University of Reading

Estate Strategy

[March 2014]

Foreword

Welcome to the University of Reading's Estate Strategy to 2026, which underpins the University's vision to enhance our position within the global higher education and research sector.

This Estate Strategy builds on the great improvements delivered to our estate over the last 10 years and heralds the start of new era of change for the University and its estate. It reinforces the importance of providing good quality, flexible accommodation of the right scale and with the right facilities, to accommodate our research and teaching programmes. The ability to provide an enhanced and positive student experience from our research, teaching and recreational facilities is central to the success of the University.

We recognise the ever increasing importance of the University estate to attracting and retaining the best student, research, teaching and staff, who in turn are credited with giving the University its world class status and reputation for research and teaching excellence. It is only right that we seek to provide them with accommodation and facilities that help them maintain and build on that reputation.

The principal aim of this strategy is to provide the framework and direction for how the estate needs to change and support the University in delivering its strategic objectives. Central to this framework is the development of communities and environments where our students and staff will wish to live and work in the future across our exceptional campus setting.

We also recognise that we are part of a wider society and need to integrate with other partner organisations and communities and will, for example, make the most of shared facilities as appropriate. At the same time, sustainability continues to be at the heart of the estate planning and management processes: as we strive to build on our excellent reputation for environmental performance.

I am confident this Estate Strategy sets the right course. Its implementation will be overseen by Estates & Facilities on behalf of the University.

Sir David Bell KCB

Vice-Chancellor

[March 2014]

About this document

The purpose of this document is to describe the Estate Strategy that will provide the framework for future property related decisions and recommendations for the period until July 2026.

The document describes the aims and objectives of the Estate Strategy, reflecting the University context and its strategy for the future. The document also includes a detailed assessment of the current estate, analysis from the consultation with key stakeholders and consideration of the major gaps that need to be addressed in the future.

The Estate Strategy sets targets to address the key issues emerging from the analysis that relate to scale, types and suitability of space, location, condition and carbon management.

A schedule of project options that aim to address the gaps and contribute towards meeting the targets has been drafted. The options are at different stages of development: some have been considered at pre–feasibility stage with concepts developed with the support of technical advisers, whilst others are at a preliminary stage having been assessed as potential opportunities.

Version Control

Version	Comments
7.10	Correction of minor typographical errors. Conversion to portrait format for printing.
7.02	Document as approved by the University Council

Version:	7.10
Reviewed:	Janis Pich
Approved:	Colin Robbins
Issued:	David Wallace

Contents

1. Executive Summary

The University of Reading has a complex estate that accommodates many different and interdependent teaching, research and operational activities across 3 locations in the UK and a planned campus in Malaysia opening in 2015. This extensive estate has an increasingly important role in attracting the best teaching, research and student talent, and supporting the University's position in a competitive Higher Education sector.

The University estate consists of three main property portfolios:

- The Academic Estate that provides teaching and research facilities, and business accommodation. The UK Academic Estate is the focus for this Estate Strategy.
- The Investment Estate which includes a variety of properties primarily held to generate third party income and in some cases, support the academic and non–academic requirements.
- The Residential Estate, which provides student accommodation.

Great progress has been made over the last 10 years which has resulted in significant improvements to the quality of the estate, whilst meeting the changing requirements of the University. However, the current estate remains extensive, and still includes properties of sub–optimal standard, suitability or environmental performance for a world–class University.

The University has a new vision for 2026 and ambitious growth plans to secure its place within the global market. The estate needs to support the delivery of this vision and change accordingly.

This Estate Strategy has been developed following extensive analysis of the existing estate and consultation with key stakeholders as part of an overall framework of initiatives aimed at maintaining and enhancing the University's competitiveness within the Higher Education sector.

The analysis of the estate and the consultation exercise identified the following themes that aim to be addressed by this Estate Strategy:

Scale – currently too large for existing student and staff population and in comparison with peer organisations;

Functional Suitability – specialist space is least suitable for a modern University and accounts for 18% of the Academic Estate

Space Type – insufficient modern, flexible space and a strong desire to have more community space across the estate

Condition – some buildings of inadequate standards remain, primarily at Whiteknights campus

Green Campus – highly valued campus at Whiteknights which has a significant positive impact on the student experience

Location – some schools and departments are not in the right location across the Whiteknights campus and need to be better located with their learning communities

Carbon Management – very important to the university to demonstrate its environmental credentials and to continue to enhance its performance across the estate

Management & Service Delivery – more shared use of facilities is needed to ensure efficient use and enhance student experience

Multi site portfolio – focus core activity on the Whiteknights campus and consider complementary uses for Greenlands and London Road that support academic activity and income generation

Sport & Leisure – its importance to the student experience and the need to ensure alignment with University growth plans.

The Estate Strategy responds to these issues as described in the table below and has set performance targets against each theme. Projects and initiatives will be assessed for their ability to address these issues and contribute towards the strategic targets set.

Estate Strategy

This Estate Strategy provides the framework for the development and delivery of projects through to 2026 and will be subject to annual updates and five yearly reviews.

Theme	Strategic Response	Strategic Target
Scale	All new developments and refurbishment projects will aim to: • Reduce the overall scale of the academic estate and increase the efficiency of buildings through improved design. • Create flexible spaces that can be adapted to changing academic programmes and alternative uses. • Provide more community spaces across all building types, not just within Faculty and School buildings. • Meet the changing demand for facilities that accommodate changing teaching approaches and the greater use of technology. • Assess requirements to be undertaken holistically across a Faculty as well by space type.	Target reduction of 15% of the existing footprint by 2020. Target area reduction per FTE to a mean of 10sqm (GIA)
Functional Suitability		Minimum of 70% of generic teaching and specialist spaces to be functionally Grade 1 & 2 (Excellent & Good)
Space Type		Ensure all new buildings designs and refurbishment works enhance the effective use of balance space
Condition	Investments should seek to deliver wider benefits to the University whilst simultaneously addressing sub-standard condition, and seek to impact the student experience and/or areas of non–compliance. Set condition targets to ensure the most important buildings are in good condition, whilst ensuring the rest of the estate remains legally compliant.	100% of Core and 90% Flexible buildings to be a minimum condition Category B Ensure the estate remains legally compliant at all times.
The Green Campus	Maintain the excellent quality of the grounds and promote environmental sustainability in both construction and management of the University's academic portfolio	Achieve Platinum EcoCampus or ISO14001 for all campuses; new and refurbished buildings to be designed to achieve a minimum BREEAM Very Good
Location	Continue with re-zoning of schools/Faculties to address the existing anomalies with FAHSS and FLS at Whiteknights.	All Schools and Departments at Whiteknights should align with the Whiteknights zoning strategy and seek to co–locate activities wherever possible.
Core/non–core	Focus investment in the "core" estate, where the University is committed for the long–term and in doing so endeavour to release "non–core" buildings from the portfolio in the short–term.	Dispose of all non-core assets
Space Management	The need for greater transparency of room booking/space utilisation data for spaces currently managed directly by the Faculties: with the overall aim of identifying opportunities to check there is appropriate space provision and release surplus for alternative uses as appropriate. Continue to seek improvements in the management and provision of services on behalf of the University.	All core teaching space should be centrally booked.
Carbon Management	Carbon reduction initiatives and investment to be focused on those buildings that exhibit high energy consumption, in addition to buildings which exhibit condition issues with regard to building fabric and M&E systems and infrastructure. Continue to embed a carbon management culture across the staff and student community.	Deliver 35% reduction in carbon emissions by 2016 and 45% by 2020 against the 2008/9 baseline; develop a further target to 2026. Retain Carbon Trust Standard and/or achieve ISO50001.
Multi site portfolio	Aim to consolidate facilities to the Whiteknights campus when feasible to do so. Seek to relocate facilities to Whiteknights to drive out operational efficiencies and enhance the student experience at this main campus. Consider complementary uses for Greenlands and London Road to support academic activity and income generation Commitment to invest in University growth plans when evidenced by increasing demand for academic programmes.	Locate 95% of core activity by area at the Whiteknights campus. Undertake development of complementary activities at other locations as opportunity arises.
Sport and Leisure	Invest in facilities that will enhance experience and continue to promote widespread use amongst students, staff and the local community.	Provide enhanced facilities in response to student growth and in accordance with the University's strategy for sport.

2. Background & Context

2.1 University Context

The University has a complex estate that accommodates many different and interdependent teaching, research and operational activities. The University recognises the increasingly critical role that this estate has to play in attracting the best teaching, research and student talent, and supporting its position in an increasingly competitive Higher Education sector.

Great progress has been made over the last 10 years, by delivering significant elements of the previous estate strategy and key initiatives identified in the Masterplan, which have resulted in step–change improvements to the estate and met the changing requirements of the University. There has been significant investment in the condition of the estate, such that now only 25% of the existing remains in condition category C&D (poor/inoperable). In 2003, 70% of the estate was categorised as condition C&D.

Example of key projects delivered include:

- Exiting the Bulmershe campus and redeveloping premises at London Road to accommodate the Institute of Education
- Development of the Minghella building to provide new fit for purpose accommodation for the School of Film, Television and Theatre enabling exit of Bulmershe campus
- New building for Henley Business School on the Whiteknights campus as part of merger with Henley Management College in 2008
- New Student Services building developed in the centre of the Whiteknights campus

The current estate remains extensive, and still includes properties of sub–optimal standard, suitability or environmental performance for a world–leading University. The Estates and Facilities Department (E&F) has undertaken regular and thorough analysis of condition and space use: the results of this work demonstrate the need for investment in sub–standard accommodation and that the University could reduce the scale of its portfolio by investing in new, more effective designs and by using space more intensively. 11% of the University's current core assets and 25% of all academic assets sit within condition category C or D.

The additional challenge for the University is how to ensure the estate can respond to the changing academic and research needs and to develop property and service arrangements that can flex to meet the future needs of our students and stakeholders. The University believes the property estate needs to be dynamic and will add to, reconfigure or dispose of properties, as appropriate, to deliver its corporate strategy and objectives.

