it easier to walk and cycle to implementing creative methods for reducing rainwater run-off. All opportunities should be considered.

GREEN SPACE

The Masterplan should look to maximise the potential of the existing green spaces on campus, particularly St George's Green. It should also maximise opportunities for new green spaces and other forms of greening the urban environment to help promote learning, well being and healthy lifestyles.

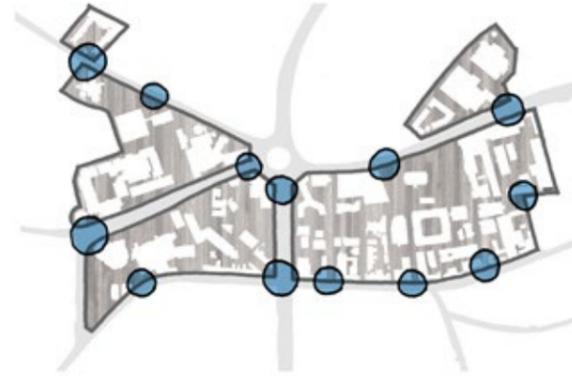
LEARNING SPACE

The campus external realm should comprise strategically located study-rich external environments, particularly to encourage cross-faculty interconnection. The character of these external study spaces can help to define what is unique about the University Quarter.



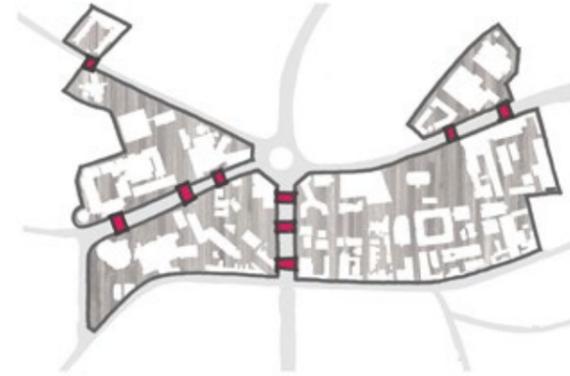
IDENTITY

A unified and identifiable external realm



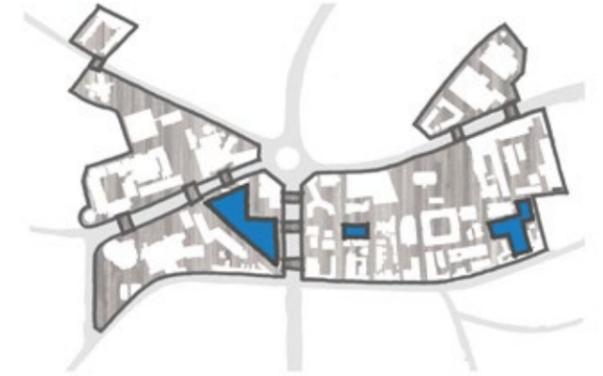
INTEGRATION

Positive gateways to the city



COHESION

Knitting together the campus



GROWTH

Defining development opportunities

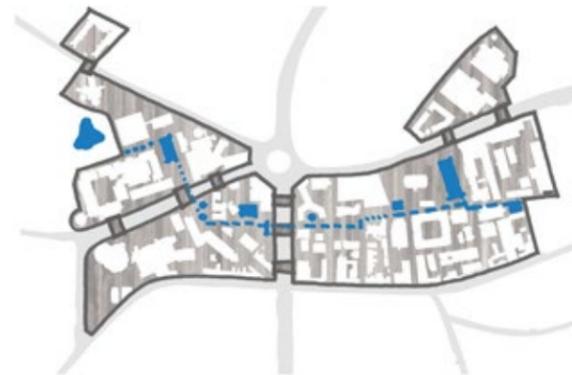
POSITIVE MOVEMENT

Pedestrian and cyclist connectivity



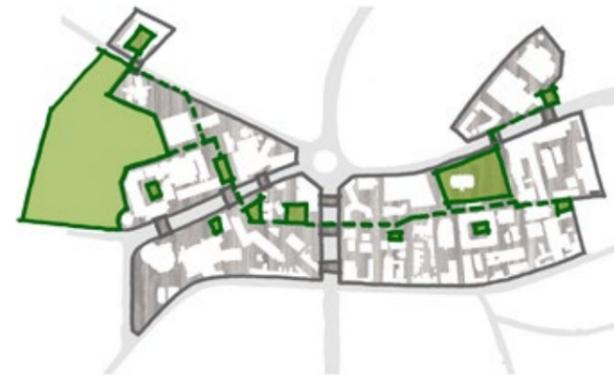
A SUSTAINABLE CAMPUS

A landscape character defined by sustainability



GREEN SPACE

A route defined by existing and new green spaces



LEARNING SPACE

Outdoor learning connecting teaching faculty



3.2 Concept

3.2.1 A LANDSCAPE LED APPROACH

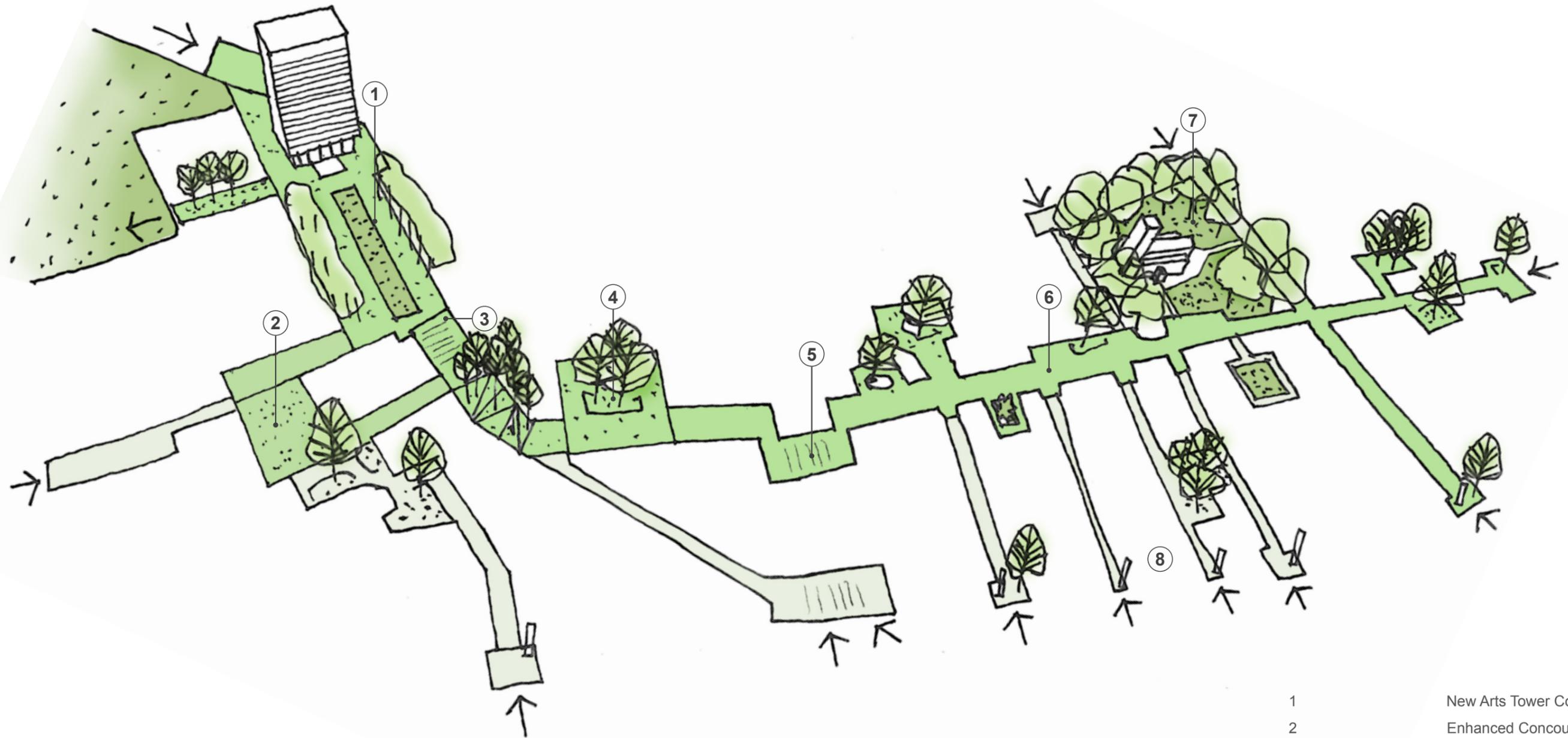
The Masterplan is underpinned by a landscape led approach which seeks to create a legible and coherent public realm – a seamless thread of streets, squares gardens and spaces – that will help to link together the east and west campus, and reveal the physical, cultural and lifestyle aspects of the University and to redefine the University experience for students, staff and visitors.

The concept is to better integrate the University with the city, to define a distinctive university quarter and to create one unified place providing a rich offer of high quality landscape and public realm to inspire learning.

The Masterplan strategies for the landscape have been developed to integrate the many factors that influence how public realm and infrastructure function and the benefits that they can bring to the University community and to Sheffield, to create a truly sustainable University neighbourhood which are fitting for their place. This Masterplan strengthens the urban environment through the creation of sustainable green spaces located across the campus.



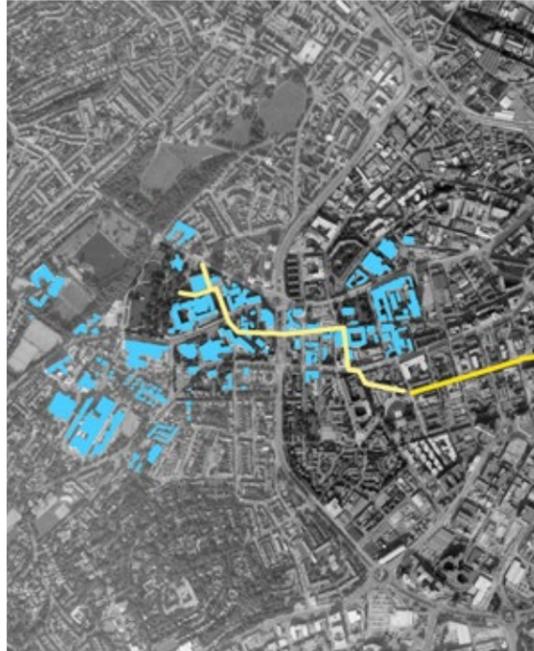
A SEAMLESS THREAD OF STREETS, SQUARES AND GARDENS
LINKING TOGETHER THE EAST AND WEST CAMPUSES



- 1 New Arts Tower Court
- 2 Enhanced Concourse
- 3 Crossings at Western Bank
- 4 New Public Space in Hounsfield Quarter
- 5 Crossing at Upper Hanover Street
- 6 Enhanced Leavygreave Road
- 7 Enhanced St George's Green
- 8 Enhanced secondary streets

3.2 Concept

3.2.2 KEY CONCEPT THEMES



UNIVERSITY GOLD ROUTE

To re-connect the east and west campus with an identifiable University Gold Route, running from St George's Church to the Arts Tower and Weston Park, continuing the principles of the City Gold Route and improving legibility of the campus.



PUBLIC SPACES

To create a sequence of coherent public spaces along the University Gold Route with a continuity of identity whilst also a variety of scale, character and activities. These spaces are essential within a research led university, creating the opportunity for serendipitous discussion between academics and researchers. This is particularly important where discoveries in research increasingly rely on interdisciplinary endeavour. Coffee bars, social spaces, places to meet are already provided within University buildings, but external spaces of this type simply do not exist on campus. These places also provide an opportunity to socialise, relax, study or just pause. The quality of the campus environment will be substantially improved with the provision of such spaces.



A SHARED SPACE

To consolidate the campus public realm as primarily a shared space, woven together by the Gold Route, with an emphasis on pedestrian and cycle movement. The public realm will be characterised by trees, planting, water, and sustainability, with strong thresholds marking the campus edge.



MATERIALS PALETTE

To unify the campus external realm with a consistent palette of landscape materials, furniture and lighting, that both identifies the University Quarter and integrates it with the wider City realm.

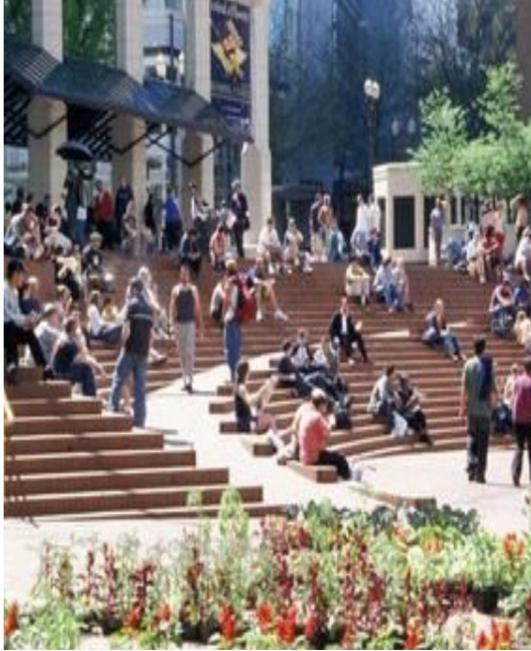


CONNECTIVITY

To create strategically located and visually prominent new crossings on Western Bank and Upper Hanover Street which enhance the Gold Route and improve cross-campus pedestrian and cycle routes.

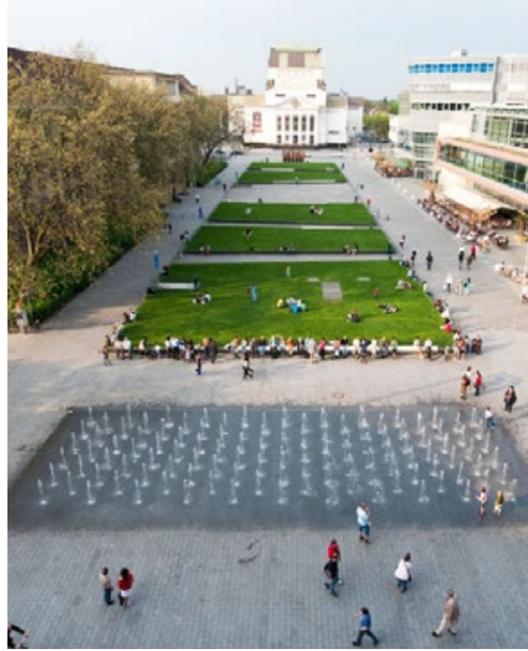
3.2 Concept

3.2.3 KEY SPACES



A CENTRAL CIVIC SPACE

To create a significant new public space that is central to the campus and on the Gold Route. The enclosure of new buildings will provide an activated edge to the space, optimum seasonal sunshine, shelter from wind and noise, and suitable floor area to meet University growth. This will be a key area for academics and students to meet and share interdisciplinary research ideas.



ARTS TOWER COURT

To transform the Arts Tower car park into a landscaped court, or plaza, that creates a suitable destination space for the University Gold Route, and a fitting setting to the Grade II * listed Arts Tower and Western Bank Library. Essential to delivering this plan is the pre-enabling of a University multi storey car park.



THE CONCOURSE

To substantially improve the public realm which experiences the highest pedestrian footfall across campus. Enhancing the public spaces underneath the flyover and celebrating the striking architectural features of the flyover to encourage this space to be utilised is essential. This space will enhance the connections to the University Gold Route by both a widened pedestrian route to the north of the Hicks Building and an activated ground floor frontage to the Alfred Denney Building.



LEAVYGREAVE ROAD (EAST)

To enhance the streetscape of Leavygreave Road by strengthening the building line with new buildings, introducing activated frontages, and creating focused public spaces along its route.



ST GEORGE'S GREEN

To maximise the benefits of the current St George's churchyard, the largest University owned green space, by improving protection from wind and road noise, and enhancing connectivity to Leavygreave Road and providing a public park which encourages use.

3.3 External realm character

3.3.1 IDENTITY / PAVING HIERARCHY

A consolidated and legible approach to paving will articulate the hierarchy of the public realm, reinforcing the distinct identity of the University whilst complementing the city public realm design.

The streets and spaces throughout the University estate differ in scale and function but the aim is to create a sense of unity through a common palette of hard materials and street furniture. The careful selection and use of all materials is essential to the success of the Masterplan and to reinforce a sense of place for the University Quarter. The proposed materials palette is intended to complement the guidelines and specifications outlined in the Sheffield City Council Urban Design Compendium whilst seeking to establish a unique identity for the University Quarter and to respond to environmental performance criteria.

The overall approach to the paving is to use a simple matrix of materials and colours. The application of this matrix shall reinforce the hierarchy and legibility of the University spaces, streets and routes, as well as work with the existing paving materials within the area. The design and layout of the public realm shall limit obstructions to pavements and routes by the removal of obsolete, duplicated or unnecessary items. The detailed implementation shall seek to co-locate items where appropriate and shall be managed to maintain a neat and uncluttered public realm.

Defining the key public spaces helps to focus the high quality materials in the Arts Tower Court, The Concourse, Firth Court and Hounsfield Square. The University Gold Route is treated as a key primary route, spanning from the east Leavygreave through the heart of the key public spaces towards the north west axis terminating at Bartolomé Court. A consistent backdrop of secondary routes helps to define the boundaries of the University identity whilst sensitively adjoining to the city boundaries.

It is proposed to use stone in a distinctive way to create a distinct identity to each space. For the key Public Spaces, special attention will be given to establishing a distinctive pattern of stone paving. Primary Routes will be treated with Yorkstone setts with granite kerbs and drainage channels. These will be of a high quality, muted character. Clay pavers with granite kerbs characterise Secondary Routes, whilst complementing the stone of the Primary Routes and Public Spaces.

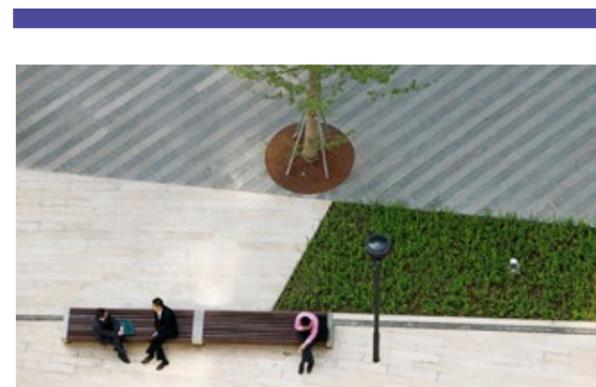
These principles will be detailed in a separate University Campus Design Compendium



KEY: PAVING HIERARCHY

- Public Spaces
- Primary Routes
- Secondary Routes

Public Spaces



Primary Routes



Secondary Routes



3.3 External realm character

3.3.2 IDENTITY / FURNITURE STRATEGY

Complementing the paving hierarchy, the furniture strategy seeks to provide unity and a distinct identity to the University Quarter.

To help reinforce the identity and distinctiveness of the University Quarter, a family of site wide furniture is proposed. The seats and benches are intended to be solid, simple and distributed round the campus in appropriate locations. All street furniture and signage shall be of a contemporary simple design that complements the overall University streetscape.

The Key Public Spaces are characterised by either a formal or playful approach. This helps to add richness to the spaces whilst responding to the particular character of the surrounding urban fabric. High quality yet understated site wide furniture will define the University Quarter without visually competing with its surrounding.

A palette of materials will be developed in order that the hierarchy of spaces can be defined across the campus.