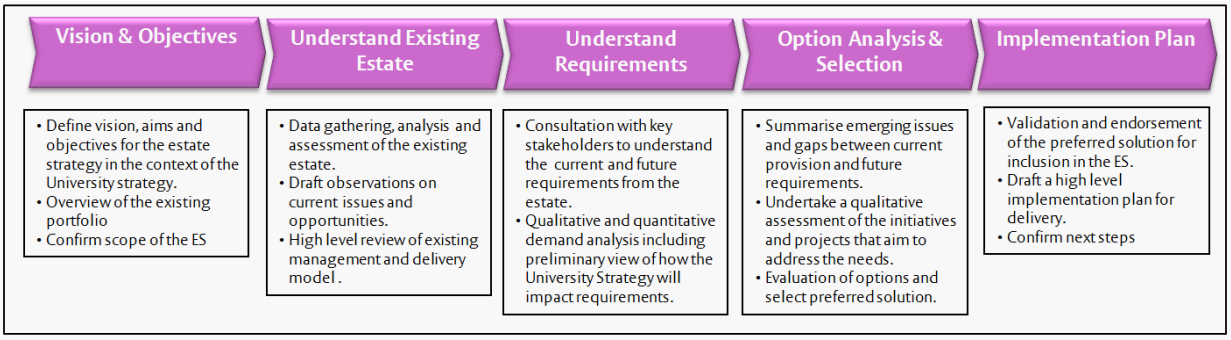
Consequently, it is inevitable that changes will be required to the existing academic portfolio to meet the changing needs of the University and to exploit any opportunities to release space, save costs and deliver a more effective estate. This strategy describes the University's response to its changing portfolio requirements and the internal and external influences that are placed upon it.

2.2 Approach

The current strategy is time–expired and the University needs a refreshed and integrated Estate Strategy (ES) to describe how the estate needs to change to meet the future requirements of the University. This strategy has been developed in conjunction with wider initiatives aimed at maintaining and enhancing the University's competitiveness within the Higher Education sector.

This ES provides a framework for the development and delivery of projects with a primary focus on the academic portfolio through to 2026 with annual updates and five yearly reviews. The ES is aligned with the current Estate Masterplan, dated 2008, that sets out a development plan for the wider Whiteknights campus through to 2018. It is essential that the ES is underpinned by a thorough understanding of user requirements, that it is driven and owned by senior management, and that it secures full stakeholder engagement. These principles are reflected in the approach to developing the strategy as summarised below.

Figure 1 – Summary of Approach to Estates Strategy



2.3 The University Estate

The University estate consists of three main property portfolios, defined by use:

- The Academic Estate that provides teaching and research facilities, and business accommodation. The Academic Estate is the focus for this Estate Strategy;
- The Investment Estate which includes a variety of properties primarily held to generate third party income and in some cases, support the academic and non–academic requirements;
- The Residential Estate, which provides student accommodation.

Academic Estate: The majority of the premises within the Academic Estate are located across four locations:

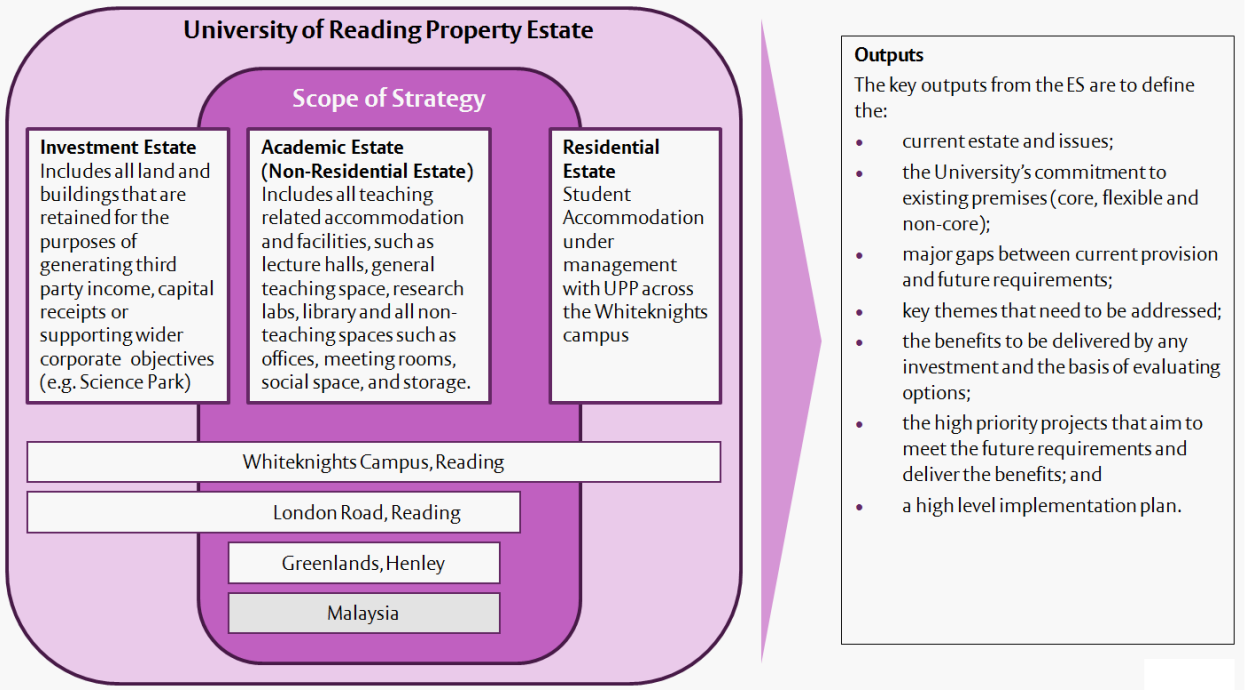
- Whiteknights, Reading;
- London Road, Reading;
- Greenlands, Henley; and
- Educity, Johor Bahru, Malaysia (under construction).

Investment Estate: The investment estate consists of properties that are primarily located in the vicinity of the University Reading and includes land, residential, commercial and industrial premises. Initiatives within the Investment Estate that interface with the Academic Estate will be considered as part of this ES. A categorisation and property strategy exercise for the investment estate is being worked up separately as part of this overall Estate Strategy, the outcomes from which will be fed into the implementation planning phase of the ES in 2014.

Residential Estate: The University's residential estate has been disposed of on a long lease to UPP, who now manage and provide residential accommodation to students on behalf of the University. The University continues to provide some services across this residential estate, such as catering, grounds maintenance, security, bars and student IT, and needs to consider these facilities and services on an on–going basis as part of the strategy. It is not anticipated that major investment decisions will be required by the University across this portfolio over the period of this ES although some further investment in catering facilities may be required.

2.4 Scope of Estate Strategy

Figure 2 – Estate Strategy Scope



3. Vision & Objectives

3.1 University Vision & Objectives

The University of Reading aspires to have an efficient, fit–for–purpose, and sustainable estate, which supports teaching and research delivery, facilitates future growth and is flexible to changing requirements. The University of Reading's ranking within the top 1% of the world's universities is accompanied by accolades for its impressive properties and facilities; its exceptional campus environment is a unique selling point.

The principal aim of the property estate is to enable the University to successfully deliver its strategy and objectives to sustain and enhance its position in the global higher education and research sector.

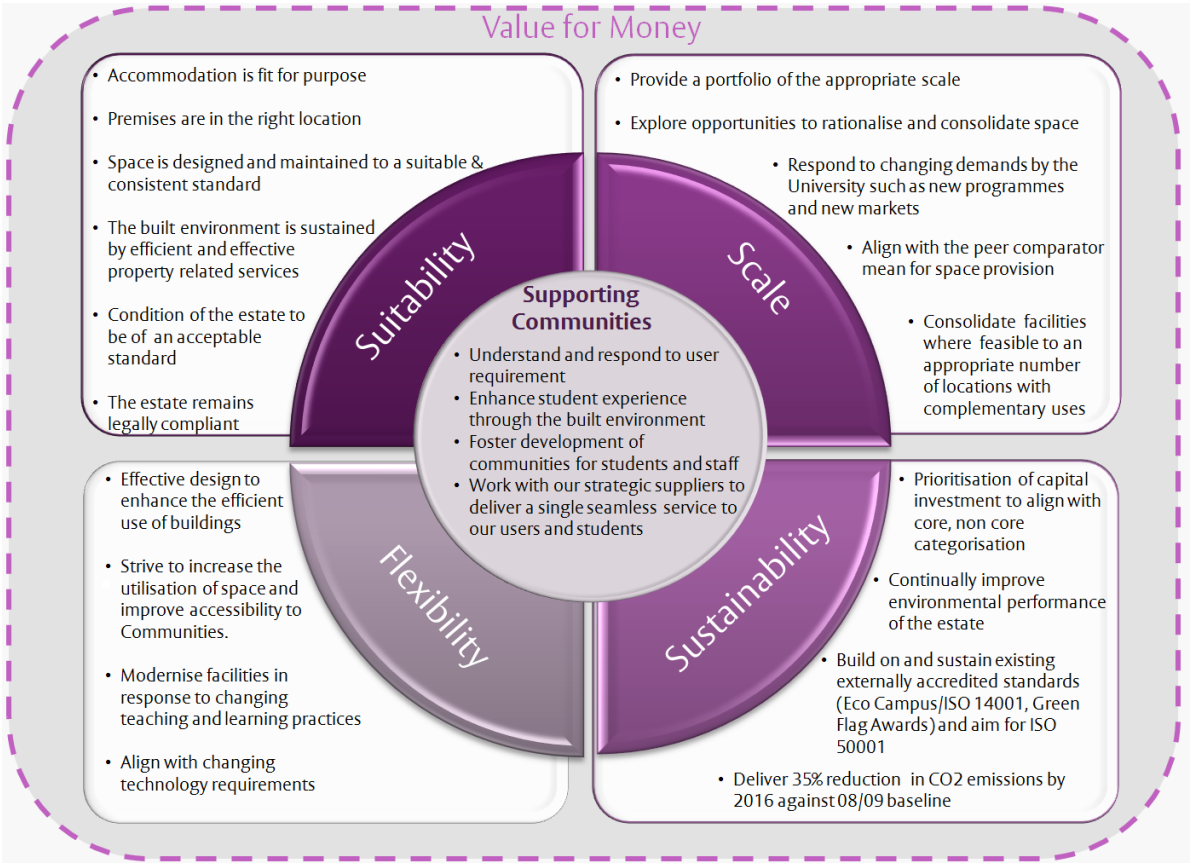
The University's key strategic objectives that the ES needs to support include:

- *Provision of world–class higher education and research* across a broad range of subjects that can be provided through different delivery models in addition to the 'normal' campus–based approach such as: satellite campuses, online/open access programmes of study, specific research commissions, and consulting;
- *Building partnerships* with other universities, education bodies, research foundations, professional organisations and potential employers;
- *Attracting and retaining the best talent* across the staff and students communities – both research and teaching, and professional services;
- *Responding to market demands* by flexing to support the provision of new courses and programmes of study, to a widening range of potential students and customers; and
- *Supporting wider non–academic strategic objectives*, such as fostering new enterprises and enabling the University to play a full part in the economy and civic society of Reading and the surrounding region.