KEY: FURNITURE STRATEGY

-  Formal
-  Playful - Social - Healthy
-  Site Wide

Formal



Playful - Social - Healthy



Site Wide



3.3 External realm character

3.3.3 IDENTITY / THRESHOLDS AND GATEWAYS

The University benefits from its urban setting and connectivity to the city fabric. Thresholds between city and University are defined by key moves on both the ground plane and vertical elements.

The landscape is proposed to highlight the main thresholds to the University Quarter – the points at which you feel you have arrived. The thresholds are conceived as a hierarchy of entrances and comprise a combination of specimen tree planting, the use of a large paved table top with quality paving and street furniture.

A primary objective for the Masterplan is to create a more integrated campus with effective pedestrian links between the existing Arts Tower environs and the University buildings along Leavygreave Road. A variety of safe and comfortable routes are proposed around and through the campus public realm to allow for permeability and a variety of choice. The use of paving and tree and shrub planting is used to highlight the main pedestrian and cycle entrances to the campus.

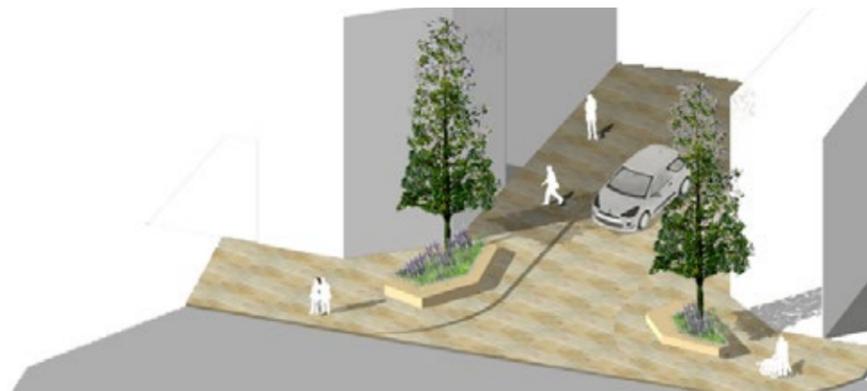
The Sheffield Gold Route is an important boundary edge along the east west northernmost axis of the University Quarter. The interface with Glossop Road is a key opportunity to announce the University interface. Spaces between buildings and road become points of orientation and wayfinding. Key Gateways define the outer boundaries of the campus and further emphasise the distinct character within the city fabric.

Strategic wayfinding shall be integrated into the streetscape to enable students, staff and visitors to orientate their way within the Quarter as well as aid an understanding of the relative distances to nearby open spaces, public transport and other destinations.



KEY: IDENTITY

-  Gateway Markers (major and minor): Combination of Landmark Tree, Paving, Wayfinding
-  Threshold Articulation: Continuous Line of Tree
-  SCC Gold Route Extension
-  Vehicular Gateway Markers



3.3 External realm character

3.3.4 IDENTITY / WATER

Celebrating the attenuation process of water in the urban environment is made visible and delightful.

The proposed surface water management strategy is integral to the Masterplan layout and function of the landscape and public realm. The proposed Sustainable Urban Drainage Systems integrates water collection, filtration, storage and distribution to maximise opportunities for reuse.

The key features at a Masterplan level include:

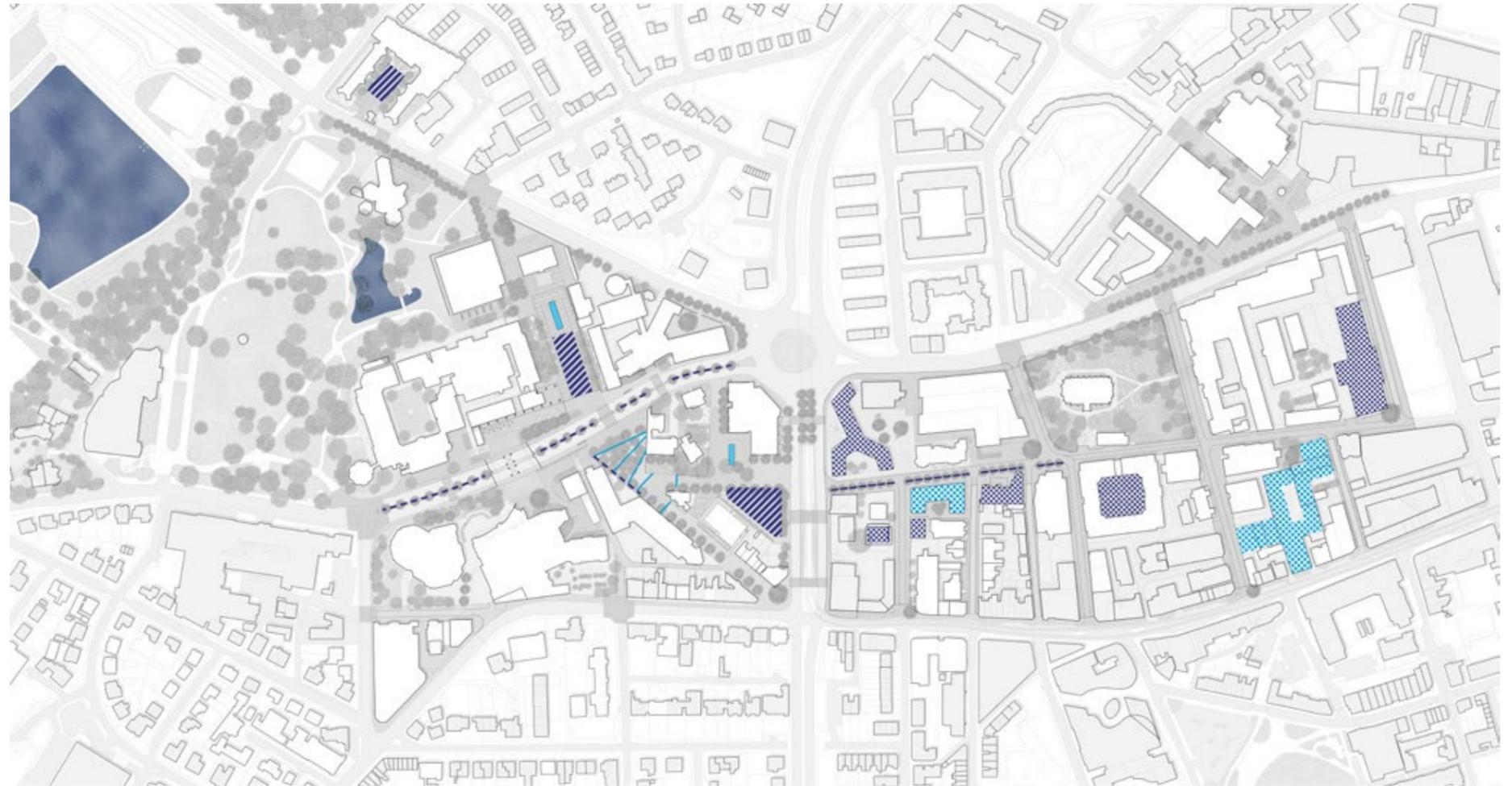
- Urban rain gardens and linear channels shall be incorporated within the public realm, particularly along Leavygreave Road and within the new University Square and Arts Tower Court, to increase the attenuation capacity of the streetscape and public realm. These features shall not be permanently filled with water but be planted to provide visual and habitat value to the public realm. Planting shall be selected to successfully establish within the wet-dry conditions that will occur.

- Porous paving shall be used where practically possible, typically under car parking bays in the general public realm rather than general highway. The siting of areas of porous paving shall be coordinated with existing utilities and trees. Porous paving may have to be tanked and allowed to discharge to the sustainable drainage system or sewer where the porosity of the soil is unsuitable.

- The use of vegetated roofs on any of the new development buildings of the Hounsfield Favell quarter to reduce the amount of run-off from the roofs.

- Formal water features are also a key ingredient in the public realm and an intrinsic part of Sheffield's steel industry heritage and identity, as well as bringing light, sound and life to a space. Amenity water features are conceived as being integral to each key public space with a variety of characters. These urban water features shall be designed to be robust, fit for their location and micro climate, and low maintenance. A static series of pools are proposed as a the focus to the new Arts Tower Court and an open recirculated rill is proposed to be integrated into the terraced public realm at the end of Hounsfield Road.

Collectively these systems form an important component of the landscape and public realm structure and also provide a potential learning resource and enhance the ecological value of the University estate.



KEY: WATER



Below Ground Attenuation System



Storm Water Planters



SuDS Attenuation



Existing Green Roof



Proposed Green/Biodiverse Roof



Amenity Water Feature



Existing water



3.3 External realm character

3.3.5 IDENTITY / PLANTING

The overall planting strategy will create a strong identity for the University Quarter, building on the title of ‘England’s Greenest City’ and making it a unique part of Sheffield, as well as bringing social, economic and environmental benefits to the University and city.

The groups of existing trees within the estate are recognised as an important and valuable asset of the University and the local visual amenity of the city. The Masterplan seeks to retain as many of the existing trees as possible and to integrate the trees positively within the overall layout. Trees of particular landscape value within the site are located in St. George’s Green as well as in the proposed Hounsfield Development Site. Redeveloping and redesigning the public realm will on occasions require the removal of existing trees. The University will commit to replacing at a minimum any removed trees on a like for like/number basis. It is more than likely that this number will be exceeded with the investment in park and public spaces as part of this Masterplan. New trees and shrub planting will compensate for the loss of any trees by greatly improving the diversity of age and species mix.

A key component of the redefined streets and new spaces for the University will be the planting of strategically placed specimen trees in key locations through the campus. Trees will be selected to enhance the skyline and create new landmarks for Sheffield. Groves and individual trees shall be incorporated within squares and at key locations through the estate to break up the urban grain and act as local features and points of reference. These distinctive tree groves / individual specimen trees will create a strong identity to the external spaces offering shelter, a meeting or seating space and educational opportunity. Where possible, the presumption shall be to plant forest-scale trees inspired by the wider Peak District landscape of Sheffield. ‘Forest-scale’ refers to large scale trees that are suitable for an urban context and representative of local climax woodland species. This approach will maximise the tree canopy cover and shade provided by trees in the area, as well as an overall greater provision of ecosystem services.

Living roofs shall be encouraged on any new development for user access and visual amenity, as well as a good resource for invertebrates, birds and bats.

The intent is that all public realm areas should support the greatest variety and quality of habitat types that are both viable and appropriate, to create an overall integrated green aesthetic and provide significant urban wildlife habitat and other ecosystem services.



KEY: TREES, PLANTING & VEGETATED ARCHITECTURE

- | | | |
|--|---|--|
|  Existing Trees |  Lawn |  Vegetated Walls (climbers) |
|  Avenue and Street Trees |  Shrubs and Flowering Plants |  Proposed Green Roofs |
|  Flowering Trees |  Seasonal Meadow Planting |  Existing Green Roofs |
|  Landmark Tree Groves |  Storm Water Planters | |
|  Tree Clusters and Groves | | |

3.3 External realm character

3.3.5 IDENTITY / PLANTING



AVENUE AND STREET TREES

Avenue trees help create a unified and distinct character to key routes: Western Bank and Leavygreave (Gold Route Extension).



FLOWERING TREES

Flowering trees are strategically placed within the key public spaces to bring an element of colour and seasonality.



LANDMARK TREE GROVES

Landmark trees help to punctuate the thresholds and gateways into the University by their scale and character.



TREE CLUSTERS & GROVES

A key opportunity to establish a striking grove of trees emerging from a stepped access up to Western Bank will help frame the Arts Tower whilst strengthening its axis and desire line.



LAWNS

To create strategically located and visually prominent new crossings on Western Bank and Upper Hanover Street which enhance the Gold Route and improve cross-campus pedestrian routes.



SHRUBS & FLOWERING PLANTS

An opportunity to create identity to areas of green public realm, allowing for seasonal interest and structure.



SEASONAL MEADOW PLANTING

The opportunity to build upon the Landscape Department's work in meadow planting is particularly suited to St. George's Green.



STORM WATER PLANTERS

To consolidate the Concourse and Students' Union spaces, and give them enhanced connections to the University Gold Route by both a widened pedestrian route to the north of the Hicks Building and an activated ground floor frontage to the Alfred Denny Building.



VEGETATED WALLS (CLIMBERS)

If green walls are feasible they will provide an opportunity to introduce green space in vertical environments where planting is particularly constrained



GREEN ROOFS

The existing green roof provision will be further strengthened by future development as this Masterplan is developed out.

3.4 Transport and Infrastructure

3.4.1 INTEGRATED TRANSPORT

Key to resolving transport and infrastructure challenges is an integrated design approach, taking into account the complexities and overlapping needs of the University Campus.

The aim of the Masterplan is to transform the University campus to a pedestrian / cycle friendly space whilst maintaining the historical elements of the campus. It is proposed that vehicular access through certain areas of the University is to be limited, with non motorised vehicle routes making up a vital part of the infrastructure through the campus.

An integrated approach to transport has taken a holistic view of the existing opportunities and constraints on campus. Broadly, these can be summarised in the following categories:

1. Understanding pedestrian and cycle flows and concentration points on campus
2. Understanding the public transport links
3. Resolving the divide created by the two highways bisecting the campus and creating a positive pedestrian environment. Each of these highways have their own particular set of challenges to resolve and opportunities to exploit, however, both will as a principle share the following elements:

- Prioritising pedestrian movement
- Dedicated pedestrian crossings at key locations anticipating an increase in pedestrian footfall related to current and future developments
- Alignment of crossing points to be direct and generous, eliminating staggered crossings
- Reduction of clutter to enhance clarity and heighten driver responsibility
- Widened pavements where the opportunities to do so exist
- Breaking down the scale of the highways with vertical elements
- Unified material selection to help define the main pedestrian routes
- Integrated material strategy with the city for road surfaces



KEY: BUS ROUTES

EXISTING PUBLIC TRANSPORT

- █ Bus no. 10
- █ Bus no. 52
- █ Bus no. 51
- █ Bus no. 95
- █ Bus no. 70, 120
- Supertram

PROPOSED PUBLIC TRANSPORT

- - - Bus no. 95 Proposed Option
- - - Bus no. 51 and 52 Proposed Option

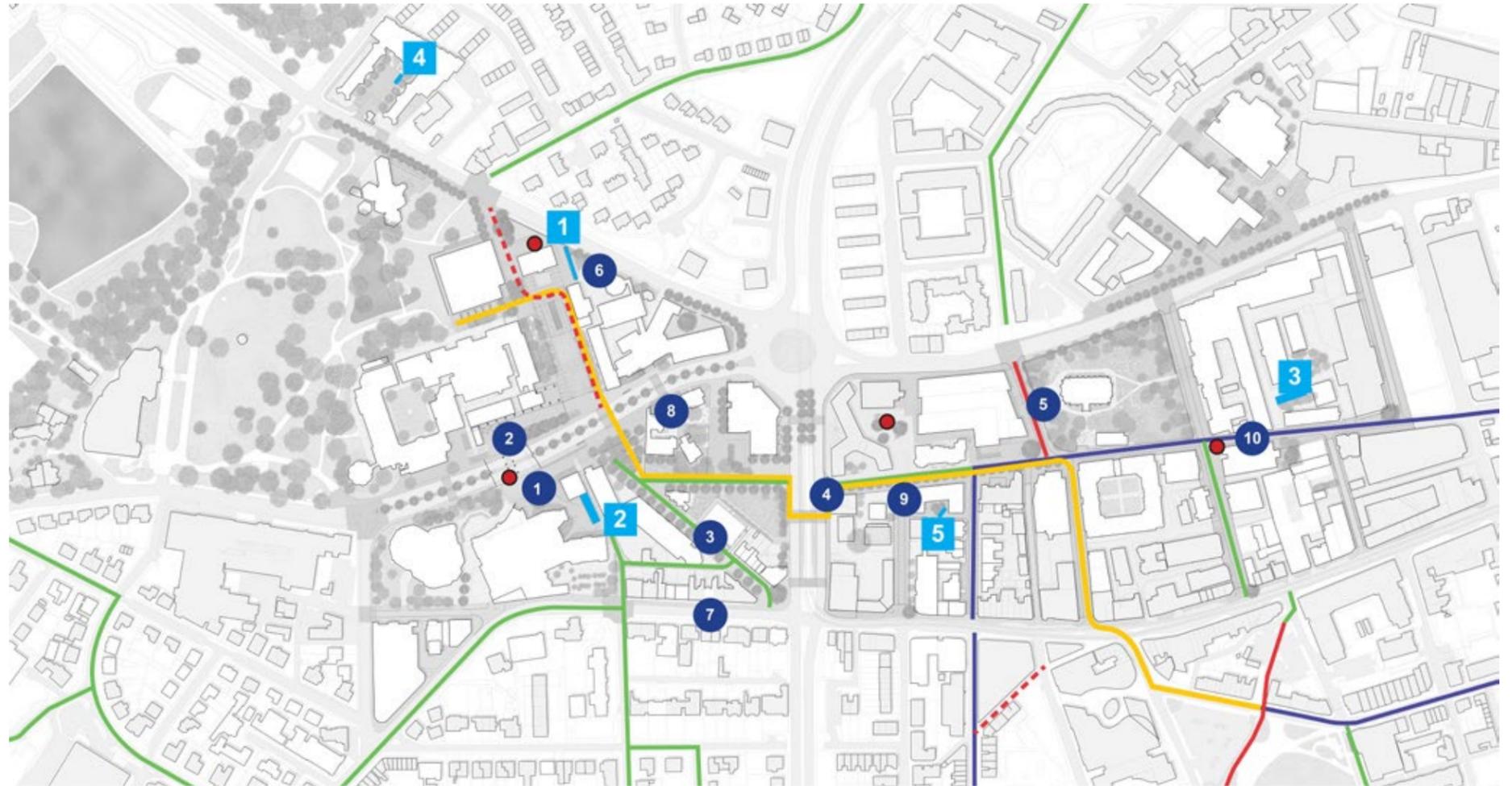
3.4 Transport and Infrastructure

3.4.1 INTEGRATED TRANSPORT

4. Identifying opportunities for development and public realm within current surface car parks

5. Integrated cycle strategy and cycle storage

The greatest opportunity to improve the experience of the campus relates directly to pedestrian access improvements. Current crossings are often overloaded. Safety is a significant concern as well as the improvement required to make the campus a better experience.