3.2 Estate Strategy Aims and Objectives

A summary of the University's aims and objectives for its estate are illustrated below. The challenge for E&F is to balance and reconcile the various competing demands from the estate and deliver a strategy at an acceptable and sustainable cost to the University.

Figure 3 – Estate Aims & Objectives



4. The Existing Estate

4.1 Portfolio Overview

The University of Reading owns, occupies and manages a large, complex and dynamic estate comprising 469 assets totalling 392,570 m^2 GIA (284,105 m^2 NIA). **The Academic Estate forms the largest proportion of the total portfolio accounting for 55% of the total portfolio (by area)**. The relative scale of the three estates is summarised below.

Table 1: Portfolio Overview

Estate	Number	GIA (m^2)	NIA (m^2)	Summary Description
Academic	214*	216,924	154,838	Core teaching spaces including lecture theatres and seminar rooms, core research space, offices, catering and sports facilities
Investment	208	99,403	75,189	Residential accommodation, commercial premises, farms** and farmland
Residential	47	76,243	54,078	Student halls
TOTAL	**469**	**392,570**	**284,105**	

* Further details of the properties within the Academic Estate are included in Appendix 1.

** Note some farmland is held for both academic and investment purposes.

Ownership

The University's land and property assets are held either directly by the University, or in one of three Trusts (National Institute of Research in Dairying (NIRD), Research Endowment Trust (RET) and Hugh Sinclair Trust) two of which have restrictions on the future use of any capital generated from asset disposals. The development of options for each of the short–listed projects in this ES will consider the implications of any potential restrictions as part of defining the optimal solution.

4.2 Academic Estate

The Academic Estate is primarily located in the UK, with some properties located overseas to support Henley Business School and a major University development underway in Malaysia. This ES is focussed on the UK Academic Estate but it is important to note the following properties and projects outside the UK:

Malaysia

- Purpose built new build to deliver teaching on the EduCity Campus in Iskandar. The University of Reading will be joining 5 other Universities, two from the UK, on a "multi–versity" campus, which is sponsored by the Malaysian Government.
- The University will be accommodated within approximately 23,000 m^2 of space to support academic services to 2,500 students when fully operational.
- University of Reading Malaysia has already taken a 3–year lease on a building in Johor Bahru and will take a 12 year lease on the new campus building once completed in 2015.

Other

The University also has small properties across other international locations, including: Finland (Helsinki), Germany (Frankfurt), Hong Kong and South Africa (Johannesburg). All are staffed by staff from Henley Business School (HBS) and are leased on relatively short-term arrangements. Small offices will open and close according to HBS business plans. This small overseas portfolio is mentioned for background information only and does not form part of this ES.

Understanding the existing estate

In depth analysis of the existing academic estate has been undertaken to inform this Estate Strategy. Appendix 1 sets out this analysis in detail and includes a high level summary of the current structure and operating model for the Estates and Facilities function that provides and manages property and FM services on behalf of the University.

Appendix 1includes analysis on: estate allocation by campus, area allocation by space type, functional suitability, cost & income, an assessment of core and non–core buildings, analysis on backlog maintenance and an assessment of progress against carbon reduction targets.

A summary of the key findings from this analysis is presented on the next page.

4.3 Academic Estate – Summary Analysis

Table 2: Academic estate analysis – summary observations

Theme	Observation
Scale	Academic estate is 55% of the total footprint and needs to compete with the investment and residential estates and all other university programmes for the limited capital available. 80% of the Academic Estate is located at Whiteknights. 13% of the estate is not used for academic purposes at all (vacant, sub–let or uninhabitable). A further 3% (by area) is occupied by museums.
Functional Suitability	Buildings are typically defined by Faculty, School or other University Department and contain numerous space types within them. The suitability of different space types varies within the same buildings and across different buildings. Consequently assessment of requirements needs to be undertaken holistically across a Faculty/School/Department level as well by space type. The functional suitability of specialist spaces is not properly understood by the University at a portfolio level. Office space and general teaching space is deemed to be generally satisfactory or better. Specialist space is deemed to be the least functionally suitable type of space.
Space Type	The age and design of many of the University's buildings results in a significant proportion of space being designated for a specific use with limited scope and flexibility to accommodate alternative uses. The majority of buildings include multiple space types which can make it impractical to define solutions by space type only and which could result in empty spaces across numerous buildings. There is insufficient open plan accommodation across the estate which makes more efficient use of the overall area within a building and which can accommodate different uses. Consequently, 29% of the existing portfolio is defined as "balance space" (areas that typically include circulation space, corridors, plant rooms, stair wells), which indicates a relatively inefficient design, albeit typical for the sector. Open plan flexible accommodation makes better use of circulation areas – resulting in a reduction in the overall demand for space.
Condition	The majority of liabilities are across the Whiteknights campus and concentrated in a small number of buildings, such as the TOBs and the AMS Tower. This is reflected in the categorisation of these buildings as non–core.
Green Campus	The main Whiteknights site is set in 130 hectares of parkland, consisting of green open spaces, lake, rare trees and habitat for wildlife.
Location	There are still schools that are located inappropriately at Whiteknights and consequently not benefitting from any operational, social and learning synergies that would arise from collocation with other schools in the same Faculty.
Core/Non–core	50% of the estate is categorised as core and 20% as non–core, i.e. the

	University wishes to exit and remove this space from the portfolio. The commitment is not yet clear for 30% of the estate and these buildings are to be revisited during implementation of the strategy.
Carbon Management	A 15% reduction in carbon emissions has been achieved to date against the target. Plans are in place to drive out a further 15% reduction by 2015/16 as part of the overall target of 45% reduction by 2020 against the 08/09 baseline. The University has achieved the Carbon Trust Standard.
Management & Service Delivery	The operating model indicates that there is still some fragmentation across the university regarding the provision and management of property–related services. Only 7% of the total portfolio (by area) is booked centrally and the remainder of the academic estate has its spaces booked by the respective Faculties and Departments that occupy the respective buildings.
Multi site portfolio	All residential accommodation is located on or near Whiteknights and Greenlands. 13% of the Academic estate (by area) is not located on one of the 3 core locations. There is limited scope to relocate further activities to London Road without significant investment in non–Academic premises. Planning restrictions may limit significant development at Greenlands.
Sport and Leisure	The University has a SportsPark with excellent but crowded gym facilities and which provides a wide range of support for a large number of different sports. Boat houses on the Thames support the exceptional rowing crews.

4.4 Investment Estate

The University's investment portfolio and sub–let spaces across the Academic Estate, generates a rent roll of approximately £4.47 million per annum and is split into non–residential and residential asset categories.

The primary function is to generate income and capital receipts but this estate does also require capital investment to sustain the revenue streams and support wider operational objectives. The Investment Estate is competing with the Academic Estate for the limited capital available. Allocation of capital will be based on how effective the investment will be in supporting the University in delivering its strategy and objectives.

A separate exercise is currently underway to categorise all investment assets into one of five management categories, which will inform future asset planning and the optimisation of capital values and revenue returns for the University from this Estate. The Property Strategy for each of these properties is also being identified.

Investment assets are categorised as follows:

- Development – assets which present an opportunity to realise a capital receipt within a 5 year time horizon;
- Strategic –assets held on the basis that they may have future strategic value subject to changing planning policies and designations;
- Operational– those assets held on the basis of their synergy with and support of the core academic and operational portfolio e.g. working farms to support agricultural research and practice;
- Awaiting Disposal – those assets designated by the University as surplus to requirements;
- Revenue – those assets that generate a net yield of 5% per annum and which provide long term sustainable revenue to support the University's core operations.

Details of how the performance of the Investment Estate will be enhanced will be documented separately to this strategy document and will form part of this overall Estate Strategy.

4.5 Residential Estate

The ownership and operation of the University's residential halls was transferred to UPP in a 125 year partnership deal in 2011. For the purpose of this ES it is important to recognise that a number of key services, such as security, grounds, catering, IT and associated spaces within the halls, that are critical to the student experience, continue to be operated and maintained by the University's Estates and Facilities Department (E&F). These spaces include: catering areas such as kitchens, dining space and bars; and IT rooms, and will be considered as part of the ES. Significant investment has been made during the last ES period (2003 – 2013) in the catering facilities across the University.

5. University Requirements

5.1 Overview

The Estate Strategy needs to respond to the University's requirements. A series of 24 meetings have been held with a wide range of academic and non–academic/support service stakeholders to understand their respective views on:

- Current accommodation and services
- Issues with current provision and thoughts on priorities for improvement to the estate; and
- How the demand for space is likely to change in their respective Faculties and departments.

In parallel, analysis of the University's growth targets and their potential implications for the estate has also been undertaken. The pages that follow summarise the findings from the qualitative and quantitative demand analysis undertaken. Appendix 2 provides further details.

5.2 Qualitative Demand Summary

Table 3: Stakeholder consultation summary

Theme	Observation
Class size and implications for teaching space	The future of teaching may have a range of implications for the type and configuration of space that is required to satisfy demand within the context of the Estate Strategy. The trend is believed to be towards smaller class sizes, with student expectations placing greater emphasis on the amount of contact time with tutors during their studies. There will also be an on–going need for some larger teaching spaces. The potential space implications of these changing demands include the need for a greater mix of small and medium size seminar rooms as opposed to large teaching spaces and/or additional office and support space should additional teaching capacity be required to support double or triple teaching in smaller class sizes.
Changing teaching and learning methods and new technologies	An increasing demand for spaces which support interactive teaching methods and which facilitate technology enhanced learning (TEL) is predicted. Blended–learning delivery models are likely to become the norm rather than the exception as the concept of the 'flipped classroom' becomes increasingly embedded across the University. Delivering teaching within a blended learning environment is likely to pose a series of challenges for space, its distribution and configuration. The implications of TEL will need to be carefully considered in future space scenarios. A strong desire to establish a common 'minimum standard' of accommodation across core teaching spaces has also been highlighted by a number of stakeholders. Quality training/learning space is also required to support staff development.
Development of flexible new space	Where new space is developed across the campus it will be essential that it is designed with flexibility in mind and can support a wide range of purposes and future uses should its original intended use no longer be relevant in the medium to long term. Future-proofing the estate will be essential given that the teaching and learning future remains unpredictable. Current design solutions aiming to provide flexibility include the installation of sliding /retractable partitions within and between rooms, which have enjoyed limited success to date. Onerous processes for reconfiguring space on a daily basis are believed to restrict opportunities to improve occupancy levels and utilisation rates.
Future laboratory space	Laboratory space across the University is currently managed by schools and departments and is not pooled centrally. As a result, the opportunity to deliver enhanced utilisation and management efficiencies across these facilities is currently constrained. The functional suitability of laboratory space is the subject of scrutiny as part of a number of accreditation schemes and is therefore a critical issue for senior researchers across the Life Sciences and Sciences Faculties. Providing high quality, functional space (both teaching and research laboratory space) within which to perform research will be central to the University's research growth strategies in key fields.

Table 4: Stakeholder consultation summary (cont.)

Theme	Observation
London Road as the civic face and spiritual home of the University	The London Road site is widely perceived as the spiritual home of the University and provides the principal gateway for engagement with the public and an important civic interface between the University and the town. A number of issues and challenges associated with existing provision have been highlighted in consultation with stakeholders and include the poor quality current social infrastructure on the site and the significant backlog maintenance liability of the London Road frontages. The site has recently been the subject of a significant investment programme following the relocation of the Institute of Education from the Bulmershe campus. However, changing government policy with regards to teacher training and the rhythm of teaching undertaken across the site creates a series of space utilisation challenges that need to be recognised and addressed.
Sustaining a green campus	The University's 'green' campus comprises 134 hectares of conservation meadows, rare tree collections and a large lake, and is an important factor in attracting students, academics and support staff. The environmental credentials of the Whiteknights campus in particular are widely recognised as a unique selling point for the University and should be protected and enhanced wherever possible as part of the Estate Strategy. Land and property assets are widely recognised as a key marketing tool and potential differentiator when students and staff determine their future place of study or work.
Creating community spaces	Consultation has identified a general lack of community space within schools and departments and in central areas of the campus. The term 'community space' includes reference to break–out spaces for academic to academic interactions, academic to student interactions and student to student interactions. Community break–out space also incorporates other social infrastructure facilities including catering and refreshment. There is a common perception that the drive towards enhanced space utilisation has removed a number of 'community spaces' from the wider portfolio and that these spaces have not been replaced. Some good examples of break–out and informal study spaces do exist across the portfolio and are working well e.g. Henley Business School.
Zoning of academic activity	Estates and Facilities have made good progress in zoning academic activities across the estate, co–locating activities within schools, departments and faculty wherever possible: to support and enable student movements and reinforce a sense of place within a large campus environment. A number of anomalies remain including AMS Tower and the Knight building, and also with regard to the Faculty of Arts, Humanities and Social Sciences. The need to address these anomalies and achieve greater coherence amongst related schools and departments through estate planning is seen as important.

5.3 Quantitative Demand Summary

Table 5: Quantitative demand analysis – summary observations

Theme	Observation
Overprovision of space	The University operates a significantly larger amount of space per FTE than its peer comparators; 29% more space per FTE (NIA) than the peer median and 35% more space per FTE (GIA). Greater value can be driven out of the estate by accommodating and providing for growth whilst also committing to projects that effectively target reductions in the total occupied footprint across faculties and departments and central support services. The Estate Strategy needs to focus on projects that absorb growth through improved space management and space rationalisation and reconfiguration mechanisms. Expansion of the current space envelope will be the exception to the rule.
Space inefficiencies across schools and departments	Analysis of space norms by Faculty indicates that there is greatest over–provision of space within the Faculty of Science (2,916 m^2) and the Faculty of Life Science (3,411 m^2). HBS is currently operating at capacity. Particular pockets of over–provision exist within Construction Management and Engineering, SAGES, Agriculture and the School of Biological Sciences. Projects targeting space reduction and/or reconfiguration should consider these areas as a priority.
Fragmented office space	A significant amount of office space (32,000 m^2) is currently distributed across the University and is occupied by schools and departments or central support functions. Over–provision of c10, 000 m^2 has been highlighted based upon the application of space norms. Opportunities to release space within this category will be restricted as office space is typically embedded within school buildings. Projects which present options to 'lift and shift' schools, departments or central support services should seek to rationalise office space by introducing modern space standards and new ways of working protocols.
Growth in students numbers & the impact of new markets	Within a 3 year time horizon growth in student numbers of c27% is targeted equating to 3,227 students. Long-term growth of approximately 5,000 students is targeted. The Business School and Law are anticipated to be key growth drivers within the Undergraduate and PGT markets. In the medium term (2018+) significant growth is anticipated within the Part time Executive Education market. Whilst it is anticipated that this new student cohort will require higher quality space than the typical undergraduate market the quantum and optimum configuration of space to support teaching in this area is yet to be determined.
Sport and Leisure	33% of the student population are current members of the SportsPark. The existing facilities are over-crowded and to cater for the same proportion of the projected increased student numbers, the University would need to consider::enhancing the fitness suites, exercise studios, treatment rooms, and changing rooms internally; and developing floodlit and all-weather facilities externally.

6. Emerging Strategy & Targets

6.1 Overview

The review of the existing estate, management and service delivery arrangements, allied with the feedback from the stakeholder consultation and quantitative demand analysis has identified a range of key common themes that need to be considered and addressed by the ES.

This section of the strategy:

- Summarises the findings from the estate and demand analysis;
- Describes how the University intends to respond to these themes in this strategy
- Describes the key gaps between current provision and future requirements for each theme; and
- Summarises the emerging targets for each theme.

6.2 Summary of Supply & Demand Analysis

Table 6: Summary of Supply & Demand Analysis

Theme	Analysis of the Estate	Analysis of University Requirements
Scale	The academic estate is 55% of the total footprint and needs to compete with the investment and residential estates for capital. 80% of the Academic Estate is located at Whiteknights. 16% of the estate is not used for academic purposes (vacant, sub–let, uninhabitable & museums).	The current estate is too large for current student and staff FTE numbers, based on calculations using UoR E&F space norms and peer comparators. Key areas of overprovision are in the FoS and FOLS. There is an overprovision of office space embedded across the portfolio. The UoR does, however, have a 3 year growth target of 27% which will reduce the perception of over–provision of space.
Functional Suitability	Office space and general teaching space is deemed to be generally satisfactory or better. Specialist space is deemed to be the least functionally suitable type of space.	Laboratory space accounts for 18% of the portfolio and is managed by faculties directly. Enhancing utilisation and providing high quality functional space is seen as a priority.
Space Type	The age and design of the buildings results in a significant proportion of space being designated for a specific use and with limited scope to accommodate alternative uses. The majority of buildings include numerous space types, which can make it impractical to define solutions by space type only. There is insufficient open plan accommodation across the estate, which would make more efficient use of the overall area within a building and reduce overall demand for space.	There is a strong desire to create more community spaces – particularly within schools and departments. Development of flexible new space would provide schools & departments with the ability to adapt its use to changing needs and programmes for the University. The surplus space detailed above in Scale will not necessarily be the appropriate space type to support the growth in student numbers Increased use of technology will change teaching methods over time.
Condition	The majority of liabilities are across Whiteknights and in a small number of buildings, such as the ToBs and AMS Tower.	There is an increased willingness to have greater use of shared space if the condition of the shared space is enhanced.
The Green Campus	The University's 'green' campuses are a very significant element of the overall property estate, The University's management systems promote awareness and enhancement of the natural environment and adopt sustainable building construction and management processes where practical.	The grounds and environmental credentials of the University campuses are widely recognised as a unique selling point, regularly featuring as a key area of attraction for staff and students, and should be protected and enhanced wherever possible.
Location	There are still schools that are inappropriately located at Whiteknights	Continue to progress the zoning of schools and departments to address the

Theme	Analysis of the Estate	Analysis of University Requirements
	and consequently which do not benefit from any operational, social and learning synergies that would arise from co-location with other schools in the same Faculty. For example Life Sciences is currently widely distributed across the Whiteknights campus.	existing anomalies – particularly within FAHSS and FLS across Whiteknights campus.
Core/non–core	50% of the estate is categorised as core and the focus of investment and 20% as non–core, i.e. the University wishes to exit and remove this space from the portfolio.	Desire to exit poor quality buildings and enhance the student experience.
Carbon Management	A 15% reduction in carbon emissions has been achieved to date against the target. Plans are in place to drive out a further 20% reduction by 2016. The University has achieved the Carbon Trust Standard	Commitment to strong environmental performance from the estate underpins many of the University's research themes on climate change and sustainability Need to retain the Carbon Trust Standard and aim for ISO50001
Management	The operating model indicates that there is still some fragmentation across the university regarding the provision and management of property–related services. Only 7% of the total portfolio (by area) is booked centrally.	Future trend towards more small class sizes enabling more contact time with tutors and less direct teaching time. There is a need to better understand how much space & what type will be required to support changing teaching methods & new programmes.
Multi site portfolio	13% of the estate (by area) is outside the three main locations. There is limited scope to relocate activities to London Road without significant investment in non–Academic premises. Planning restrictions will limit development at Greenlands.	Support to University growth plans subject to evidence of increased demand for programmes. Maximise the marketing potential of the campus at Whiteknights and its influence on the student experience. Consider complementary uses for the Greenlands and London Rd campuses to support academic activity and income generation
Sport and leisure	The University has a SportsPark with excellent but crowded gym facilities and which provides a wide range of support for a large number of different sports. Boat-houses on the Thames support the exceptional rowing crews.	33% of the student population are current members of the SportsPark. The existing facilities are over-crowded and to cater for the same proportion of the projected increased student numbers additional facilities will be required.