KEY: CYCLE ROUTES

PROPOSED CYCLING

3 Covered Cycle Storage

University Gold Route

EXISTING CYCLING

Signed Cycle Route

Advisory Cycle Route

Traffic Free Route

Pedestrian Area

9 Ranking of Cycling Statistics*

*Source: University of Sheffield Draft Travel Plan Strategy

Existing Cycle Storage

3.4 Transport and Infrastructure

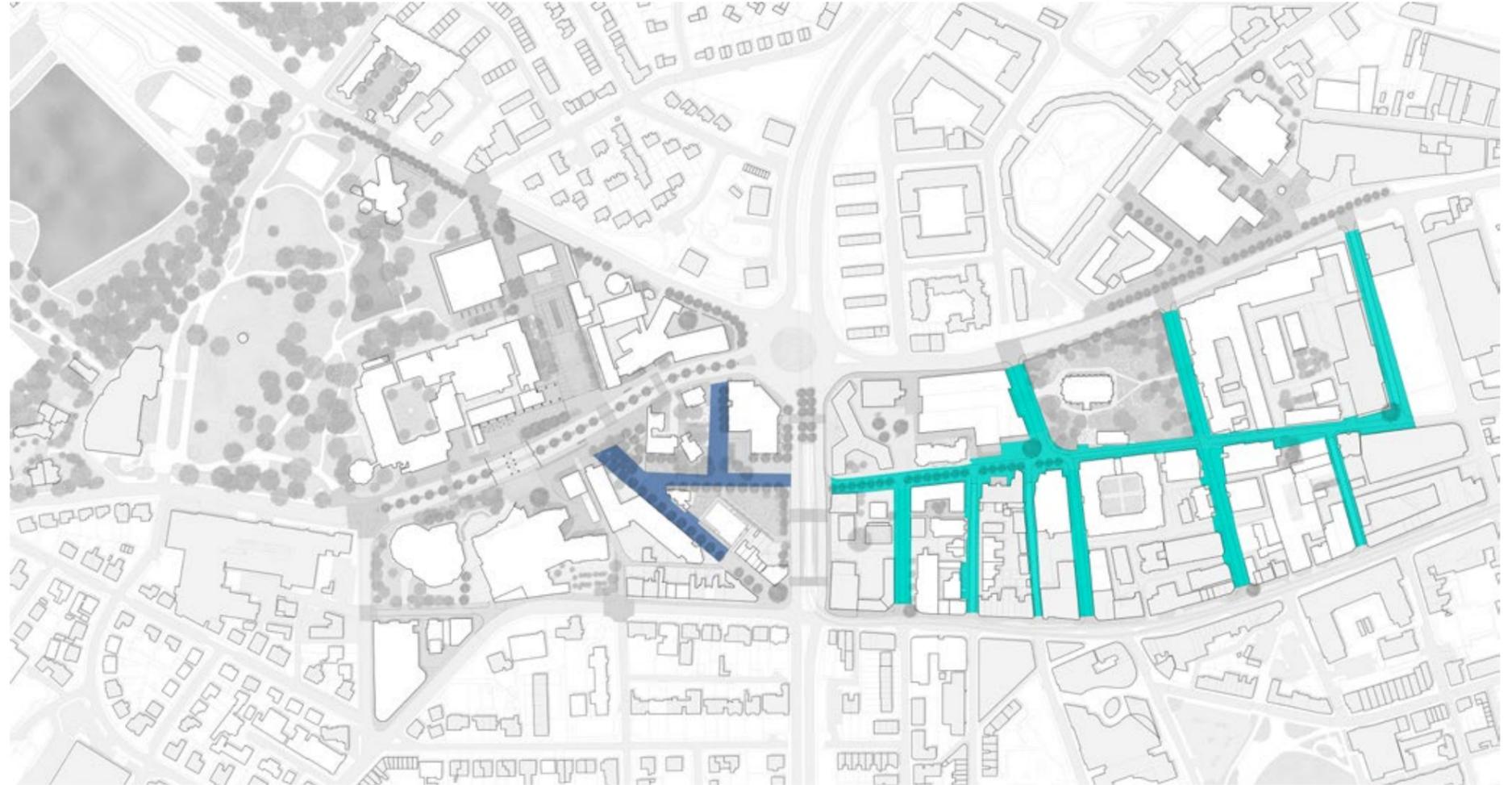
3.4.3 SHARED SPACE

To support and promote a pedestrian priority campus, a clear strategy for on street parking is required.

The routes shown are all under 8 minutes walk, indicating the potential for promoting and implementing a pedestrian prioritised university campus. In addition to the Durham Road car park to the west the parking for the campus to the east can be serviced by the Rockingham Street multi-storey car park (QPark).

On-street parking is controlled by the Sheffield City Council and as such is not shown in the adjacent diagrams. It is acknowledged that in order to release areas for public realm improvements, loss of on-street parking will result. Initial consultation with Sheffield City Council has confirmed that the loss of revenue from on-street parking will be offset by the reduction in maintenance costs in these areas and the enhanced improvements of the quality of public realm environment. It is also recognised that the change of priority in the area to pedestrians will encourage more pedestrian users and therefore over time reduce the demand for parking within this area.

The benefits in the improved public realm environment are significant, encouraging healthy lifestyles, community interaction and general enjoyment of the campus grounds.



KEY: PROPOSED ROAD CLOSURES

-  Long term: Existing adopted street to be unadopted and transferred to the University campus public realm. Upgraded high quality shared space public realm with service and disabled vehicle access only. Existing parking spaces removed.
-  Existing street upgraded to high quality space street design principles. Existing parking spaces removed.

3.5 A Sustainable Campus

The University's Masterplan aims to make a positive contribution to the city's sustainable development through investment in high quality architecture and built environment, creating facilities that are robust and adaptive.

Although Sheffield is the greenest city in the UK, the University campus is a city centre location which is challenged in terms of space and promoting biodiversity. Despite these constraints, the Masterplan aims to reduce the impact of traffic with a view to improving pedestrian and cycle access and movement. Key strategic developments that consolidate and minimise demand for parking will liberate valuable external spaces and routes that are at the heart of the campus. Quality green infrastructure will be used to create stronger place identity and affinity for the campus open spaces.

These enhanced spaces present a unique opportunity to begin to address some of the challenges imposed by climate change. Providing planting and water features within the campus will positively contribute to this agenda which is so important to both the University and to the world we live in. They will help to reconnect established green spaces, minimise hard, impermeable surfaces and increase habitat diversity and storm water attenuation. New plantings will be designed to help the University deliver on its biodiversity action plan.

As one of the country's leading research intensive universities, the creation of public spaces which support the social needs of the University's diverse community is vital. Developing and investing in our campus biodiversity and green space promotes environmental and institution performance as well as providing a welcome to the wider community.

The University is dedicated to meeting the HEFCE 2020 carbon reduction targets. The University's 2012 Energy Strategy sets out how a reduction of 19,000 Tonnes, nearly 50% of total emissions, can be achieved by 2020 via self-generation, building design and behaviour programmes.

The University campus is an urban community and should embody all the characteristics of a truly sustainable community. Energy use is at the core of this; however the design of the campus external realm can and will significantly contribute to the overarching sustainability of the campus.

The eight 'pillars' of a sustainable community can be described as follows:

1. Climate Change and Energy

The University has a commitment to achieving the HEFCE carbon emission reduction targets of 43% by 2020, and 83% by 2050, based on a 2005 baseline. The 2012 Energy Strategy by Arup recommends a delivery framework to achieve these targets and implementation is ongoing. Central to this framework is the delivery of:

- CHP Energy Centres, with maximum benefits to be found from connection to the Veolia District Heat Network
- Off-site wind turbines and building integrated solar photovoltaic implemented in a pragmatic and appropriate manner

Within the design of the external realm there are many opportunities to both adapt to and reduce climate change. Section 3.4 of this report describes opportunities for reducing flooding via water attenuation in the design of sustainable drainage systems (SuDS), green roofs and other drainage features.

2. Community

In social, commercial and cultural terms, the University is a thriving and sustainable community underpinned by learning and research. The positive aspects of mixed-use communities, with social interaction supporting social economy and structure, are already in abundance. The University is also a permeable and wide reaching community that benefits the wider community of Sheffield City and vice versa. The Masterplan looks to build on these foundations, promoting more mixed uses in the heart of the campus, and improved physical, social and cultural links to the city.

3. Place Making

A sustainable community needs spaces that are inclusive, adaptable, secure and create wellbeing. These spaces need to reflect and express the identity of their community so that their users feel both a sense of belonging and ownership. In doing so, these spaces promote social ease and connectivity which is at the heart of all successful communities. First and foremost this Masterplan is intended to make such places: to relax, play, learn and be social.

4. Buildings

The BREEAM assessment is the building industry standard for benchmarking the environmental and sustainable performance of new and refurbished buildings. The wide range of performance criteria includes energy and water consumption, renewables, management, health and wellbeing, waste and pollution, material sourcing, transport and lifecycle costing. The University has a commitment to achieve BREEAM excellent

for all new buildings and significant refurbishment projects. It is inevitable that the University will need to consider new building opportunities, alongside rationalisation of existing buildings, to meet future growth in student entries and research activity. The design of new buildings should look to reduce both the energy embodied in their construction, and the energy consumed in their operation. Refurbishment projects should look to improve lighting, heating, cooling, ventilation and the thermal performance of the building fabric. Both new build and refurbishment projects offer opportunities to challenge existing practices in terms of spatial use and efficiency; for example maximising opportunities to share facilities rather than unnecessarily duplicate them.

5. Transport and movement

The focus of the Masterplan is to create a University campus environment designed around the pedestrian and cyclist experience, served by well-located public transport links. This can in part be achieved by creating shared spaces in Leavygreave, Hounsfeld and Favell by replacing vehicles and parking with serviceable pedestrian streets and more open public space. More critical perhaps to encouraging pedestrian movement across the campus, and between the campus and city, is the transformation of pedestrian crossings on Western Bank and Upper Hanover Street. The Masterplan hinges on the need to shift priority on these roads from vehicles to pedestrians by implementing wide, direct and continuous crossings on both.

6. Ecology

The University published the Biodiversity Action Plan in January 2013, which aims to protect and enhance the biodiversity value of the University's estate. The Masterplan should be read in conjunction with this comprehensive document in the development of more detailed proposals for the external realm and new buildings. The ecology of a sustainable, urban community should be conserved, enhanced and celebrated. The campus is generally perceived as a green quarter of the city, and the Masterplan looks to enhance and extend this identity across all of the campus. Section 3.4 of this report illustrates recommendations for trees, green ground and green architecture, and how the varied palette of these existing and new elements will define the varied campus spaces. Detail design of certain spaces might consider opportunities for food growing which is becoming increasingly popular in student communities elsewhere in the UK.

3.5 A Sustainable Campus

7. Resources

In a sustainable community all resources should be regarded as scarce. The key relevance to this Masterplan is that lean-thinking should be applied to the sourcing of materials and use of water in both the construction, and operation, of buildings and landscape. Materials should be specified responsibly from sustainable sources, should have an embodied energy that is balanced appropriately with their life-cycle, and should wherever possible be recycled, either whole or in their constituent parts. The design of the external realm should also contribute to work being done by the University on reducing waste and promoting recycling, with sorting bins located strategically across the campus.

8. Economy

A sustainable community needs a strong, local, self-sufficient mixed-use economy. The primary industry of the University community is the provision of learning and research, which is inherently robust in commercial terms. In terms of a holistic sustainability, the University community is all the more robust for its continuing interaction with local industry, business, retail, service and leisure activities. The Masterplan supports a balance of academic and other mixed uses in the campus, and the mutual benefit of trade with the wider community.

Energy Strategy 2102 by Arup

This report should be referred to directly for its detailed analysis and recommendations. In terms of the Masterplan, the following recommendations are made with regard co-ordinating the external realm and building works with implementing the Energy Report recommendations.

The implementation of external realm improvements creates an ideal opportunity to reduce the cost and disturbance of infrastructural projects recommended in the Arup 2012 Energy Strategy; by essentially undertaking the below ground works whilst the external surfaces are being replaced. These works may include extending the Veolia District Heat Network to more University buildings, the introduction of a District Cooling network, or other network and service upgrades. The external works projects provide an opportunity to strategically review systems for accessing and upgrading existing below-ground services, towards minimising cost and disruption from future servicing and upgrades.

The Arup report also makes recommendations for future CHP installations across the campus (as shown on the adjacent campus plan) with maximum benefits gained from connecting these to the Veolia District Heat Network. As above there is an opportunity to coordinate the implementation of these energy centres with works to the external realm and the delivery of new buildings.



- Buildings on Veolia District Heating Network
- University Buildings not on etwork
- B CHP Energy Stations
- * Proposed:
- A. Goodwin Centre Car Park
- B. Management School Car Park
- C. Chemistry Building Car Park
- D. Site Adjacent to Information Commons
- E. Site to West of ICoSS
- F. North Campus Car Park
- Existing:
- G. Broad Lane Boiler House



PART 4

A MASTERPLAN FOR THE UNIVERSITY

4.1 The University of Sheffield Masterplan

Unlocking the public realm potential and creating a coherent and legible urban campus.

The University of Sheffield Masterplan represents a major opportunity to enhance the identity and success of the University and the wellbeing of the students, users and visitors. The overriding aim of the Masterplan proposals is to make people feel good about the place in which they live, work and relax.

One of the key issues to be resolved by the Masterplan is to reconcile a sense of place, the needs of people, and the requirements for vehicular movement and access. Fundamental to achieving the long term plans of the University is the need to reduce the dominance of the roads and infrastructure, particularly Western Bank and Upper Hanover Street, and to completely transform the quality of pedestrian movement between Leavygreave Road through to the Arts Tower. To overcome the dominance of the infrastructure, an integrated approach to transport and movement is required, reconnecting the streets and spaces, and revealing and refashioning the place as one coherent University plan and one unified place.

One of the key moves to unlocking the potential of the University is to redefine the extent and quality of the landscape and public realm within the University estate environs; bringing under-utilised spaces, areas of car parking and roads into the University's public realm and enriching these spaces and routes with programmes such as new University squares and courts, productive gardens, rain gardens and green infrastructure.

A legible and coherent public realm strategy will help to link together and reveal the physical, cultural and lifestyle aspects of the University. This strategy involves greening, water management, University gardens, wildlife habitats, pedestrian and cycle friendly streets less dominated by cars.

An enhanced and extended public realm and sequence of landscape spaces across the estate will create a richer canvas for University life and promote enhanced learning possibilities.

To determine the most appropriate option to develop University Square a development framework for the Science Faculty has been commissioned. This is expected to report late in 2014.

Proposed projects:

01 BARTOLOMÉ SQUARE

A green square within a historic context

02 GEOGRAPHY FORECOURT/PEDESTRIAN LINK

03 ARTS TOWER COURT

A landscaped court and destination space within the University Gold Route, whilst providing a fitting setting to the Arts Tower and Library.

04 WESTON PARK LINK

Improved access and connection to significant adjacent park

05 FIRTH COURT

Enhanced and upgraded University entrance

06 WESTERN BANK

Urban Design and Infrastructure project to reinforce the North/South campus link

07 THE CONCOURSE

Enhanced connective space with new paving, lighting and active frontages

08 DURHAM ROAD PUBLIC REALM

09 STUDENTS' UNION GREEN

A green terrace and bicycle storage area

10 UPPER HANOVER STREET

Urban Design and Infrastructure project to reinforce the East/West campus link

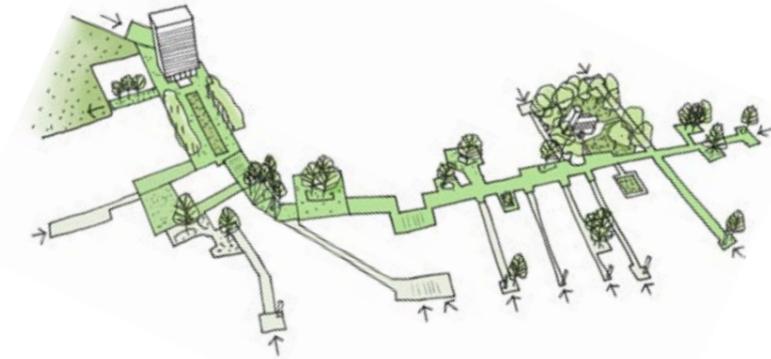
11 SECONDARY STREETS

Gateway into the University with gradation of shared space strategy links to Leavygreave Road

12 INFILL DEVELOPMENT SITE

Future development opportunity

13 GLOSSOP ROAD/CITY GOLD ROUTE



14 LEAVYGREAVE ROAD/THE UNIVERSITY GOLD ROUTE

Enhanced streetscape of Leavygreave Road: new buildings strengthen the edge by introducing activated frontages and creating focused public spaces along its route

15 NORTH CAMPUS

An integrated North Campus by upgrade of routes by connecting residential accommodation through to Broad Lane

16 ST GEORGE'S

Enhanced St George's churchyard, the largest University owned green space: improved protection from wind and road noise, and better connectivity to Leavygreave Road

17 THE DIAMOND PUBLIC REALM

Paving forms part of the Leavygreave Shared Space

18 UNIVERSITY SQUARE, HOUNSFIELD

Creating a new public space central to the campus and on the Gold Route Extension.

19 UNION OF STUDENTS' UNION AMPHITHEATRE

Current Development

20 DURHAM ROAD CAR PARK

Current Development

A multi-storey car park: catalyst for reducing surface parking and promoting pedestrian movement on campus

21 THE DIAMOND

Current Development

22 NEW SOCIAL SCIENCES BUILDING

Relocate departments to a new building adjacent to the Management School facilitating growth and releasing accommodation for the Faculty of Engineering

23 REDEVELOPMENT OF SPORT SHEFFIELD

Replacement of sports facilities at Sport Sheffield and expansion; additional artificial grass pitches at Norton

24 EXPANSION OF AMRC

Development of AMRC2 at Sheffield Business Park, initially with Factory 2050

4.1 The University of Sheffield Masterplan



4.2 Phased Projects

A strategy for the phased delivery of projects will enable the Masterplan to be understood within the context of current and proposed developments.

The proposed phasing strategy carves out the key public realm projects of the Arts Tower Court, the Concourse, Leavygreave Road, St George's Green and The Diamond public realm within the first tier of 0 to 5 years. The development of University Square with the Hounsfeld/Favell Quarter is a key component. These early wins are thought to be achievable as they rest within the current ownership of the University. One exception to this is the proposed crossings across Western Bank, which will add considerably to the safety and experience of campus users and should be adopted as soon as possible.

An outline planning consent to redevelop the Hounsfeld / Favell Road area will be necessary. This will allow early adoption of the pedestrianised scheme for the area and the removal of car parking which creates significant issues for people movement in this area. The opportunity to develop an early version of a public square within the area will add considerably to improving the experience of the campus.

The development of Hounsfeld University Square in the Hounsfeld/Favell Quarter will be begun as soon as possible to address both the poor quality environment and provide the necessary outdoor meeting space, (possibly known as University Square), in a second strategic phase of 5 to 10 years. This development will link the Arts Tower Court via Western Bank and St George's via Upper Hanover Street in a much more coherent way significantly improving movement and the experience of pedestrians and cyclists across the campus.

It is proposed that North campus, Bartolomé Square and the secondary streets adjacent to Leavygreave Road are integrated within the third strategic phase of 10 years plus.

TEMPORARY IMPROVEMENT WORKS

HOUNSFELD SITE
MAPPIN STREET

1-2 YEARS

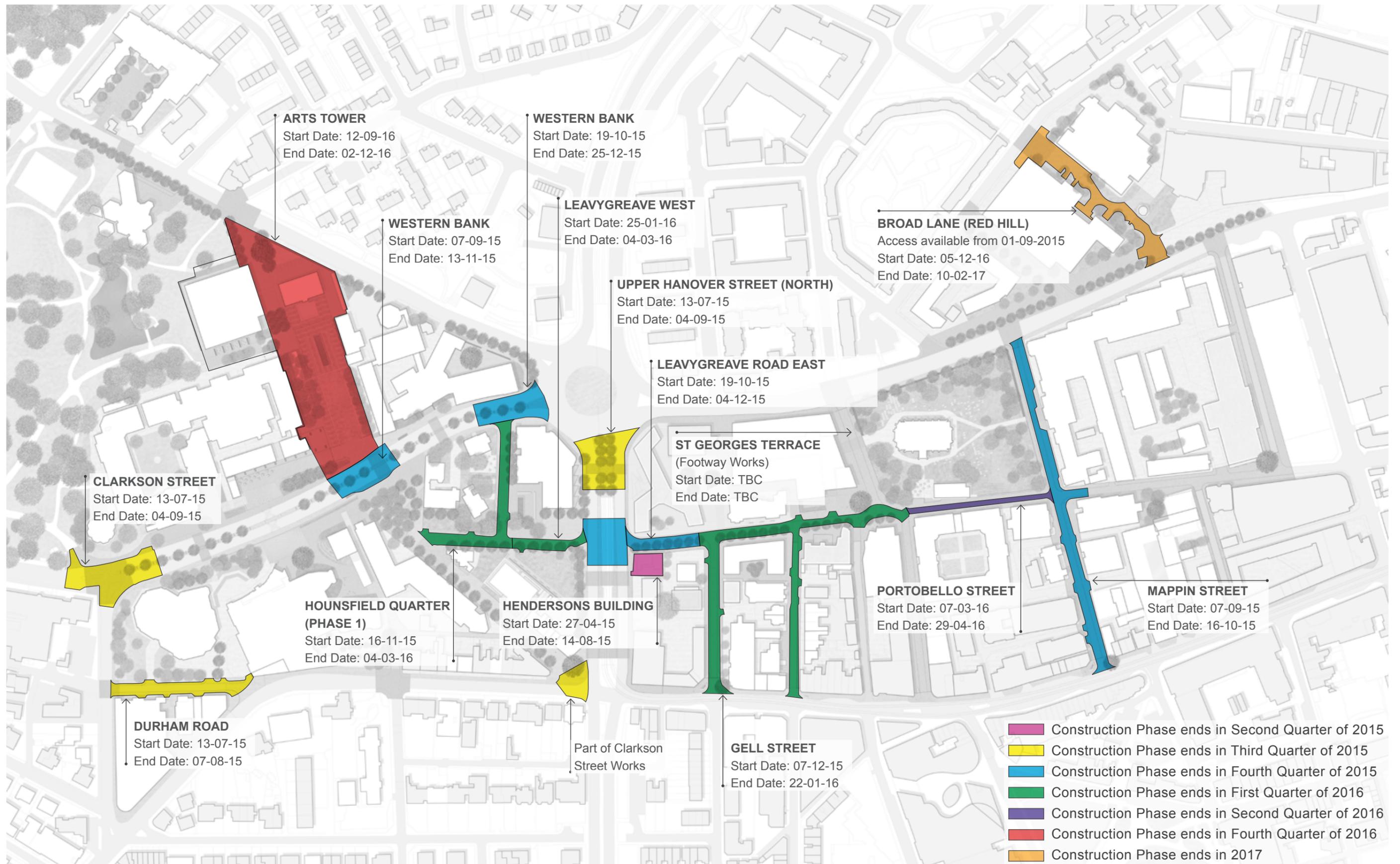
WESTERN BANK AND UPPER HANOVER STREET
HOUNSFELD LINK
LEAVYGREAVE WEST
DURHAM ROAD CAR PARK
VICTORIA STREET
ARTS TOWER COURT

3-5 YEARS

FIRTH COURT
THE DIAMOND PUBLIC REALM
LEAVYGREAVE/REGENT STREET AND ST GEORGE'S TERRACE
ST GEORGE'S GREEN
FORMATION OF UNIVERSITY SQUARE (HOUNSFELD SITE)
WESTERN BANK

5-10 YEARS

BARTOLOMÉ SQUARE
DURHAM ROAD PUBLIC REALM
GELL STREET AND REGENT TERRACE
MAPPIN/ORANGE STREET INFILL DEVELOPMENT
LEAVYGREAVE EAST AND ROCKINGHAM STREET
BROAD LANE AND NORTH CAMPUS



4.3 Development Options for Hounsfeld Site

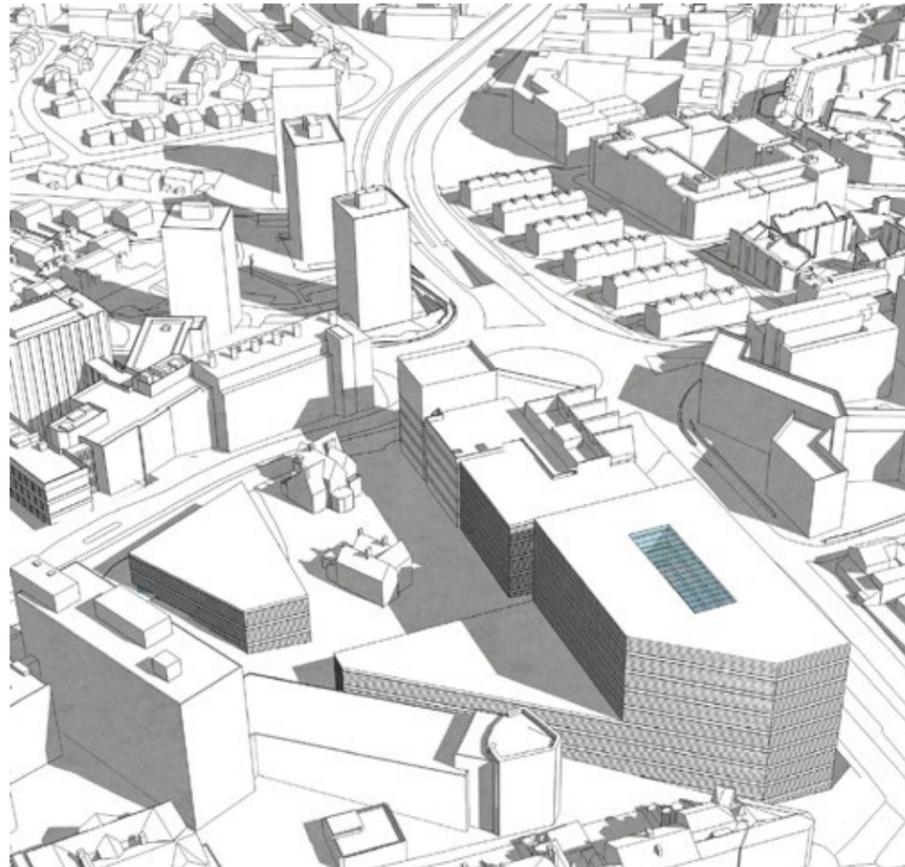
The diagrams describe a range of massing studies for the Hounsfeld Site. In each, the massing has been carefully calibrated to optimise sunshine to public spaces, and protection from wind and noise.

The key principles and potential deliverable areas are as follows:

OPTION 1

New buildings arranged around a garden space and the existing University Arms and Villa on Favell Street

Potential Deliverable Area 23,800 sqm

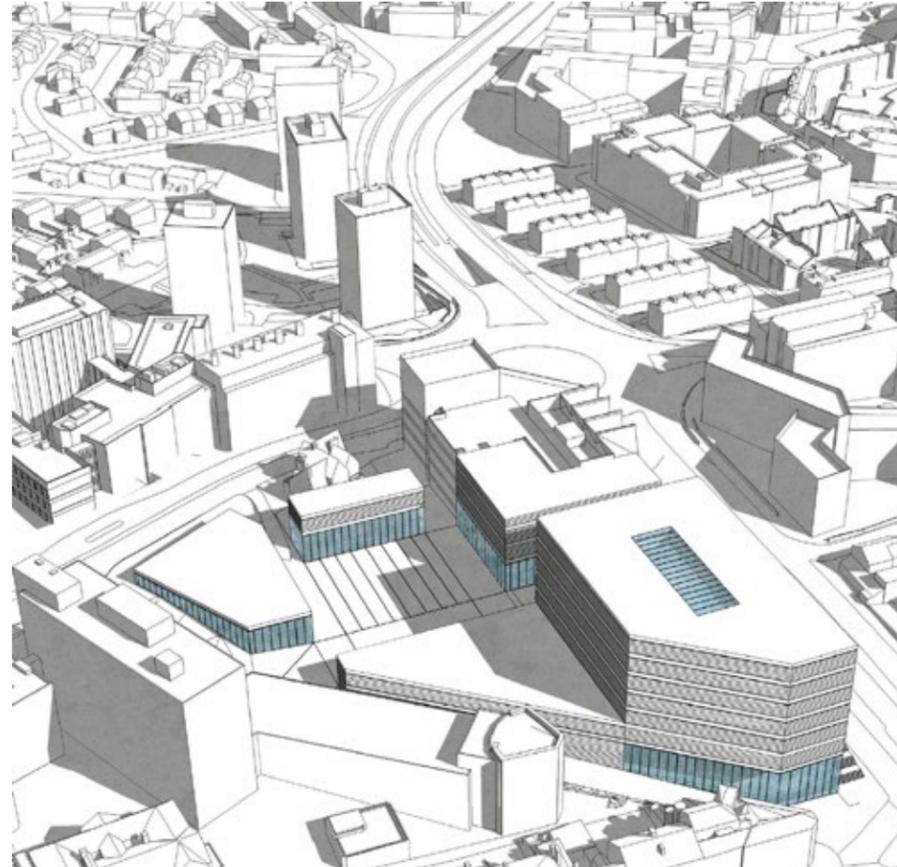


Sun and shade at 11am March

OPTION 2

New buildings arranged around a new square, with a low building to the north backing on to the existing University Arms

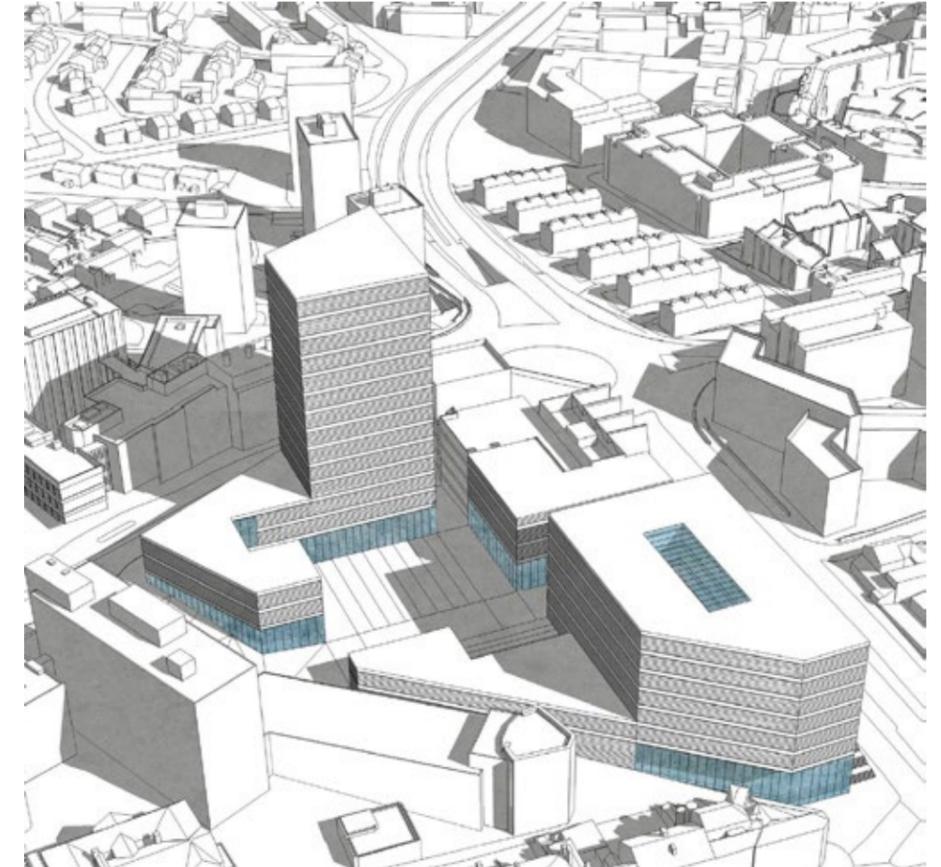
Potential Deliverable Area 26,020 sqm



OPTION 3

New buildings arranged to create a square public space to the north of the University Gold Route

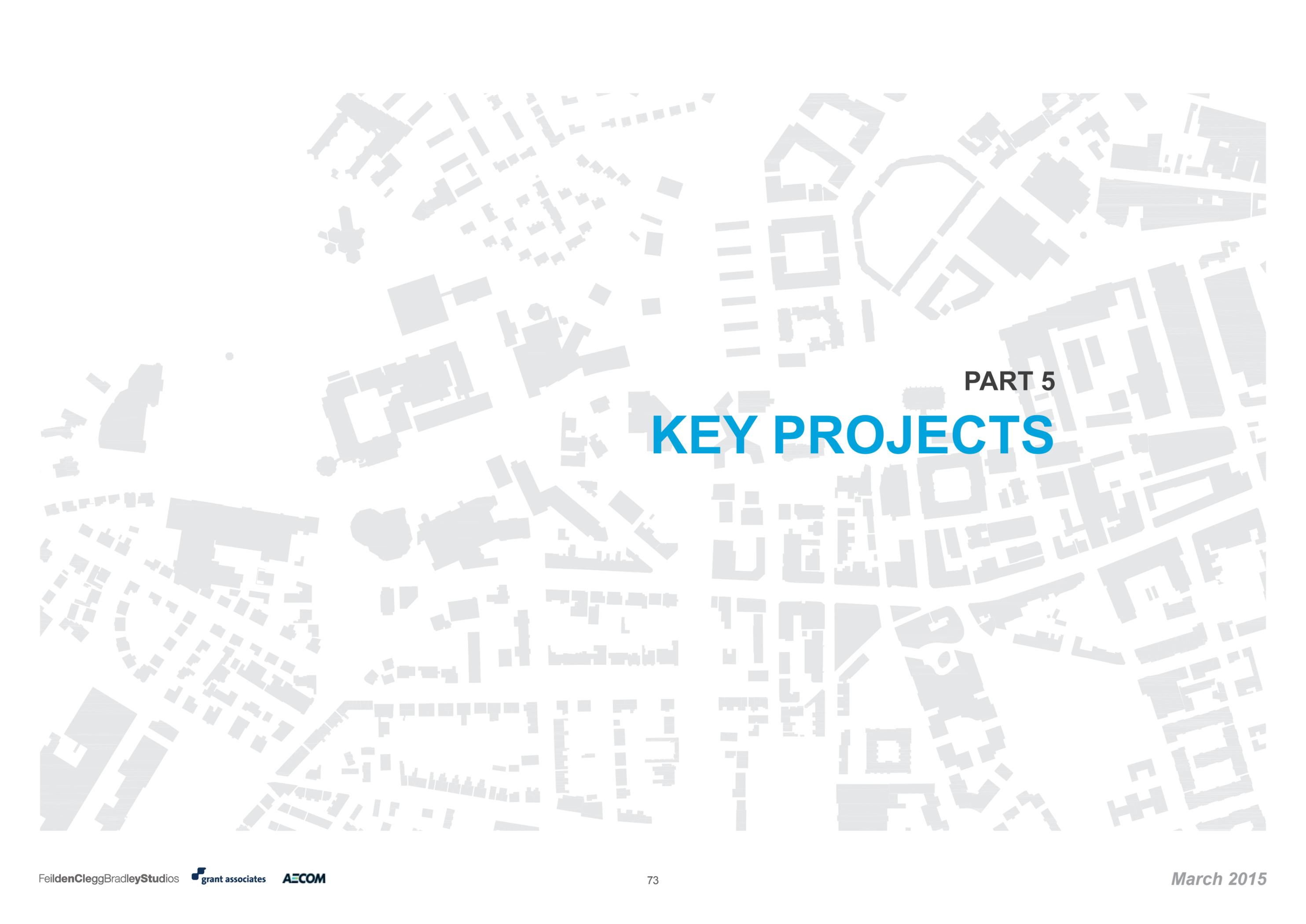
Potential Deliverable Area 39,760 sqm



4.4 Masterplan Aerial View

AERIAL VIEW OF MASTERPLAN OPTION 3 LOOKING FROM THE SOUTH WEST



The background of the page is a detailed, light gray architectural site plan or floor plan. It shows various building footprints, courtyards, and structural layouts, typical of a large institutional or commercial complex. The plan is oriented horizontally but has a slight tilt.

PART 5 KEY PROJECTS

5.1 Reconciling People, Place and Traffic

In developing the Masterplan for the University of Sheffield, it became clear that in order to positively effect a change in the public realm, a detailed review and testing of the existing highways was required. In essence, this review has unlocked the opportunity to relink severed areas of the campus as well as define areas for public realm developments.

As previously stated in the Campus in Context, the University straddles the ring road, creating an east/west divide as well as being bisected by Western Bank, creating a north/south divide. Resolving this divide is key to unlocking the potential for the University to encourage a pedestrian dominant environment. In addition, the campus is currently dominated by surface car parks. The current development of Durham Road car park acts a catalyst for releasing prime areas to be transformed into livable, useful and exciting public spaces.

The following pages illustrate the coordinated urban design and infrastructure approach to Upper Hanover Street and Western Bank. As the subsequent identified key projects are hinged on the successful resolution of the highways, a more detailed approach was undertaken for this section.