6.3 Strategic Response

Table 7: Summary of strategic responses to emerging themes

Theme	Strategic Response
Scale	All new developments and refurbishment projects will aim to:
Functional Suitability	Reduce the overall scale of the academic estate with particular focus on areas of known overprovision
Space Type	Increase the efficiency of the portfolio and ensure the balance space within premises is useable. This will consequently drive down the overall requirement for space. Create flexible spaces that can be adapted to changing academic programmes and alternative uses. Provide more community spaces across all building types, not just within Faculty and School buildings. Reflect the changing demand for more facilities that accommodate changing teaching approaches and the greater use of technology within programmes. Assessment of requirements needs to be undertaken holistically across a Faculty/School/Department level as well by space type.
Condition	Investments should seek to deliver wider benefits to the University whilst simultaneously addressing backlog maintenance liabilities. Backlog maintenance should only be a priority for capital investment if it is in response to addressing issues that impact the student experience and/or areas of non–compliance. Set condition targets to address C and D categories with the core estate taking priority over flexible assets. Where non-core buildings remain occupied, the remaining category D and business critical category C repairs will also need to be addressed
The Green Campus	Maintain the excellent quality of the grounds and promote environmental sustainability in both construction and management of the University's academic portfolio
Location	Continue with progressing the zoning of schools/Faculties to address the existing anomalies with FAHSS and FLS at the WK campus.
Core/non–core	Focus investment in the "core" estate, where the University is committed for the long–term and in doing so endeavour to release "non–core" buildings from the portfolio in the short–term.
Space Management	The need for greater transparency of room booking/space utilisation data for spaces currently managed directly by the Faculties: with the overall aim of identifying opportunities to check there is appropriate space provision and release surplus for alternative uses as appropriate. Continue to seek improvements in the management and provision of services on behalf of the University.
Carbon Management	Carbon reduction initiatives and investment should continue to be focused on those buildings that exhibit high energy consumption at an estate–wide level and/or in relation to benchmarks for similar buildings, in addition to buildings which exhibit condition issues with regard to building fabric and M&E systems and infrastructure. Continue to embed a carbon management culture across the staff and student community.

Multi site portfolio	Investment to be focussed with the aim of consolidating academic related facilities to Whiteknights when feasible to do so. Complementary uses for Greenlands and London Road to be considered to support academic activity and income generation. Opportunities sought to relocate facilities to Whiteknights to drive out operational efficiencies and enhance the student experience at this main campus. Commitment to invest in University growth plans when evidenced by increasing demand for academic programmes.
Sport and Leisure	Invest in facilities that will enhance experience and continue to promote widespread use amongst students, staff and the local community.

6.4 Key Gaps

The key gaps that relate to the emerging themes are summarised in the table below. Projects and initiatives to be taken forward within this ES will be appraised against their ability to address these gaps and deliver the associated benefits to the University.

Table 8: Summary of key gaps

Theme	Key Gaps
Scale	The University operates a significantly larger amount of space per FTE than its peer comparators. A space reduction target of approximately 15% would bring the University in line with its peer group under a growth scenario of approximately 2,000 FTE. Significant levels of over–provision against space norms are evident within the Faculty of Science (2,916 m^2) and the Faculty of Life Science (3,411 m^2). Construction Management & Engineering, SAGES, Agriculture and the School of Biological Science exhibit significant over–provision, whilst HBS and Law are likely to be subject to space constraints if student numbers grow in line with projections. By space type there is evidence of over–provision of office space, albeit that this is typically embedded across multiple school buildings making the driving out of efficiencies more difficult to achieve. Capital Investment projects should be strategic and of a sufficient scale, as opposed to smaller and tactical in nature, if they are to drive out overall space from the academic portfolio.
Functional Suitability	There are a number of buildings within the academic estate which currently provide functionally unsuitable specialist space (excluding office and teaching space): at Whiteknights, the Library, Engineering, Food Biosciences, AMS, Harborne, Knight, TOBs, Archway Lodge, Athletics Pavilion and Elmhurst Barn ; at Greenlands Paddock House and the Sports Hall; at London Road, the Old Library, Great Hall and IoE buildings; and the research facilities at Shinfield. There are also a number of buildings which currently provide functionally unsuitable teaching space including: at Whiteknights, URS, Engineering, JJ Thompson, Philip Lyle, Hopkins; and at London Road a number of the IoE buildings. With regards to office space, functionally unsuitable space is located at Whiteknights and includes: the Library, Engineering, Park House, Whiteknights House, URS, Sports Park and Hopkins buildings. Capital investment is required to reconfigure, refurbish or reprovide space in order to enhance the accommodation, improve student journey and provide space that can flex to meet the future requirements.
Space Type	There is a need to increase the proportion of modern flexible accommodation, such as modern office accommodation, across the academic estate including an increased provision of social and informal spaces. This depends on delivering more efficient and effective design and use of space across the portfolio.
Condition	The most important buildings within the estate with the poorest condition include the Library at Whiteknights and HumSS, which are both condition

Theme	Key Gaps
	category C. The most important University buildings account for 28% of the total backlog maintenance for the academic estate. Those buildings with the greatest level of maintenance backlog (>£500k) include HumSS, Whiteknights House, the Library at Whiteknights, Agriculture, Park House and the Palmer building. A large proportion (25%) of the maintenance backlog is attributable to the following buildings in the estate – URS, TOBs, AMS, Knight, Engineering, Miller, PEL facilities at Shinfield and Paddock House at Greenlands.
The Green Campus	E&F to lead the University drive for improvements and embedding good practice with regard to environmental management and sustainability and achievement of independent accreditation for good performance.
Location	Across Whiteknights campus there are defined areas of Faculty zoning. Certain Schools and Departments are not positioned in the optimal location based on the zoning of the campus. Those Faculties impacted include: Faculty of Henley Business School – some teaching is delivered across the Whiteknights campus and not within the HBS building. Other activities are at Greenlands in Henley. Faculty of Science – the School of Mathematical and Physical Sciences is dispersed across the main Whiteknights campus and Earley Gate. SAGES is dispersed across five buildings, SCME is dispersed across Engineering and URS, and SSE is split between three buildings. Faculty of Life Sciences – SBS is dispersed across five buildings at the Whiteknights campus, and the School of Agriculture is located on Whiteknights and Shinfield. Faculty of Arts, Humanities and Social Sciences – SACD is dispersed across the Whiteknights main campus and Earley Gate. The School of Law is located a significant distance from the main campus.
Carbon Emissions	Since publishing its original Carbon Management Plan in 2011 the University has made excellent progress in reducing its total CO2 emissions. A 15% reduction in carbon footprint has been achieved to date, with committed projects and known changes to the estate likely to increase the total reduction to c30%. Additional projects will be developed to achieve the 2016 interim target of 35%. This leaves a gap of 10% against the overall 2020 target of a 45% reduction, which equates to approximately 5,700 tonnes of carbon. Existing committed investment of £4m to 2016 will result in cumulative cost avoidance from the start of the programme of £19.6m, of which £6.1m has already been achieved. Projects which reduce the total size of the University's academic portfolio, particularly on the Whiteknights campus, and/or which focus on those buildings which exhibit high energy cost and condition issues are likely to have a significant impact on the University's ability to meet its 2020 target. Achieving financial savings on energy will become increasingly important during the period of the Estates Strategy as energy prices are likely to be volatile and government levies on carbon are likely to become more onerous.
Space Management	Approximately 68% of core teaching space is within the control of Schools and Departments. Surveys indicate that the utilisation of these spaces is generally much lower than those spaces that are centrally controlled and managed. Bringing more space, particularly core teaching space, under central control will

Theme	Key Gaps
	present opportunities to drive enhanced utilisation and realise operating cost savings by better matching supply to demand.
Multi site portfolio	The three main locations are Whiteknights, London Road and Greenlands. 13% of the total Academic Estate is not located across these three locations. The greatest space outside of these is located at Shinfield and Sonning making up 7% of the total academic portfolio.
Sport and Leisure	The gym is operating at capacity and an increase in student numbers, or requirement to enhance the student experience will necessitate additional facilities including: gym extension; studios; additional indoor changing facilities; floodlit AstroTurf pitch

6.5 Strategic Targets

The strategic targets that relate to the emerging themes in this ES are summarised in the table below. Projects and initiatives to be taken forward within this ES will be appraised against their ability to make a positive contribution to meeting these targets.

Table 9: Summary of targets

Theme	Emerging Strategy & Targets
Scale	Target reduction of 15% of the total existing footprint overall, with interim targets of 5% reduction by 2018 and 10% reduction by 2020. Target area reduction per FTE to 10sqm (GIA)
Functional Suitability	Minimum of 70% of generic teaching and specialist spaces to be Grade 1 & 2 (Excellent & Good)
Space Type	Ensure all new buildings designs and refurbishment works enhance the effective use of balance space
Condition	100% of Core and 90% of Flexible buildings to be a minimum condition Category B Ensure the estate remains legally compliant at all times
The Green Campus	Achieve Platinum EcoCampus or ISO14001 for all campuses; new and refurbished buildings to be designed to achieve a minimum BREEAM Very Good
Location	All Schools and Departments at Whiteknights should align with the Whiteknights zoning strategy and seek to co–locate activities wherever possible.
Core/Non–core	Exit and dispose* of all non–core assets
Space Management	All core teaching space should be centrally booked. Opportunities to drive utilisation efficiencies from non–office research space should be prioritised in future projects.
Carbon Management	Deliver 35% reduction in carbon emissions by 2016 and 45% by 2020 against the 2008/9 baseline; develop a further target to 2026. Retain Carbon Trust Standard and/or achieve ISO50001
Multi site portfolio	Locate 95% of core activity by area at the Whiteknights campus. Undertake development of complementary activities at other locations as opportunity arises.
Sport and Leisure	Provide enhanced facilities in response to student growth and in accordance with the University's strategy for sport.

* Disposal refers to those assets that are no longer required to support academic operations and may include demolition, sale or re–use for non–academic and income generating purposes.