Western Bank ①
Upper Hanover Street ②



5.1 Reconciling People, Place and Traffic

Key Strategic Principles

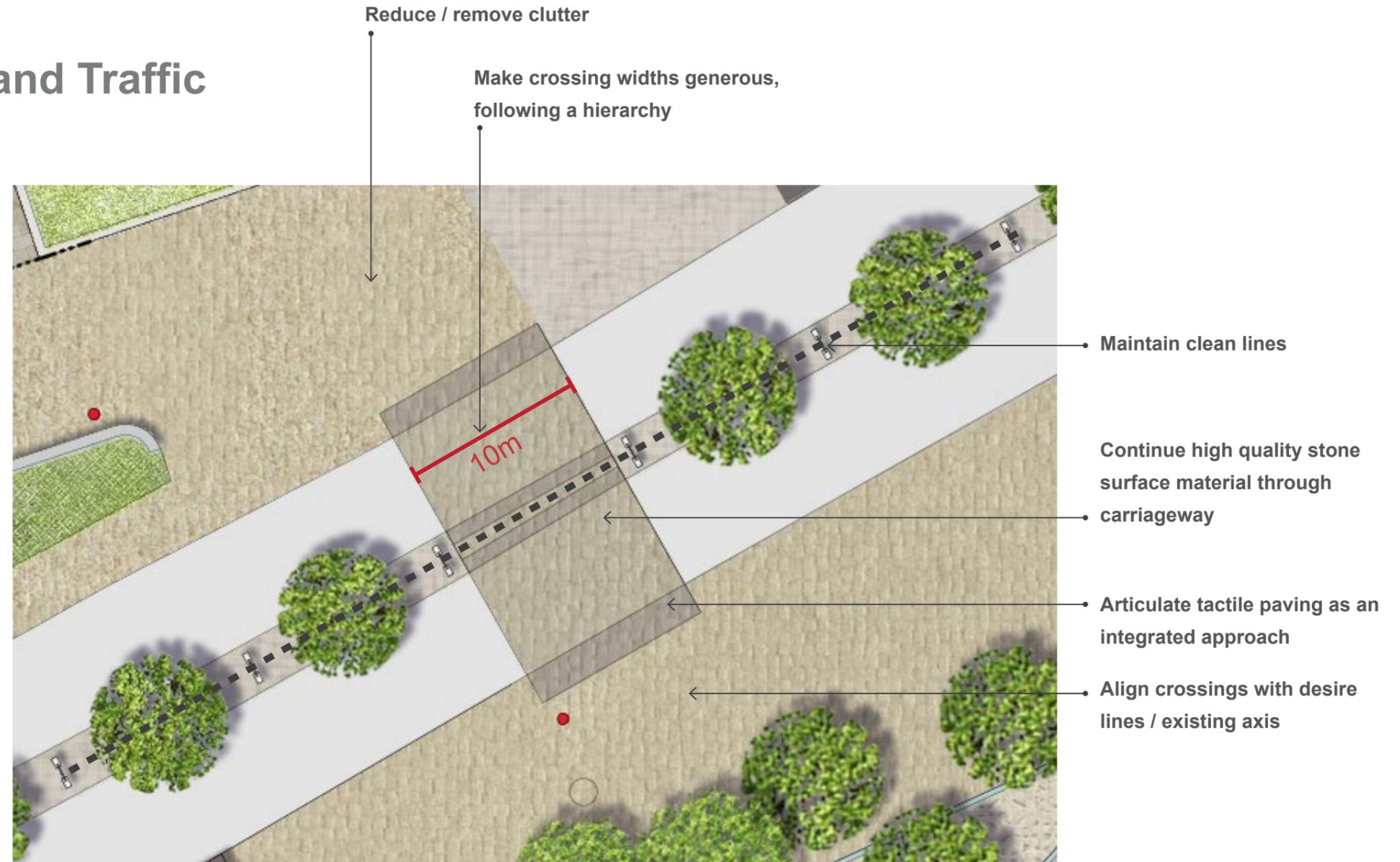
The design of the crossings and pedestrian realm on Western Bank and Upper Hanover Street is key to developing connectivity in the Masterplan. The adjacent diagram illustrates the key principles:

Crossings

- Locate the crossings at key pedestrian desire lines
- Make crossing clearly aligned, avoid staggered crossings
- Reduce clutter, remove barriers
- Make the crossings wider, with a hierarchy of widths: 10 m for the main crossings, 7 m for the secondary crossings
- Reinforce legibility with a clear hierarchy of materials

Streets

- Widen the pedestrian footway where practically feasible
- Reduce the number of lanes in the carriageway where practically feasible
- Reduce clutter, rationalise street furniture and signage
- Remove unnecessary items, such as the central concrete reserve in Western Bank
- Use tree planting to help break down the scale of the road



5.1.1 Western Bank Pedestrian Crossings

A fundamental move in the Masterplan is to reconcile the divide between the north of Western Bank with the south of Western Bank campus. The character and function of Western Bank will be transformed by removing the concrete central reservation and replacing with tree planting, introducing three crossing points and relocating the bus stops.

The existing pedestrian crossings from the northern to the southern areas of the Western Bank campus do not provide appropriate pedestrian connectivity. Completion of the three proposed signalised crossings will involve the implementation of tactile paving, studs and traffic signals, along with the associated kerb build outs, removal of the bus gate and layby infill on both sides of Western Bank with bus stop relocation on the westbound carriageway and the removal of the sections of concrete which form the central reservation

Details of the three crossings on Western Bank are illustrated over the following pages.



- Pedestrian Crossing at the Arts Tower ①
- Pedestrian Crossing at Favell Road ②
- Pedestrian Crossing at Firth Court ③

5.1.1 Western Bank Pedestrian Crossings

1 Western Bank Pedestrian Crossing at the Arts Tower

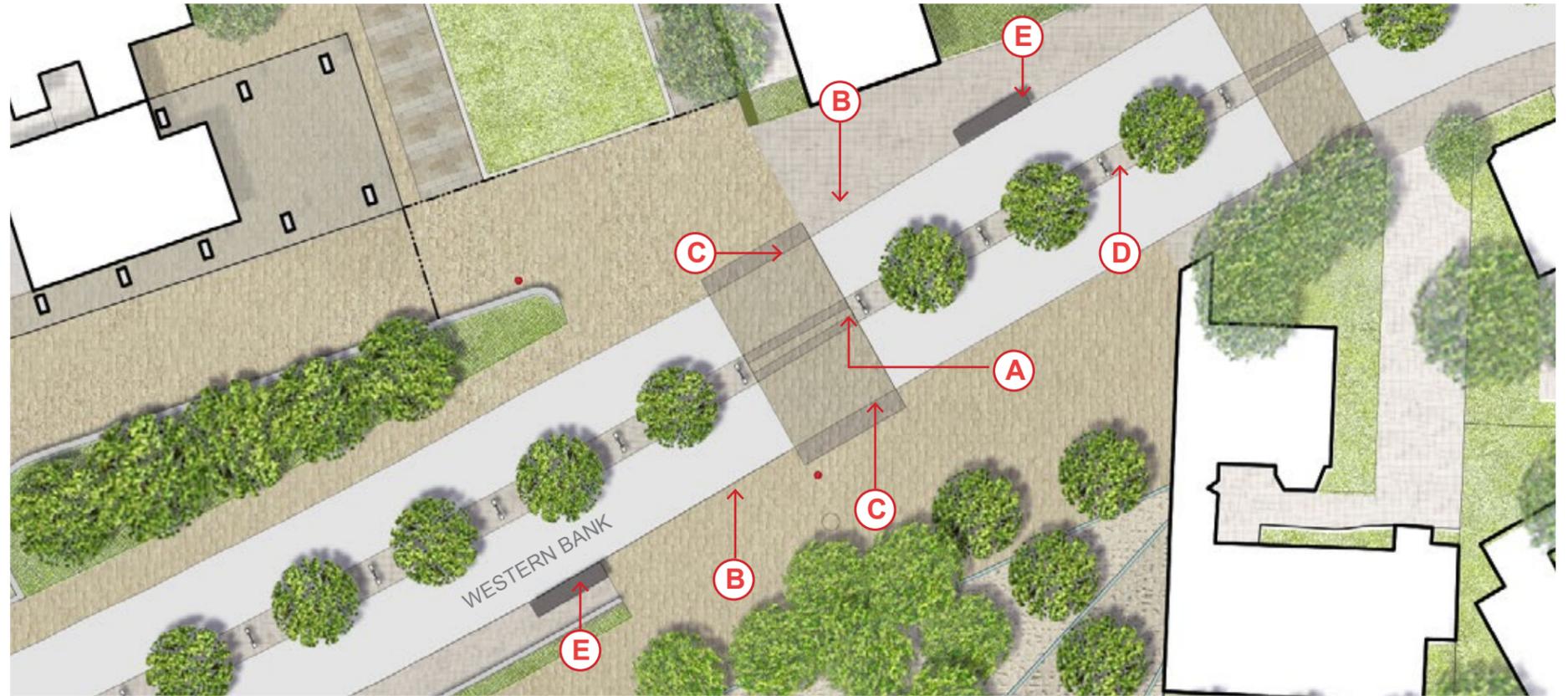
Western Bank currently causes a significant divide between the north and south of the campus. The Students' Union building acts as the major student hub within the Western Bank campus. The Hounsfield Favell Quarter is proposed to provide a secondary pedestrian hub adjacent to the Information Commons. From these locations one of the primary destinations is the Arts Tower. In order to provide greater pedestrian connectivity between these sites in the northern and southern zones of the Western Bank campus, a major new pedestrian crossing facility is planned across Western Bank along the pedestrian desire line at the top of Hounsfield Road.

The proposed crossing will:

- Provide a vista towards the south side of the recently restored, historic Arts Tower building and plaza
- Provide a more direct link between the pedestrianised zones than the concourse underpass
- Form part of the University Gold Route towards Glossop Road
- Support the main arterial route from Western Bank to the St George's campus
- Be designed with a Department for Transport (DfT) maximum width of 10m

Technical Details (key refers to adjacent plan):

- The bus gate will be removed from outside the Dainton Building
- One set of signals will serve both the bus lane and general traffic lane at the crossing (A)
- The bus lane will end at the same point as the existing bus gate so as to allow general traffic to use the right turn lane at the Brook Hill roundabout
- Proposed infill of the bus layby located on the westbound carriageway to the north of Hounsfield Road (B)
- Widening of the footways by 0.5m on each side of Western Bank in order to incorporate the direct pedestrian crossing and to increase the pedestrian flow along the eastbound and westbound footways (C)
- Removal of the concrete central reserve across the 10m width of the crossing (D)
- New bus cage to replace existing layby (E)



Pedestrian Crossing at the Arts Tower (refer to Technical Details for key)



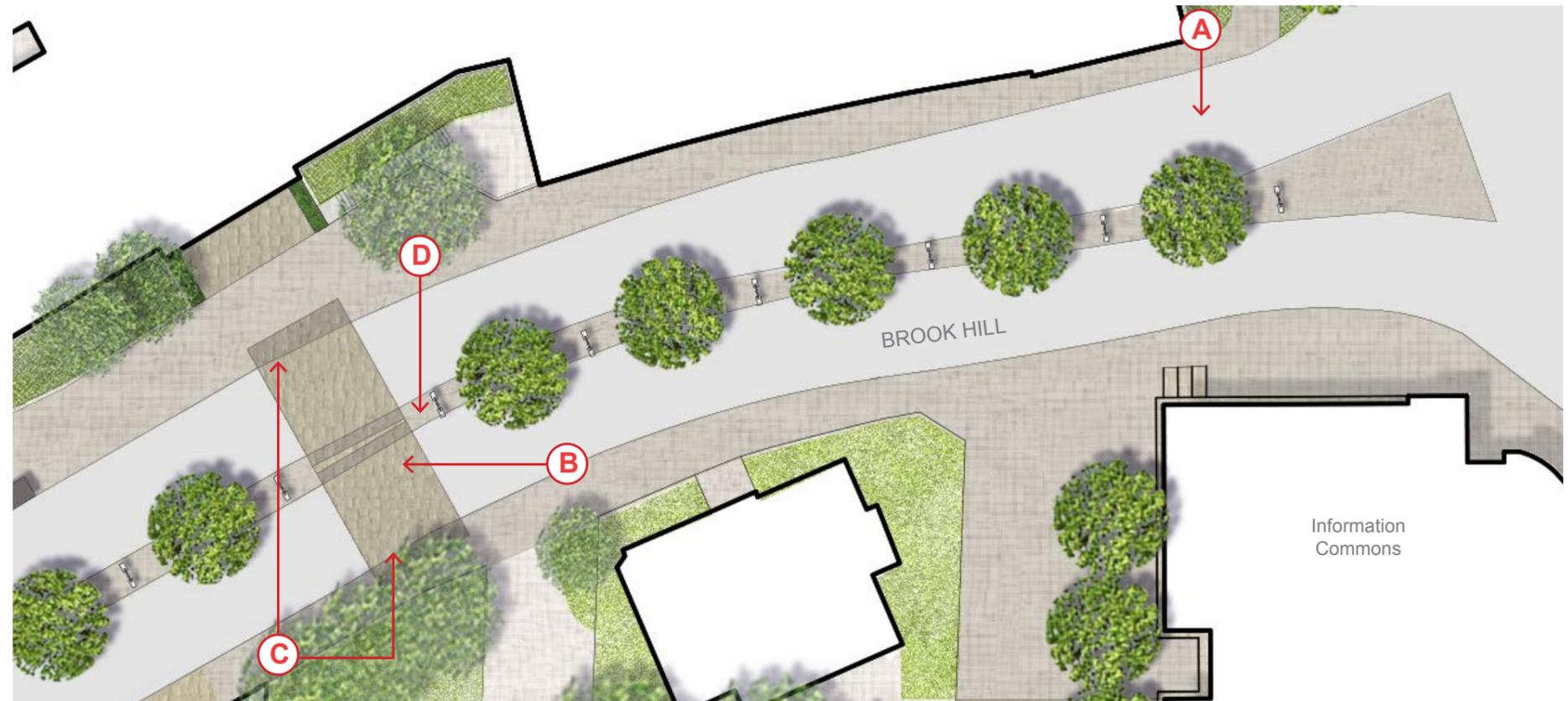
5.1.1 Western Bank Pedestrian Crossings

2 Western Bank Pedestrian Crossing at Favell Road

The existing crossing near Brook Hill Roundabout creates a dangerous environment for both pedestrians and motorists. Drivers are focused on the road past the pedestrian crossing and therefore do not give the pedestrians at the crossing their full concentration. The central refuge at this location is narrow, providing little protection for pedestrians, especially if a number congregate on the island. The stagger in the crossing causes an increased crossing time for pedestrians who have to wait for two sets of signals.

The proposed crossing will (key refers to adjacent plan):

- Link the pedestrian hotspot located between the Dainton and Richard Roberts Buildings to the Hounsfield Favell Quarter
- Will move pedestrians away from the roundabout and will provide a safer, more direct crossing (A)
- Link pedestrians to the main arterial route through the University campus along Leavygreave Road
- Designed with a width of 7m (B)
- The footway on both the north and south sides of Western Bank will be widened by 0.6m (C)
- The central reserve will be increased in width to accommodate any pedestrians stopping in the centre of the road (D)



Pedestrian Crossing at Favell Road (refer to notes for key)



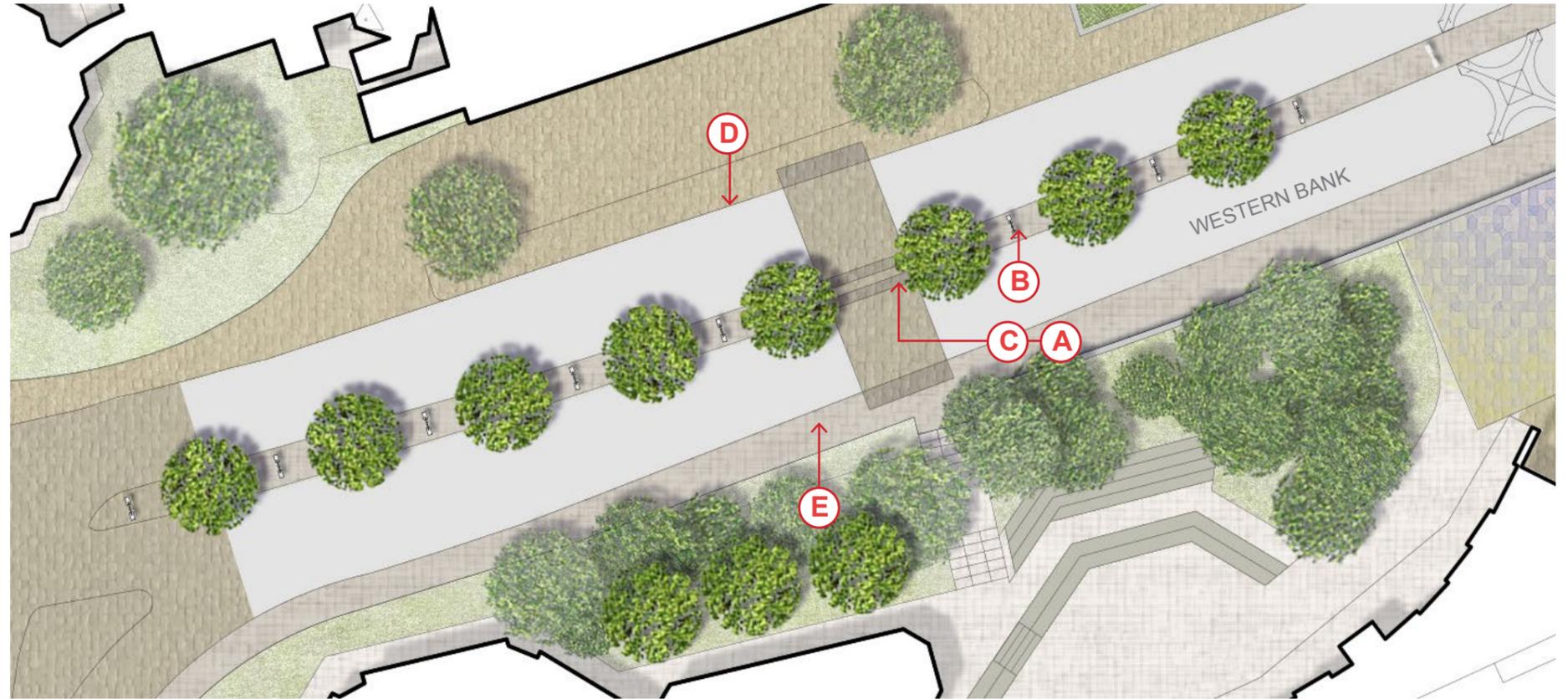
5.1.1 Western Bank Pedestrian Crossings

3 Western Bank Pedestrian Crossing at Firth Court

The existing staggered pedestrian crossing over Western Bank at Clarkson Street requires pedestrians to wait at three sets of signals when crossing from the north of the campus towards the Students' Union. The TPS survey indicates the existence of a pedestrian desire line between the Octagon Centre / Students' Union hub and Firth Court.