7. Options Analysis & Implementation Planning

7.1 Options

The Estates and Facilities team has collated a long–list of projects, initiatives and ideas to be considered as part of developing this Estate Strategy.

A high level evaluation of the long–list of projects has been undertaken, against the emerging themes and gaps identified, and generated a draft short–list of 23 projects. The short–list of projects requires further consideration, evaluation and prioritisation, prior to confirming those initiatives to be included within the Estate Strategy. The projects deliver different benefits to the University – some of which respond to growth targets and delivery of new academic programmes, others that focus on addressing poor condition and aim to enhance the student experience.

The projects within the short–list are summarised below and includes type of project (new build/refurbishment/demolition) and the impact on the overall size of the estate.

Further consultation is required to discuss and evaluate this short–list with University stakeholders with the aim of achieving consensus on the projects to be taken forward for development within this Estate Strategy. The Estate Strategy will also be influenced by the capital available to deliver change and improvements across the estate.

Further details of each project are included in Appendix 4. Projects will be reviewed and tested on an ongoing basis during the period of this strategy and consequently Appendix 4 will remain a live document.

7.2 Project Short–List

The table on the next two pages shows the draft projects shortlist. Each project is scored against the drivers outlined in section 6.2

Table 10: Scored Draft Project Shortlist

Assessing capital projects against estates strategy drivers

The themes and associated targets from section 6.2 are presented. Each individual element is scored - **4 (extreme adverse impact) to + 4 (extreme positive impact)**. Therefore projects can score a total from **-44 (Extreme adverse impact) to 44 (Extreme positive impact)**. Projects shaded in grey are either in flight, or impacted by external factors which make their delivery necessary.

	Scale	Functional Suitability	Space Type	Condition	The Green Campus	Location	Core / Non-core	Space Management	Carbon Management	Multi Site portfolio	Sport and Leisure	Score	Project Description
	All new developments and refurbishment projects will aim to: Reduce the overall scale of the academic estate and increase the efficiency of buildings through improved design; Create flexible spaces that can be adapted to changing academic programmes and alternative uses; Provide more community spaces across all building types, not just within Faculty and School buildings; Meet the changing demand for facilities that accommodate changing teaching approaches and the greater use of technology; Assess requirements to be undertaken holistically across a Faculty as well by space type.			Investments should seek to deliver wider benefits to the University whilst simultaneously addressing sub-standard condition, and seek to impact the student experience and/or areas of non compliance.	Maintain the excellent quality of the campus grounds and promote environmental sustainability in both construction and management of the University's academic portfolio	Continue with re-zoning of schools/Faculties to address the existing anomalies with FAHSS and FLS at Whiteknights.	Focus investment in the "core" estate, where the University is committed for the long term and in doing so endeavour to release "non core" buildings from the portfolio in the short term.	Need visibility of room utilisation for spaces currently managed directly by the Faculties: overall aim of checking appropriateness of provision and identifying opportunities to release surplus for alternative uses as appropriate. Continue to seek improvements in the management and provision of services on behalf of the University	Carbon reduction initiatives and investment to be focused on those buildings that exhibit high energy consumption, in addition to buildings which exhibit condition issues with regard to building fabric and M&E systems and infrastructure. Continue to embed a carbon management culture across the staff and student community.	Consolidate facilities to the Whiteknights campus when feasible to do so in order to drive out operational efficiencies and enhance the student experience at this main campus. Consider complementary uses for Greenlands and London Road to support academic activity and income generation	Invest in facilities that will enhance experience and continue to promote widespread use amongst students, staff and the local community.		
	Target reduction of 15% of the existing footprint by 2020. Target area reduction per FTE to a mean of 10sqm (GIA)	Minimum of 70% of generic teaching and specialist spaces to be functionally Grade 1 & 2 (Excellent & Good)	Ensure all new buildings designs and refurbishment works enhance the effective use of balance space	Set condition targets to ensure the most important buildings are in good condition, whilst ensuring the rest of the estate remains legally compliant.	Achieve Platinum EcoCampus or ISO14001 for all campuses; new and refurbished buildings to be designed to achieve a minimum BREEAM Very Good	All Schools and Departments at Whiteknights should align with the Whiteknights zoning strategy and seek to co–locate activities wherever possible.	Dispose of all non-core assets	All core teaching space should be centrally booked.	Deliver 35% reduction in carbon emissions by 2016 and 45% by 2020 against the 2008/9 baseline; develop a further target to 2026. Retain Carbon Trust Standard and/or achieve ISO50001.	Locate 95% of core activity by area at the Whiteknights campus. Undertake development of complementary activities at other locations as opportunity arises.	Provide enhanced facilities in response to student growth and in accordance with the University's strategy for sport.		
Biosciences Building	4	4	2	4	4	4	4	2	4	0	0	**32**	A new build for Biosciences accommodating activities from AMS (BRU and Teaching Labs), Knight (Microbiology) and Harborne (SBS) on the site of the Engineering Building. Will also consider improvements to water resources.
URS Building, including TOBs and Architecture	3	4	4	4	2	4	4	2	3	0	0	**30**	Withdrawing from TOBs and consequent Re-housing of Art and Typography. Accommodation for Architecture and SCME. All accommodation in a refurbished expanded URS. Disposal of Miller.
Modified Environments Relocation	2	3	0	2	2	3	3	0	1	4	0	**20**	Withdrawing from PEL and Field Station, primarily to space behind Harborne, but some relocation to Sonning and potentially Hall Farm
Whiteknights Athletics Pavilion	0	2	0	4	2	0	3	0	0	0	4	**15**	Replacement Athletics Pavilion at Whiteknights
Library Refurbishment	0	3	1	4	2	0	2	0	2	0	0	**14**	Refurbishment of existing building. No additional area, but potential remodelling of existing library space including the creation of a new entrance and lobby. Re-fenestration. Recladding of two elevations. Renewal of mechanical services.
Lecture Theatre Refurbishment	1	3	0	1	0	0	2	0	1	0	0	**8**	Rolling Programme to update capability of, and refurbish, existing lecture theatres.
Teaching Room Refurbishment	1	3	0	1	0	0	2	0	1	0	0	**8**	Rolling Programme to update capability of, and refurbish, existing teaching spaces.
WUIPC	0	0	0	0	3	0	0	0	4	0	0	**7**	New CHP plant and associated infrastructure
Bulmershe Athletics Pavilion	-1	0	0	0	2	0	4	0	-1	-1	4	**7**	Provision of Athletics Pavilion at Bulmershe
Architecture standalone	1	3	1	2	0	0	0	0	0	0	0	**7**	Temporary solution in L046 - Old Library
Lecture Theatre Refurbishment	1	3	0	1	0	0	1	0	1	0	0	**7**	Palmer G10
Pharmacy	1	2	1	0	0	0	0	0	0	0	0	**4**	Long term Pharmacy solution (phases 1&2) in JJ Thomson
Campus Wi-Fi	0	2	2	0	0	0	0	0	0	0	0	**4**	Campus wide Wi-Fi

Refurbish Great Hall (London Road)	-1	2	0	2	1	0	0	0	0	0	0	**4**	As pre-feasibility report
Refurbish Old Library (London Road)	0	1	0	2	1	0	0	0	0	0	0	**4**	As pre-feasibility report (excluding Architecture)
HBS Extension	-2	3	2	0	2	2	0	-2	-2	0	0	**3**	Phase 1 - 3000m2 build providing additional teaching and office space and integration of the buildings in the HBS complex. Wider University access to teaching space is one means of mitigating the teaching space lost due to TOBs and Biosciences.
Library furniture fit out (Phase 2)	0	2	0	0	0	0	0	0	0	0	0	**2**	Similar to summer 2013 project covering "unimproved" floors
Food Biosciences - Pilot Plant	0	2	0	0	0	0	0	0	0	0	0	**2**	Upgrading pilot plant to meet food hygiene compliance
Synthetic Turf Pitch	0	0	0	0	0	0	0	0	0	0	2	**2**	Upgrade Pitch
Café Mondial	-1	0	0	0	0	0	0	0	-1	0	2	**0**	Extension of Café
St. Patricks Hall Catering	0	0	0	0	0	0	0	0	0	0	0	**0**	
MERL	-1	0	0	0	0	0	0	0	0	0	0	**-1**	Covered by HLF grant & donations
Greenlands accommodation	-2	1	0	1	0	0	-2	0	-2	0	0	**-4**	Two phase build to provide new accommodation at Greenlands in place of Paddock House

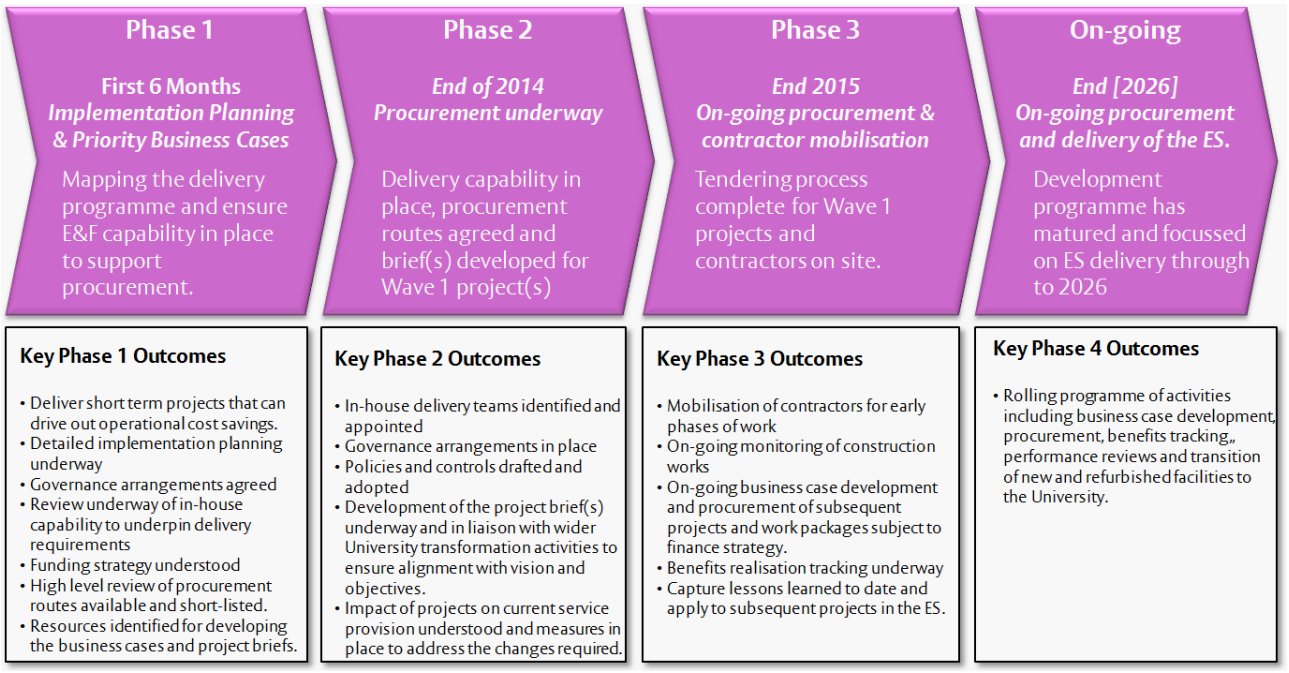
Off Campus Projects													
Science Park	0	0	0	0	0	0	0	0	0	0	0		Gateway building
ERR/Bridge	0	0	0	0	0	0	0	0	0	0	0		As defined at Feasibility
UORM Option Site Purchase	0	0	0	0	0	0	0	0	0	0	0		
UORM Purchase of main campus site	0	0	0	0	0	0	0	0	0	0	0		
Housing Sites Disposal Costs	0	0	0	0	0	0	0	0	0	0	0		
Loddon SANG	0	0	0	0	0	0	0	0	0	0	0		

7.3 Implementation Plan

Having determined the scope of the Estate Strategy and timescales, the University is committed to developing a detailed and comprehensive Implementation Plan, in accordance with good practice, that includes:

- Governance, controls and templates to be in place to provide oversight and direction on behalf of the University during implementation;
- Finance case and how to fund the capital programme;
- Commercial options and the optimal procurement routes for the projects to be delivered;
- A review of delivery capabilities and the impact on the existing Estates and Facilities function and service requirements that need to be understood and addressed to support delivery of the Estate Strategy;
- Processes for interfacing with other interdependent University functions, such as Strategy, HR and IT;
- Benefits realisation plan that sets out how the benefits from the investment will be measured and captured to ensure that the projects deliver the required benefits and align to the University requirements and vision for estates; and
- Detailed Programme Plan, describing the sequencing of projects, work packages, timescales, stakeholder management and key risks to be managed.

Figure 4 – Summary of Implementation Plan



Appendices

A1 Understanding the Existing Estate

A2 Quantitative Demand Analysis

A3 Detailed Space Analysis

A4 Project Details

Appendix 1– Understanding the Existing Estate

A1 Understanding the Existing Estate

A1.1 Academic Estate by Location

A1.2 Academic Estate by Space Type

A1.3 Academic Estate by Functional Suitability

A1.4 Suitability of Users Locations

A1.5 University Commitment to Buildings

A1.6 Estates Costs

A1.7 Backlog Maintenance

A1.8 Carbon Management

A1.9 Estates & Facilities – Overview

A1.10 Estates & Facilities Department

A1.11 Estates & Facilities Operating Structure

A1.12 Estates & Facilities Service Delivery Model

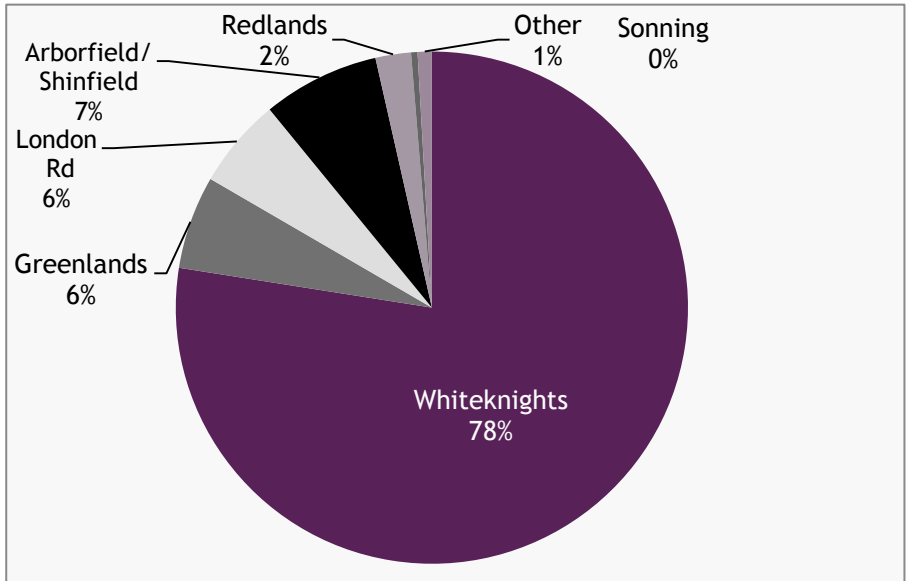
A1.13 Space Management

A1.1 Academic Estate by Location

84% of the total UK Academic Estate (by area) is located at Whiteknights and London Road in Reading. Buildings at these locations are on average larger than the other locations within the academic estate (114 out of 214 buildings).

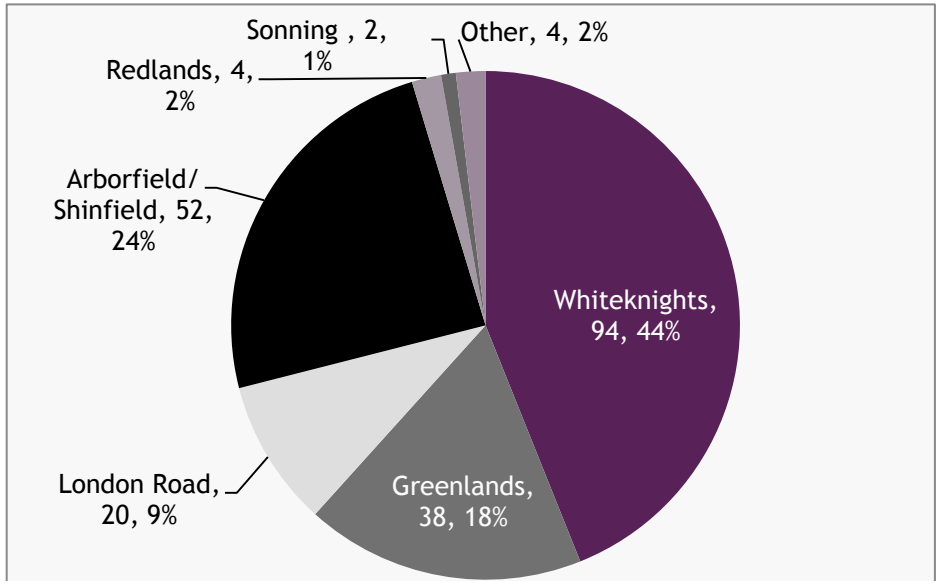
Nearly 10% of the Academic Estate (by area) is located outside these 3 main locations.

Figure 1: Assets by location, by area – Total 216,924 m2 (GIA)



78% (168,093 m^2) of the University's academic and operational space is located at Whiteknights, **6%** (12,368$m^{2)}$ at London Road and **6%** (12,773m^2) at Greenlands.

Figure 2: Assets by location, by number – Total 214 buildings

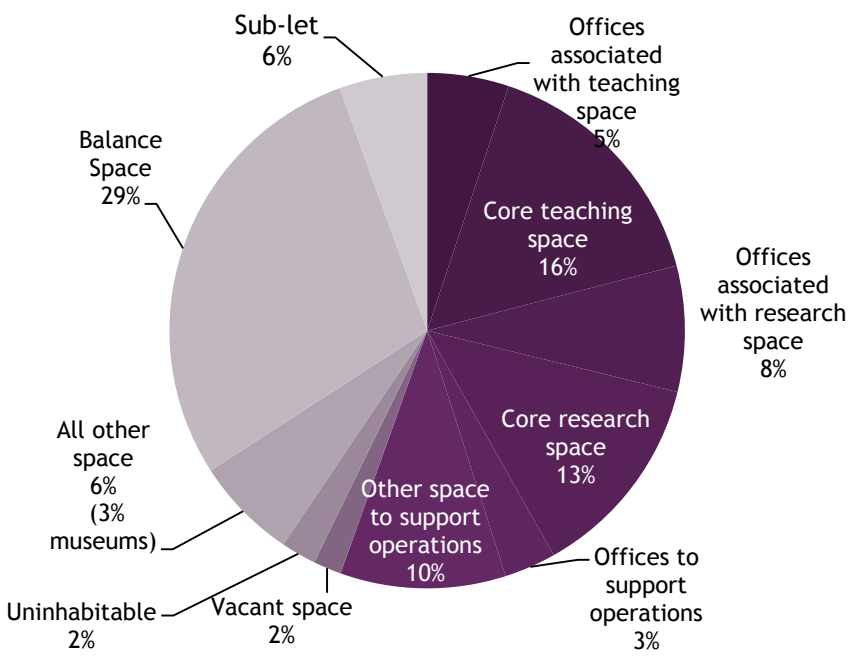


The majority of buildings in the academic estate are located at Whiteknights. However a further 110 buildings are located at London Road, Greenlands and Arborfield/Shinfield.