The proposed crossing will (key refers to adjacent plan):

- Will provide a direct link between the north and south of the Western Bank campus (A)
- Will retain existing crossing at Clarkson Street to provide access to the Sheffield Children's Hospital
- Will require the removal of the concrete central reserve on Western Bank (B)
- Has been designed at 7m wide, with a crossing length of 14.4m
- Will be signalised (C)
- Localised widening of the footpath by 1.75 m on the North side (D)
- Localised widening of the footpath by 0.5m on the South Side (E)

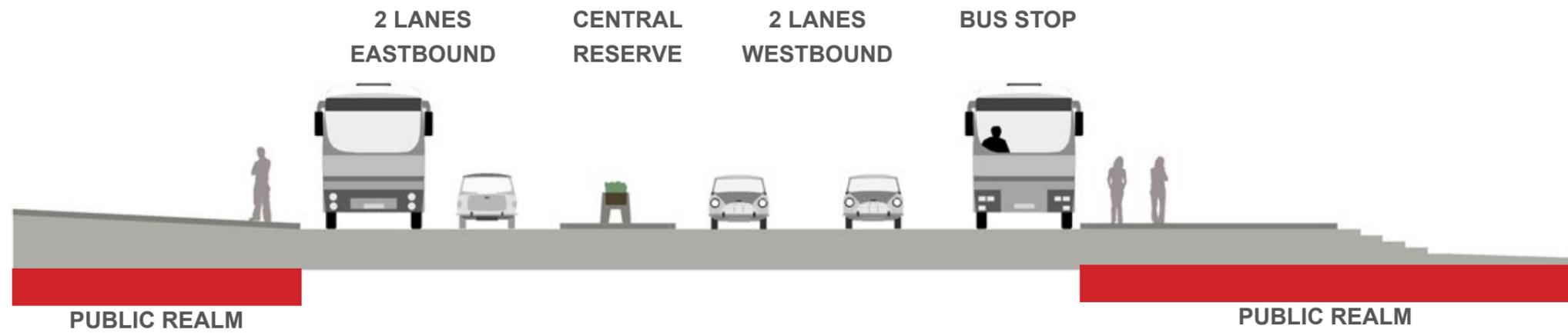


Pedestrian Crossing at Firth Court (refer to nptes for key)

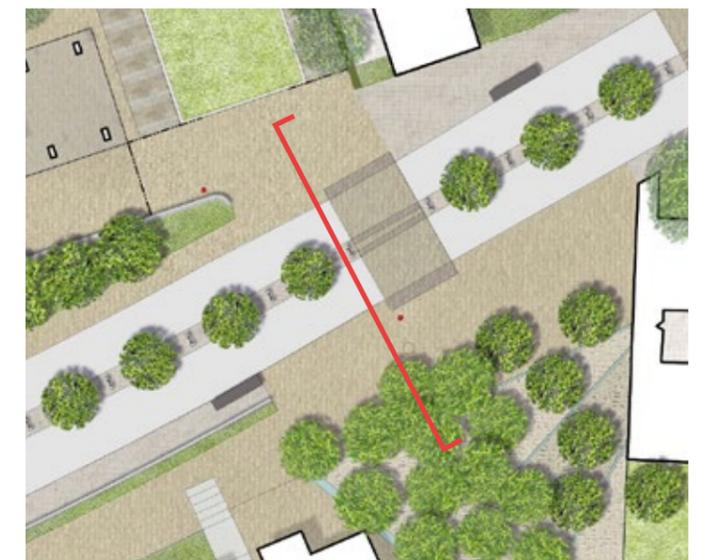
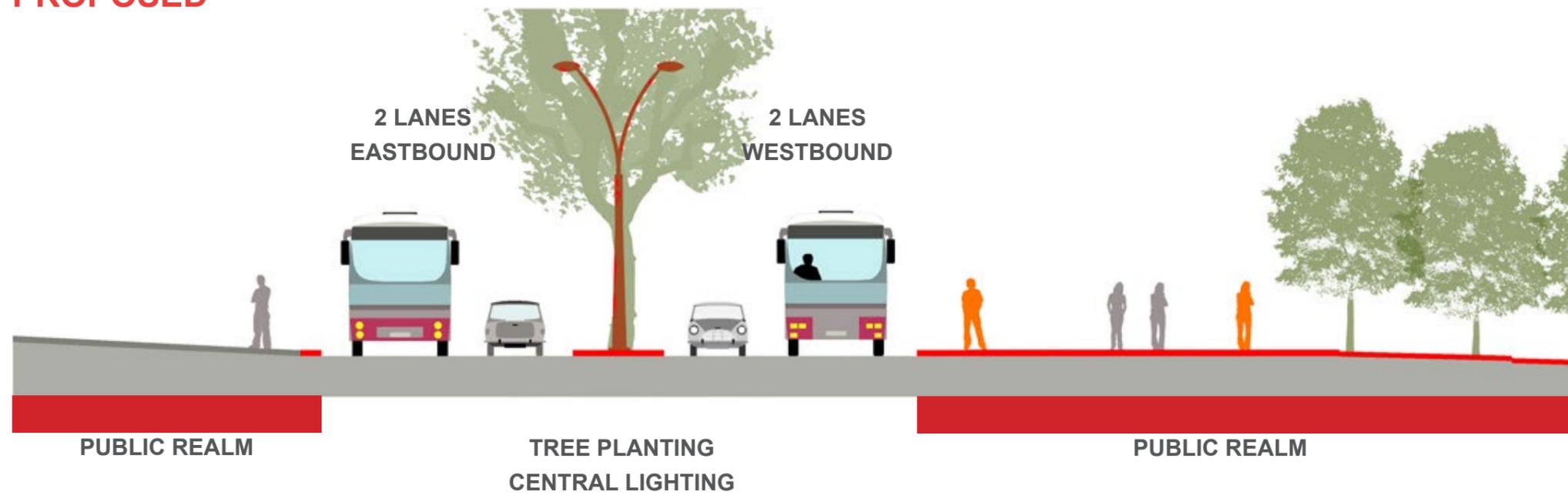


5.1.1 Western Bank Pedestrian Crossings

EXISTING

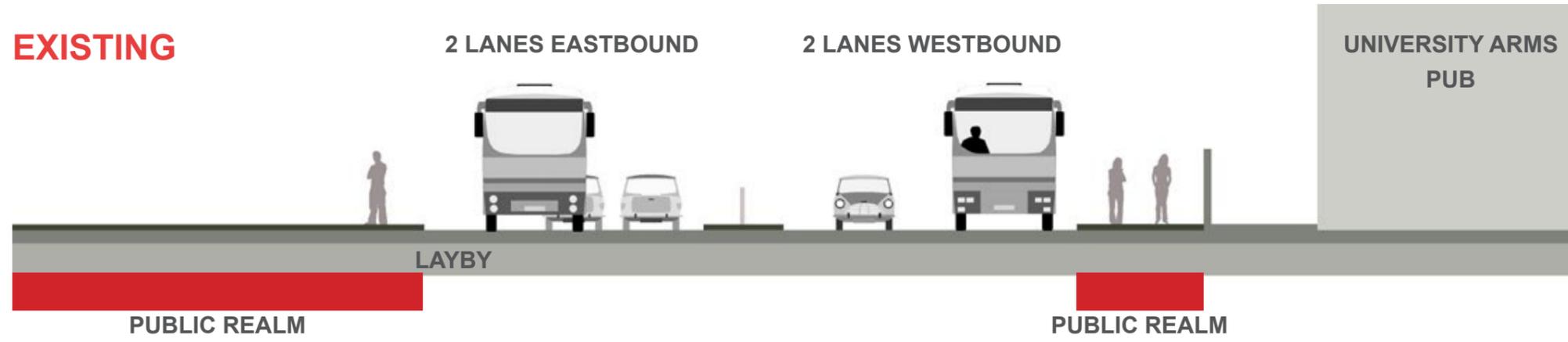


PROPOSED

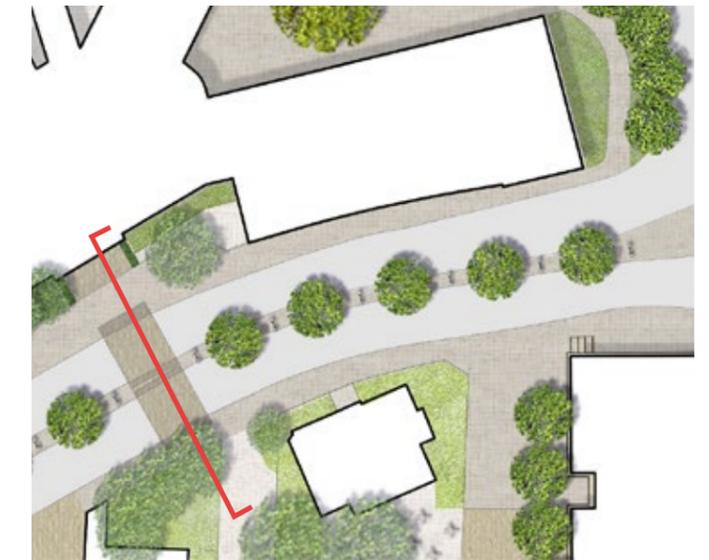
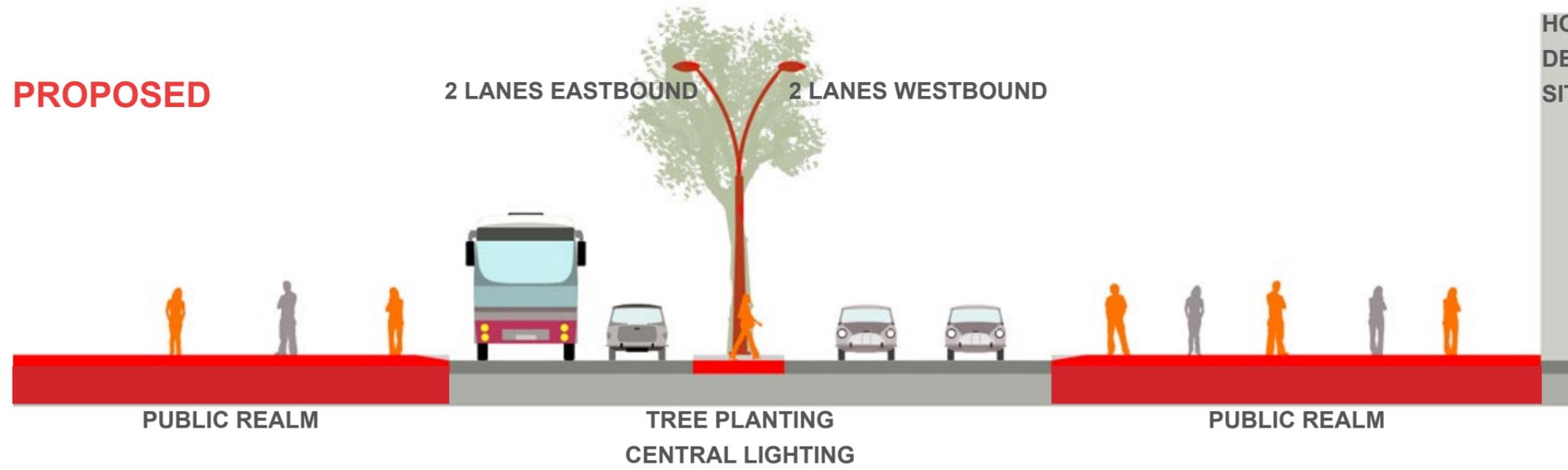


PROPOSED KEY PLAN (NTS)

EXISTING



PROPOSED



5.1.2 Upper Hanover Street Pedestrian Crossings

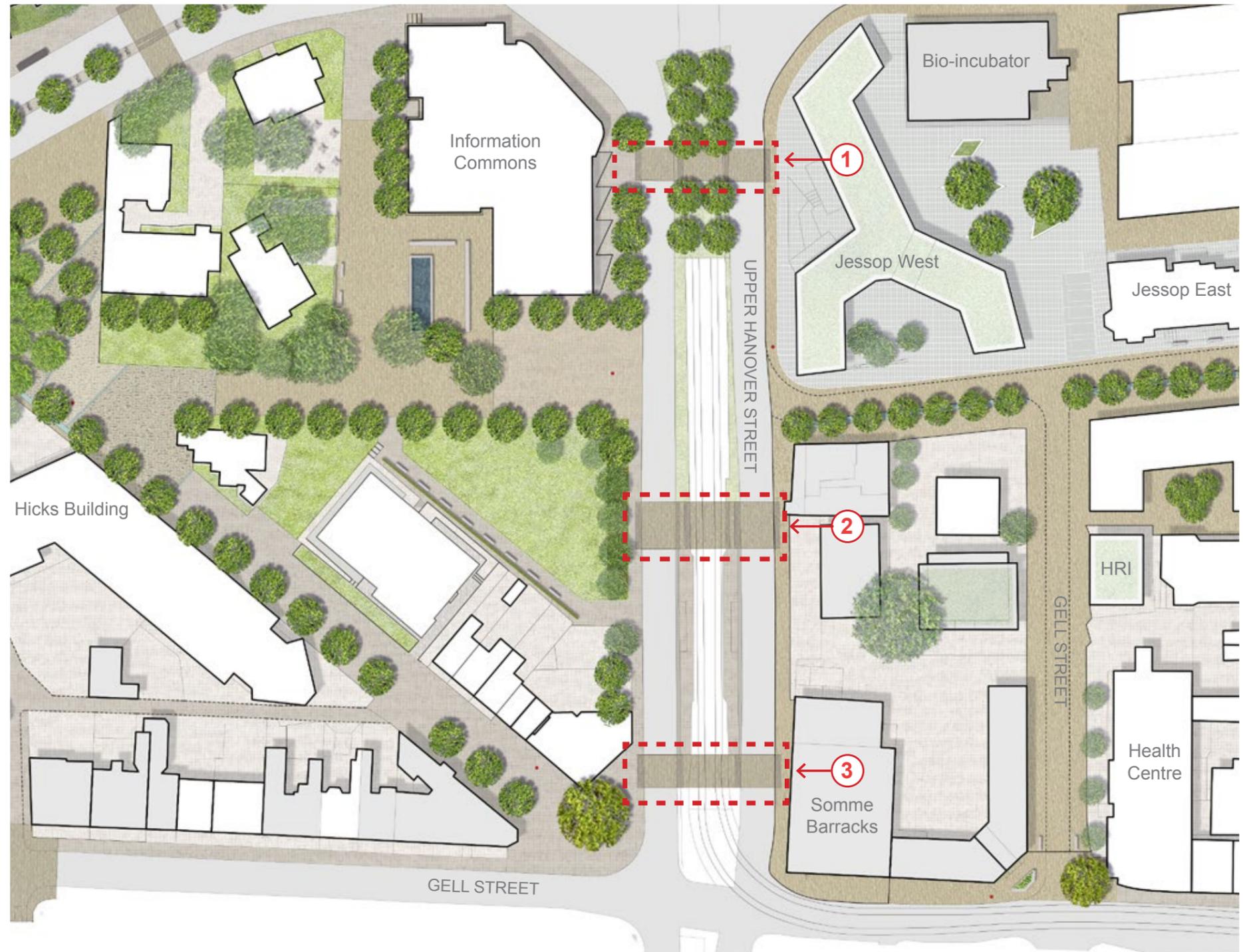
A fundamental move in the Masterplan is to reconcile the divide between St George's Campus and the Western Bank campus. The three pedestrian crossings over Upper Hanover Street will be widened and aligned in order to provide improved pedestrian connectivity between the two halves of the campus, reinforcing the University Gold Route.

The main arterial route through the University runs from the Arts Tower, through the Hounsfield Favell Quarter and along Leavygreave Road to the St George's campus. Improvements are required so as to connect the St George's and the Western Bank campuses across Upper Hanover Street, which currently provides a significant disruption to movement. In order to widen the central crossing, located on the main arterial route through the campus, the tram platform will be reduced in length by two metres.

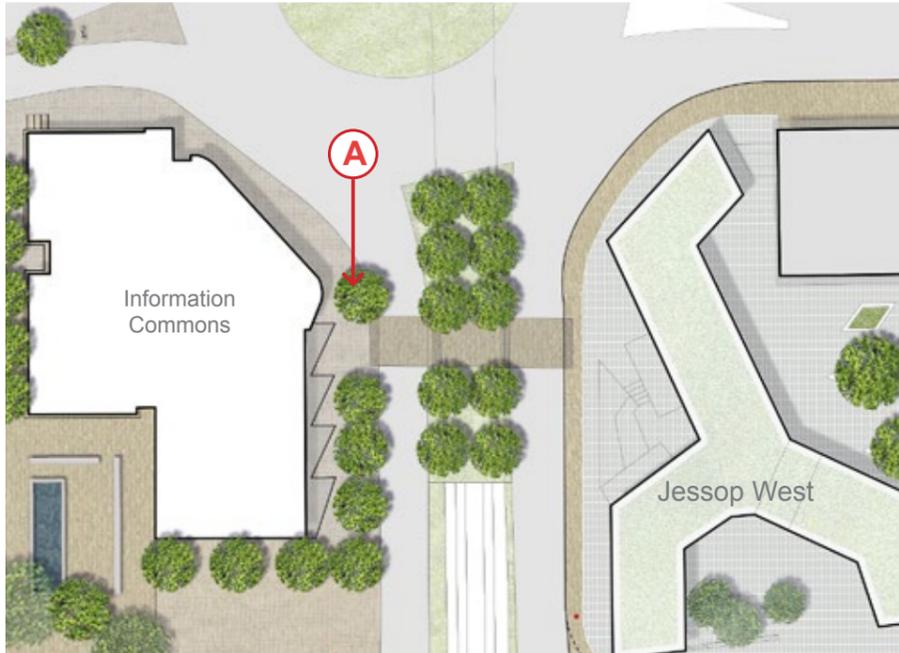
There are currently three signalised crossing points which provide a link from east to west. Each of the existing crossings have a staggered arrangement across the northbound and southbound carriageways, with the central crossing stagger incorporating an unassisted crossing over the tram tracks. These staggers increase the pedestrian crossing time and create pinch points, reducing the number of pedestrians able to cross during each green cycle.

Opportunity to explore the removal of the existing 'lean to' structure of the Henderson Relish Building in order to increase pavement width and improve pedestrian flow.

Details of the three crossings on Upper Hanover Street are illustrated over the following pages.



5.1.2 Upper Hanover Street Pedestrian Crossings



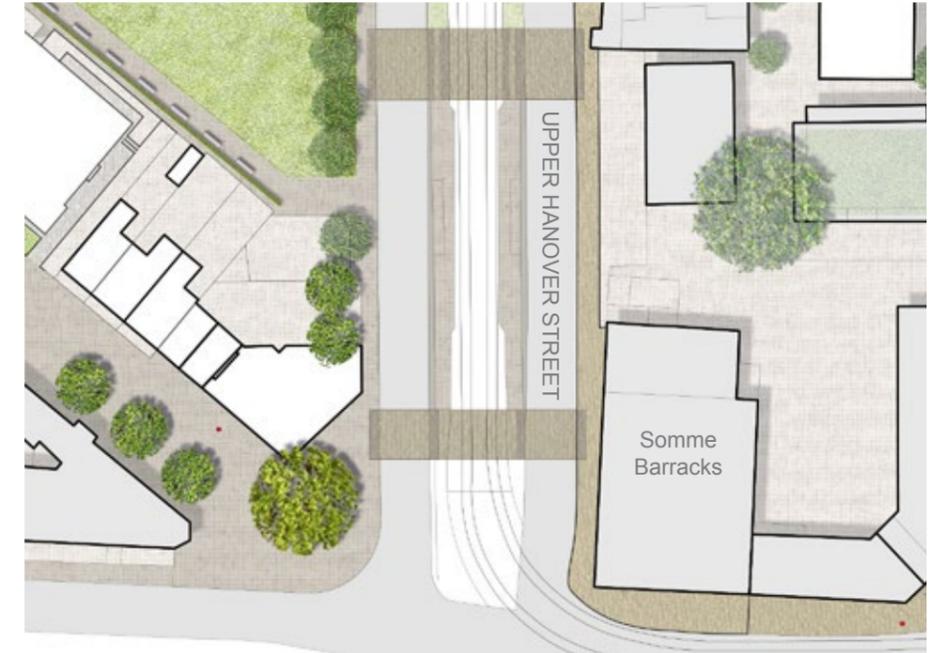
1 Upper Hanover Street North Crossing

- The least busy
- Designed with a width of 7m
- Aligned to provide a more direct route between St George's and Western Bank campuses
- The northbound carriageway will be reduced by one lane, reducing the crossing distance for pedestrians and increasing the footway adjacent to the Information Commons Building (A).



2 Upper Hanover Street Central Crossing

- Important due to its proximity to the University tram stop and forms part the City Gold Route Extension
- Has the largest number of pedestrians crossing per hour at 930
- Due to the significance of this crossing as a major pedestrian link, it is proposed that the crossing width is extended to 10m
- Crossing width is restricted by the structure of the tram underpass to the north (B)
- Crossing width is restricted by the tram platform to the south (C)
- The pinch points and clutter created by the crossing guard rails will be removed, allowing the maximum number of pedestrians to utilise the crossing.

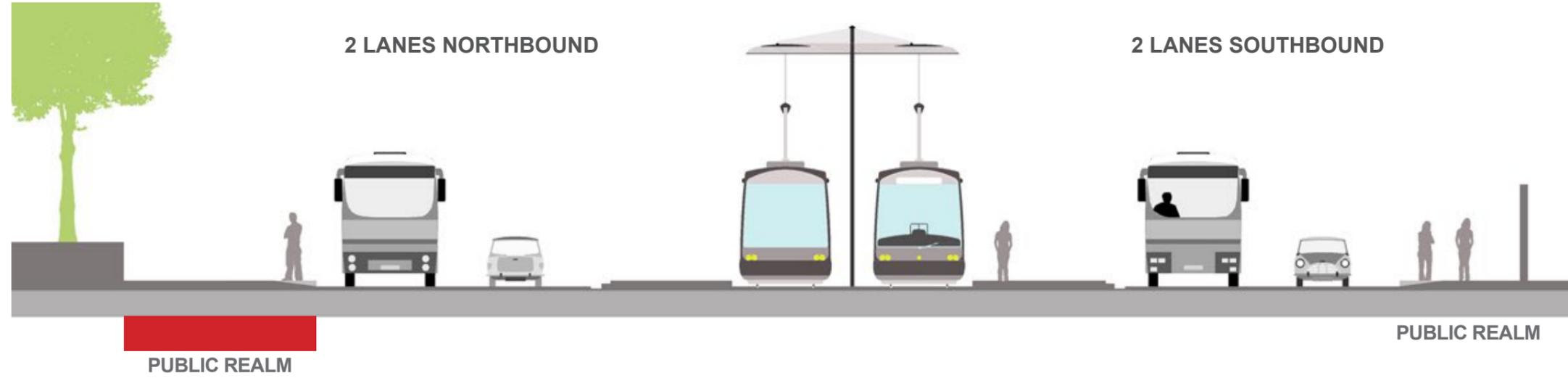


3 Upper Hanover Street South Crossing

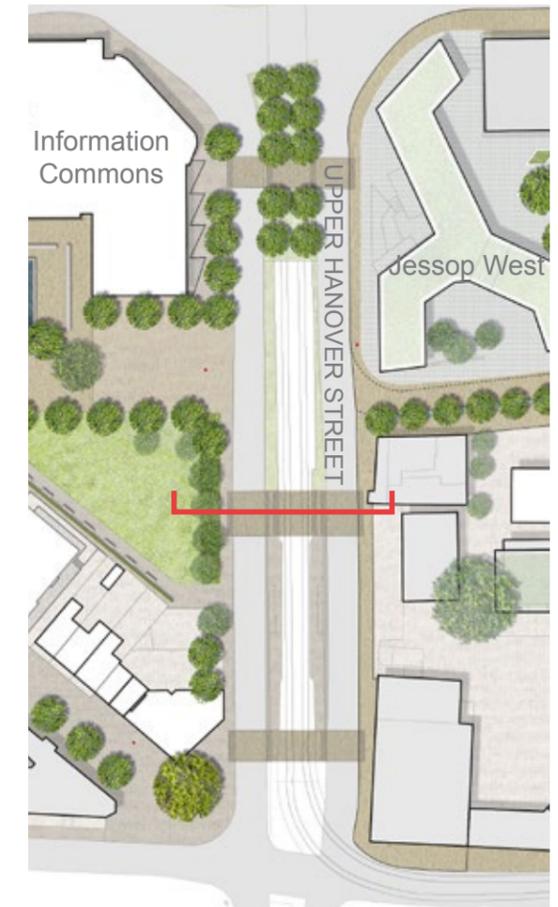
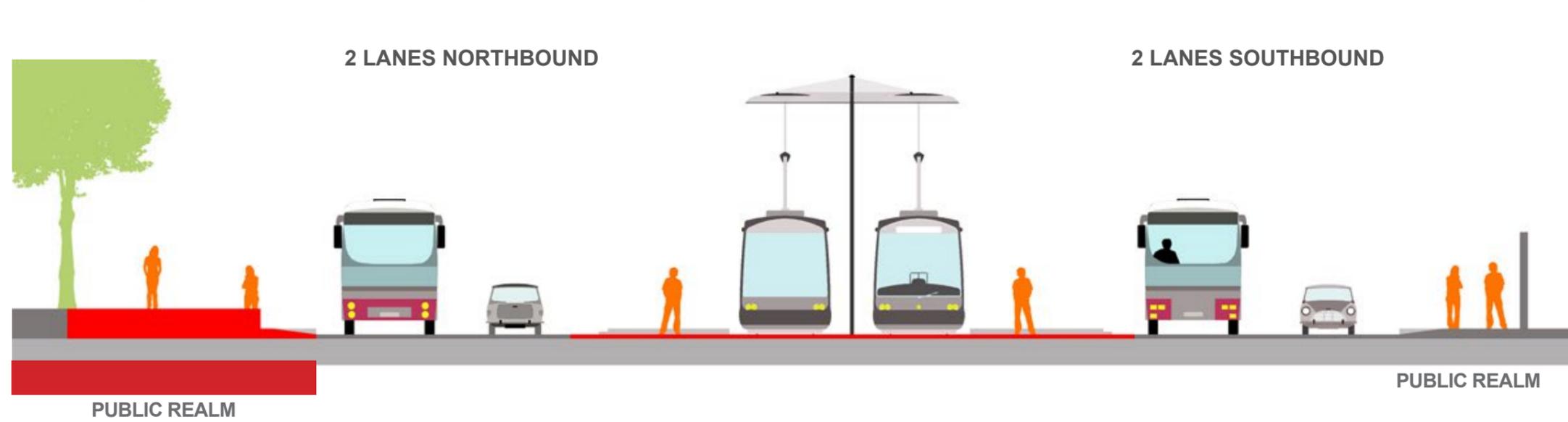
- Serves pedestrians crossing from the University Western Bank campus buildings including the Students' Union, science buildings and Arts Tower towards the city centre
- Designed with a 7m width
- Will be aligned in order to provide the shortest crossing distance.

5.1.2 Upper Hanover Street Pedestrian Crossings

EXISTING



PROPOSED

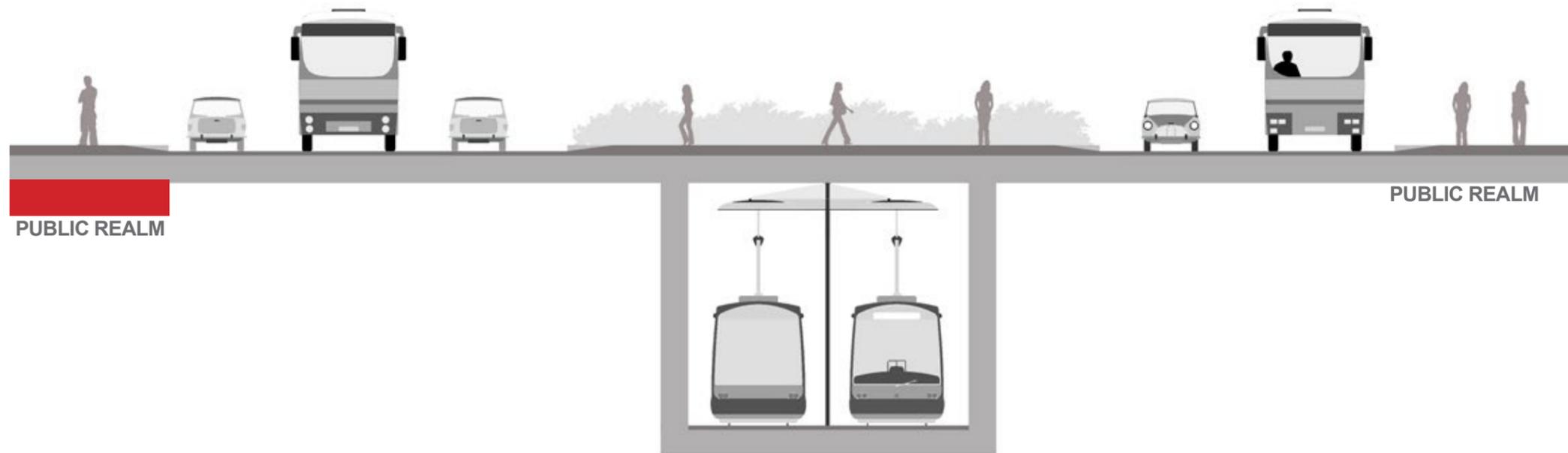


PROPOSED KEY PLAN (NTS)

EXISTING

3 LANES NORTHBOUND

2 LANES SOUTHBOUND

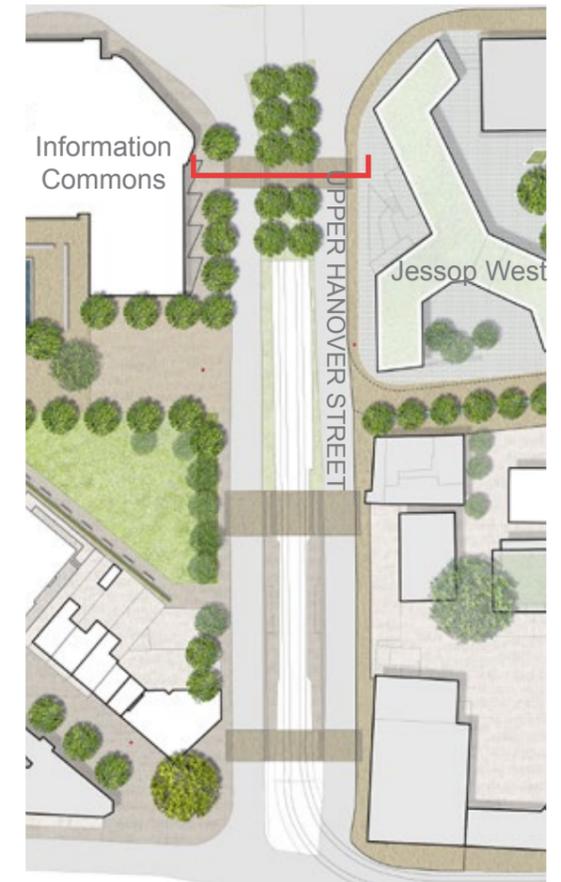
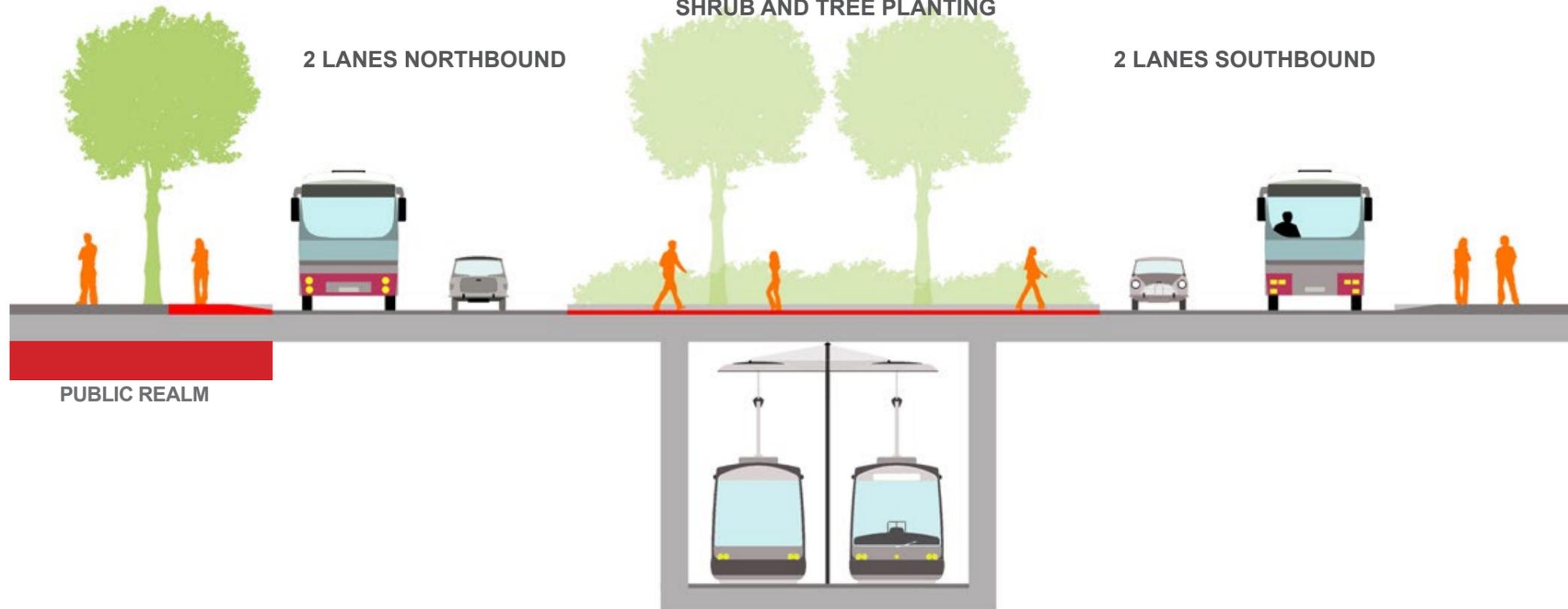


PROPOSED

2 LANES NORTHBOUND

RE-ALIGNED CROSSING WITH NEW SHRUB AND TREE PLANTING

2 LANES SOUTHBOUND



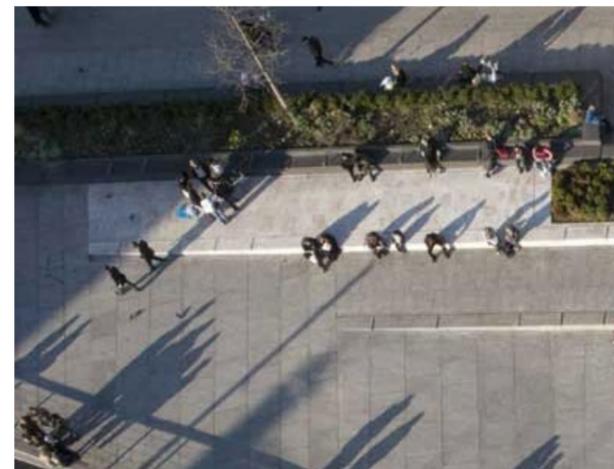
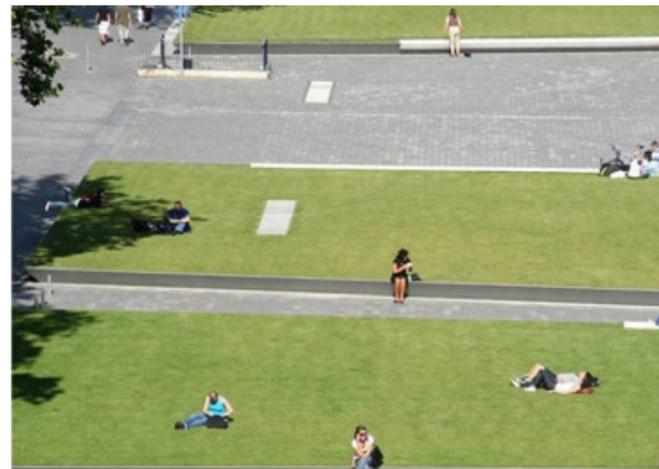
PROPOSED KEY PLAN (NTS)

5.2 Arts Tower Court

To create a significant new public space that is central to the campus and on the Gold Route. The enclosure of new buildings will provide an activated edge to the space, optimum seasonal sunshine, shelter from wind and noise, and suitable floor area to meet University growth.

The Grade II listed Arts Tower and Western Bank Library are key destinations and landmarks for the University attracting significant people movement to and from the buildings, as well as being identified on the alignment of the City Gold Route. The surrounding environs are currently used as a large surface car park and provide an uninviting arrivals entrance to the University, dominated by vehicle movement. With the proposed Durham Road multi-storey car park the intention is to remove the parking from the Arts Tower concourse area and establish a significant new public space for the University and improve the pedestrian link from Bolsover Street to the Hounsfield Favell site.

The space is conceived as a high quality formal University Court, responding to the strong form of the Arts Tower, paved in stone with a grass plinth and raised reflective pool/water feature. The space could be used for University events, gatherings and graduations. The intention would be to allow limited parking to the rear of the Arts Tower (north elevation) and improved pedestrian links to Weston Park via a terraced garden space adjacent to the Western Bank Library. New bicycle parking and planted screen is proposed to the eastern edge of the tower helping to provide shelter from the wind whilst still allowing glimpse views out. Access for vehicles to the northern elevation of Firth Court will need to be maintained.

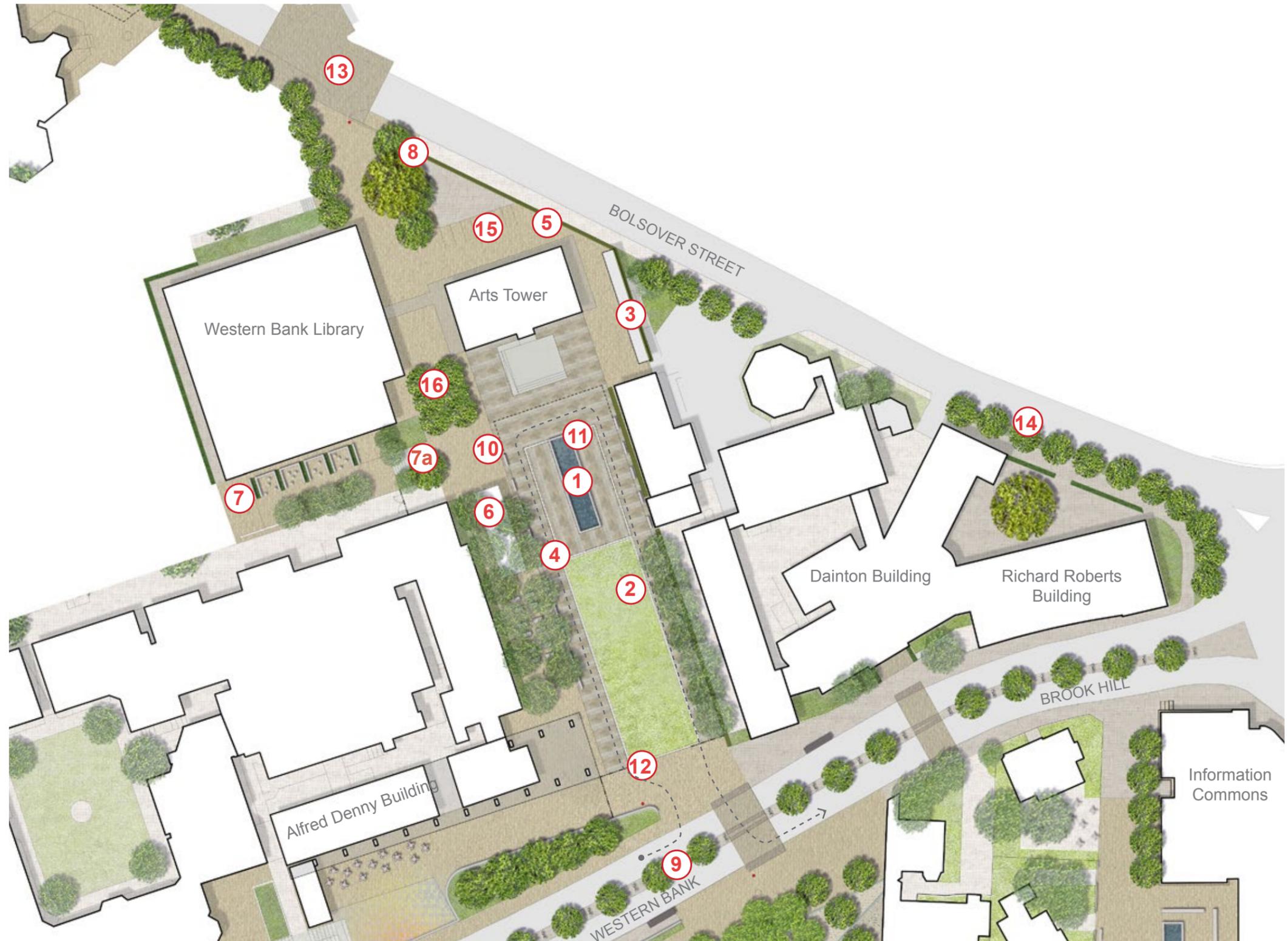


5.2 Arts Tower Court

ARTS TOWER COURT PLAN

SCALE 1:1000 @ A3

1. Shallow pool water feature with raised stone seating edge
2. Lawn with raised stone seating edge
3. Relocated bicycle shelter
4. Distinctive stone paved surface (service access)
5. Planted green screen
6. New café
7. Garden terrace link to Weston Park with new steps at 7a
8. Landscape treatment to mark entrance to forecourt
9. Single row of trees in central reserve of Western Bank
10. Formal stone seating/benches
11. Distinctive stone paved surface surrounding water feature
12. New integrated security barriers for service access
13. New designated crossing points to Weston Park
14. New line of street trees
15. 10 no. parking spaces to rear of Arts Tower
16. Opportunity to investigate additional tree planting to Tower Court, subject to below-ground structures/services and detailed design for vehicle movement.



5.2 Arts Tower Court

Existing View



Illustrative View

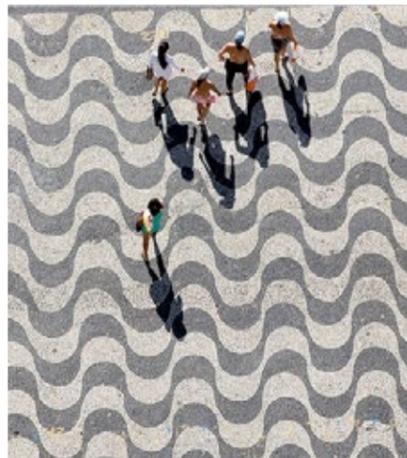


5.3 Concourse

To consolidate the Concourse and Students' Union spaces, and give them enhanced connections to the University Gold Route by both a widened pedestrian route to the north of the Hicks Building and an activated ground floor frontage to the Alfred Denny Building.

The Concourse is a key student space providing an important link beneath Western Bank as well as offering a space for shelter and student gatherings. The intention is to reinforce the links with the Students' Union and upgrade the quality of the space through a combination of a richly paved ground plane; an interactive arts lightwall structure along the underside of the concourse together with terraced seating. There is also the opportunity to explore the introduction of a permanent café facility incorporated beneath the concourse structure. In addition the parapet of the concourse structure needs to be cleaned and appropriately lit. Washing the soffits of the concrete with concealed lighting as well as up lighting the glass blocks which traverse the central reservation will create a 'cathedral' like space where staff, students and the public wish to remain rather than at present an area that is at the heart of campus but one which most people try to avoid staying within. Introducing planting adjacent to the concourse through a series of planters and through some appropriate landscaping will be important to break the hard landscape up.

The potential for green wall in this area will be explored with the owners of the road, Sheffield City Council, but this will present both practical difficulties and potential maintenance challenges as the bridge structure needs to be regularly inspected and maintained.

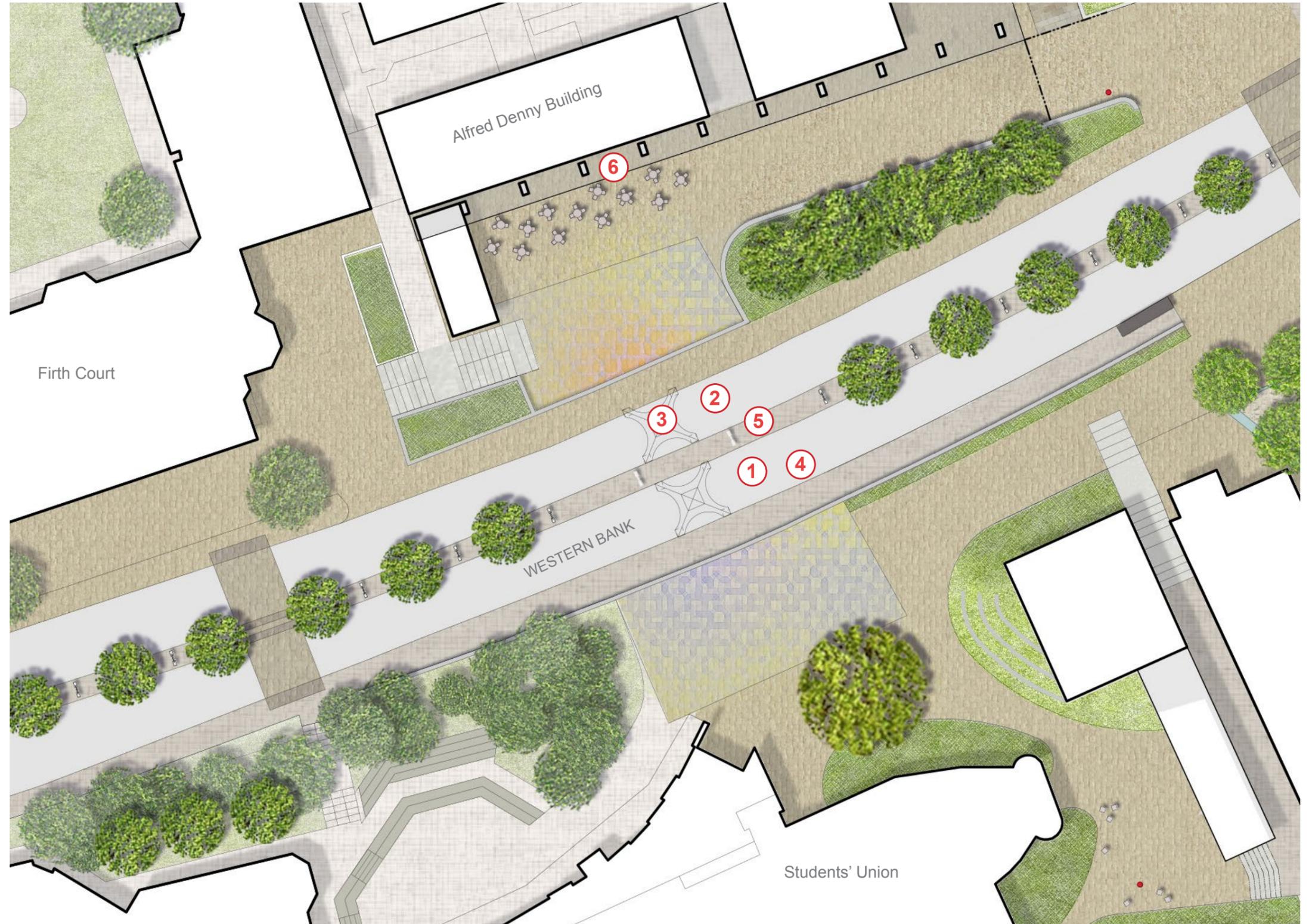


5.3 Concourse

CONCOURSE PLAN

SCALE 1:500 @ A3

- 1. Distinctive/playful paving to concourse extents and extending ~12m from overhead structure
- 2. Feature lighting to paving
- 3. Uplighting highlighting existing columns
- 4. Lighting to walls
- 5. New café space
- 6. Seating and active frontage



5.4 Leavygreave Road

To enhance the streetscape of Leavygreave Road by strengthening the building line with new buildings, introducing activated frontages, and creating focused public spaces along its route.

The length of Leavygreave Road and Portobello Street is designed as a shared surface space, meaning that there is no definition between pedestrian and trafficked areas - an integrated space where pedestrians have priority. The intention is that the current adopted road designation would be changed and the streets would be maintained by the University. Vehicular access for the majority of the street is to be limited to emergency and maintenance access only. The streets would be paved throughout with a line of street tree planting along the western approach and a sustainable drainage system (SuDS) water feature located along the southern edge of the street. Large-scale trees are proposed to frame the arrival spaces of the academic buildings, such as The Diamond at Jessop East, and create a sequence of pocket spaces and gardens along the road.

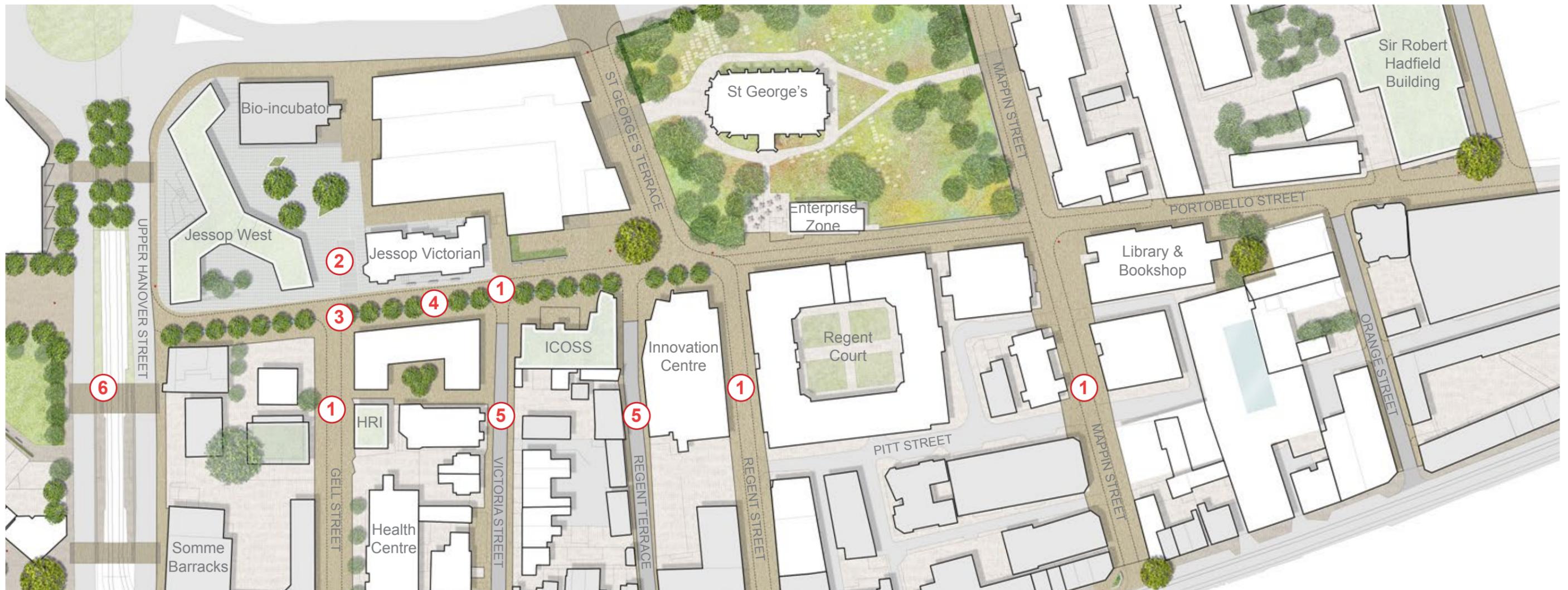


5.4 Leavygreave Road

LEAVYGREAVE ROAD PLAN

SCALE 1:500 @ A3

- 1. Continuous shared surface
- 2. Jessop West paving extent
- 3. SuDS planters
- 4. Tree planting
- 5. Secondary streets
- 6. Upper Hanover Street at Leavygreave crossing



5.4 Leavygreave Road

Existing View



Illustrative View



5.5 St George's Green

To sensitively enhance the important historic green of the campus by enclosing the street edge with tree planting, encouraging seasonal change and introducing colour and texture with meadow planting, and finally activating the Leavygreave Road edge with a café terrace.

The churchyard, with its combination of mature trees and cut grass is the only area of green open space within the University's domain; it is currently perceived as a contained area and a refuge from the hub of the city. However it lacks enclosure and the space is impacted upon by the adjacent road traffic from Broad Lane. There are opportunities to enhance the landscape setting of the church grounds and make the space more inviting for university use; a place for students to linger, relax and enjoy. The proposed landscape measures include new Yew hedgerow and additional tree planting along the northern boundaries; establishment of wildflower margins, additional seating and a new café and terrace at the entrance off Leavygreave Road. The intention is to work with the existing grave stones.

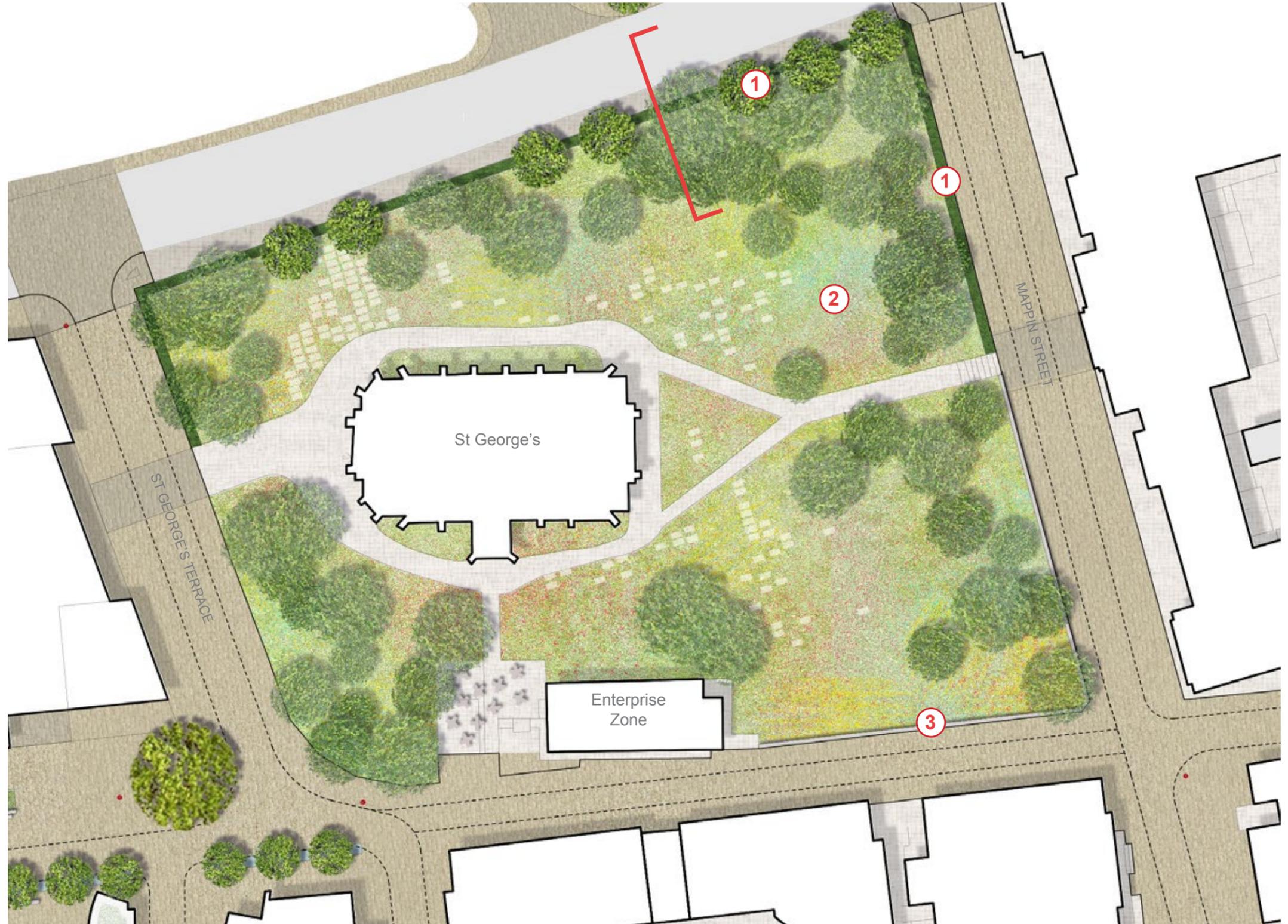


5.5 St George's Green

ST GEORGE'S GREEN PLAN

SCALE 1:250 @ A3

- 1. Reinforce enclosure to St George's Green on Brookhill with tree planting and hedgerow
- 2. Seasonal meadow planting and enclosed tree planting around boundaries
- 3. South facing seating edge



5.6 University Square, Hounsfield

To create a significant new public space – a University Square – that is central to the campus and a key destination on the City’s Gold Route. The enclosure of the square with the new University buildings will provide an activated edge to the space, optimum seasonal sunshine, shelter from wind and noise, and suitable floor area to meet University growth. The University Square will be a key area for academic staff and students to meet and share interdisciplinary research ideas as well as contribute to social and cultural life of the city.

The University Square will be characterised by a grove of forest scale trees and seasonal herbaceous planting, with a linear urban rain garden, linking with the proposals on Leavygreave Road. The ground plane of the Square will be paved in a distinctive pattern of stone to create a unique identity to the space as well as complement the material palette of the City’s Gold Route. Coffee bars, social spaces and places to meet will be provided within the University buildings around the edge of the Square to create an active frontage and provide an opportunity to socialise, relax, study or just pause.

5.6 University Square, Hounsfieid

UNIVERSITY SQUARE PLAN

SCALE 1:250 @ A3

1. Proposed University buildings with roof gardens arranged to create a new square public space.
2. University Square
3. Extension to Information Commons
4. Teraced link with tree planting to Western Bank
5. Stepped link to Upper Hanover Street
6. Grove of forest trees and central garden
7. Seating and active frontage
8. Urban rain garden
9. Street tree planting to Hounsfieid Road



5.6 University Square, Hounsfieid

Existing View



Illustrative View





PART 6

CONCLUSIONS AND RECOMMENDATIONS

6.0 Conclusions & Recommendations

This Masterplan study has identified the strategic objectives for the campus external realm that will contribute towards the further growth and prosperity of the University of Sheffield, and which in turn will contribute to the social and economic prosperity of the City. These are: identity, integration, cohesion, growth, positive movement, a sustainable campus, green space and learning space.

The study has identified the opportunities and constraints that exist within the existing campus, and how these prompt responses towards delivering the strategic objectives.

These responses have in turn been shaped into design strategies for delivering a unique and unified external realm: one that speaks of the home city of Sheffield and of a world class academic institution. Critically the aim has been to create a sense of place; for fun, relaxation, study or exercise - for students, staff, the wider community and visitors to the University.

The Masterplan embeds the City's vision for cohesion and connection in the city, and is underpinned by proposals to extend the Gold Route from its current termination on Devonshire Street all the way to Weston Park via a series of transformed public spaces.

The Masterplan recognises the imperative need to resolve the fragmentation of the campus, due to highways infrastructure, and makes recommendations that can re-order the existing priority of vehicles over pedestrians and cyclists, and in doing so reconnect the University Quarter.

The Masterplan outlines strategies that can create an urban and green campus.

The Masterplan also opens the enquiry into the need for development sites to meet the Science Faculty requirements. In parallel the study recognises the weaknesses of the Hounsfield Favell site in terms of urban and campus realm quality, and proposes the introduction of a significant public space on this site, at the heart of the campus. Moving forward, the Hounsfield Favell site should be assessed in more detail for its development potential, and thus the potential to strengthen the density and character of this strategically important site.

Finally, the Masterplan makes recommendations for the priority of delivering external realm projects. Early phase projects will look to transform the weakest aspect of the existing public realm and deliver the most value in terms of a campus experience for all.



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