A1.2 Academic Estate by Space Type

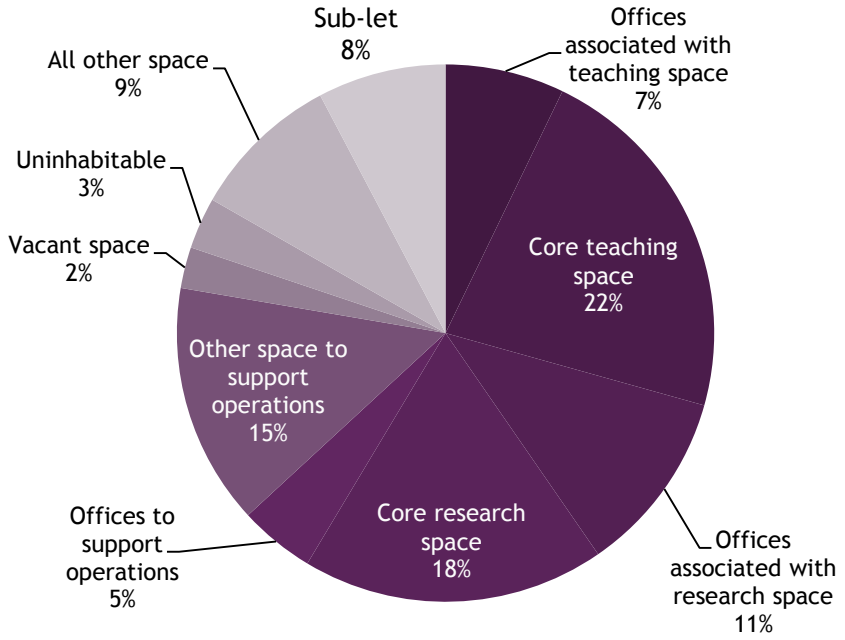
Balance Space* accounts for the largest proportion of the Academic Estate at 29% (62,000sqm) of the total GIA, which is not unusual for the education sector. No assessment has been made of the effectiveness of this space across the portfolio – optimal use of this space is important for the provision of informal social and learning space and building student communities across the University. Further details of the space analysis by location and space type are included in Appendix 3.

Figure 3: Academic estate by space type 216,924 m^2 GIA



29% (62,079m^2) of GIA is made up of balance space including corridors, stairwells, lifts etc. Use of this space is mixed with some examples of effective use in buildings such as Henley Business School, ICMA and Meteorology.

Figure 4: Academic estate by space type 154,838 m^2 NIA



22% (34,325m^2) of the academic and operational portfolio is made up of core teaching space and **18%** (28,207m^2) core research space. Total office space makes up **23%** (35,242m^2) of the portfolio with offices associated with research space having the greatest proportion. **13%** of the portfolio is either sub-let, vacant or uninhabitable.

* e.g. corridors & circulation areas, atrium spaces, stores/cupboards, lavatories etc.

A summary of the space types (using HEFCE definitions) located within the 60 key academic buildings is included in the table below. The majority of buildings accommodate numerous different types of space, with **c.75% of buildings including core teaching and/or core research space** within them.

Rationalising the portfolio by space type (or functionality) is consequently challenging as it is difficult to drive out space and cost savings across a large proportion of the overall portfolio.

Table 1: Number of buildings by space type

Space Type	Total buildings (out of 60)
Offices associated with teaching space	30
Core teaching space	44
Offices associated with research space	30
Core research space	43
Offices to support operations	25
Other space to support operations	30
Vacant space	8
All other space	14
Sub-let/occupied to 3rd parties	10

Sports Facilities

The University offers a variety of sports facilities for students, staff and the local community. Membership of the SportsPark is made up of students staff and the local community. Facilities are located on the Whiteknights Campus, Bulmershe and Caversham and include:

- Fitness Studio
- Two studios for dance, yoga and martial arts
- Large multi-purpose sports hall
- Squash courts
- Meeting rooms
- 3G Soccer Park
- Floodlit synthetic turf pitch
- Football and rugby pitches
- Floodlit tennis courts
- Cricket Squares
- Café – ‘Eat at SportsPark’
- Rowing boathouse facilities

A1.3 Academic Estate by Functional Suitability

The Estates & Facilities department has undertaken high level analysis of the functional suitability of existing buildings across the Academic Estate. Each building was assessed for its current functional suitability of specific space types (as defined by HEFCE EMS definitions) and its location.

The focus was to review 3 major types of space which account for 63% of the total NIA of the Academic Estate:

- Generic Teaching Space – includes teaching rooms, lecture theatres, seminar rooms. Does not include any specialist teaching space
- Offices – includes offices associated with teaching, research and offices used to support the operations of the University

Specialist space – includes space that is designed for specialist use and which cannot be easily used for other non-specialist activities e.g. laboratories, specialist theatres, recording studios etc.

Each type of space mentioned above was given a functional suitability rating of between 1 and 4. There were a number of spaces which were allocated a 2/3 rating where it felt appropriate:

- Grade 1: Excellent – The space is highly suitable for current functions
- Grade 2 : Good – The space is suitable for current functions
- Grade 3 : Fair – The space is generally unsuitable for current functions
- Grade 4 : Poor – The space is very unsuitable for current function

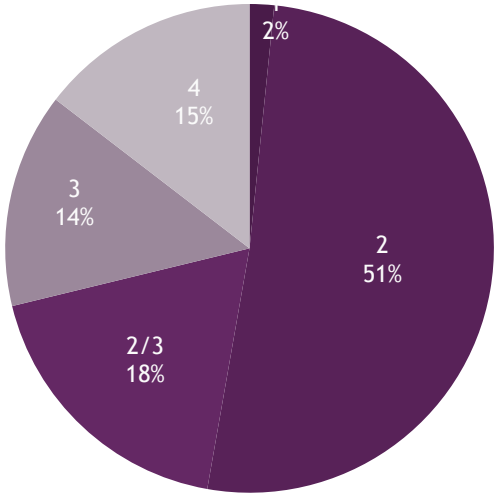
Each building was also allocated a location rating based on the categories above, indicating the quality of a buildings position in relation to the wider University Campus.

Office space appears to be the most suitable/fit for purpose space type across the Academic Estate with 78% ranked as Grade 1 and 2. Generic Teaching Space has 53% of the area assessed as Grade 1 & 2 (Excellent and Good) whilst only 28% of the Specialist space assessed as Grade 1 & 2 (based on a preliminary desk based assessment). Based on this initial assessment, Specialist Space appears to be in most need of investment to make the areas more suitable for their current and future use. Further details are included in Appendix 3.

Figure 5: Functional suitability by space type

Generic Teaching Space

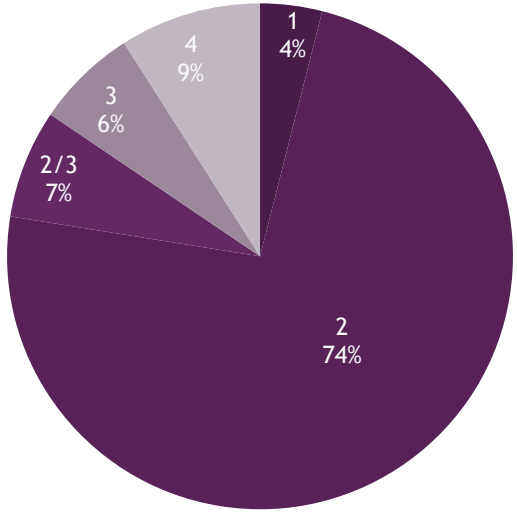
Area assessed - 18,835 m^2 from total generic teaching space of 21,687m^2



Only **2%** (304m^2) of generic teaching space is rated grade 1 “excellent”. The majority of the space, **51%** (9,635m^2) is rated as grade 2 “good” whilst **15%** (2,746m^2) is rated as grade 4 “Poor”.

Office Space

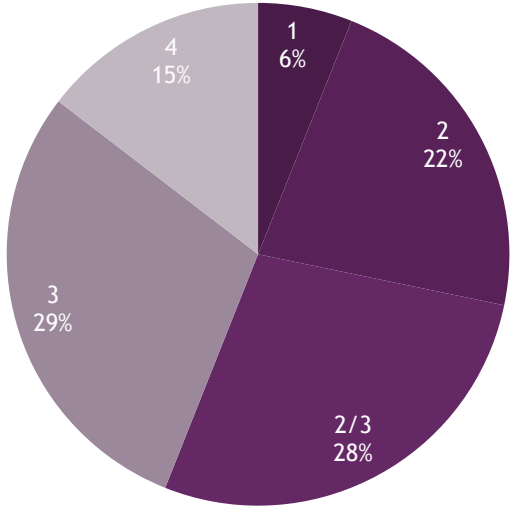
Area assessed - 33,942m^2 from total office space 35,242 m^2



Only 4% (1,343m^2) of office space is rated grade 1 “excellent”. The majority of the space, **74%** (24,970m^2) is rated as grade 2 “good” whilst **9%** (3,066m^2) is rated as grade 4 “Poor”.

Specialist Space

Area assessed - 30,476m^2 from total specialist space 33,597m^2



Only **6%** (1,847m^2) of specialist space is rated grade 1 “excellent”. The majority of the space, **29%** (8,463m^2) is rated as grade 3 “satisfactory” whilst 15% (4,448m^2) is rated as grade 4 “Poor”.

The preliminary assessment identified that the least suitable spaces (Suitability Grade 4) are located within the following buildings at Whiteknights:

Generic Teaching Space

JJ Thomson – Faculty of Science

Engineering – Faculty of Science

URS – Administration & Faculty of Science

Office Space

Park House – Administration

Whiteknights House – Administration

URS – Administration/Academic Staff

Specialist Space

Library

Engineering – Faculty of Science

AMS – Faculty of Life Sciences

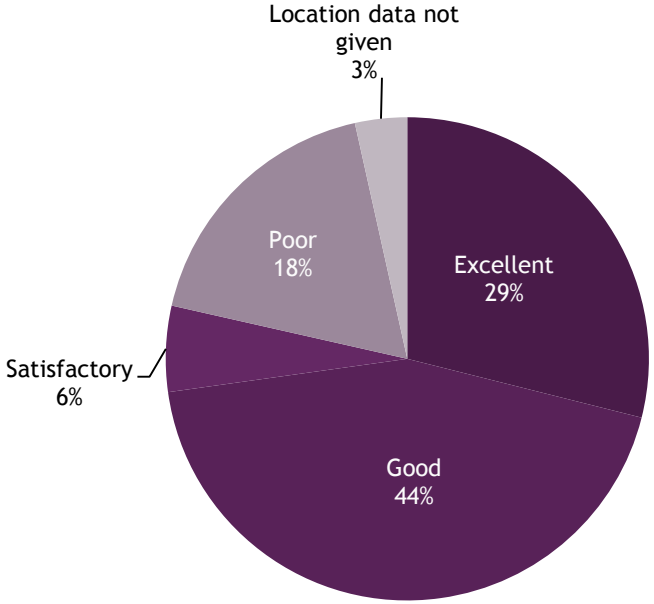
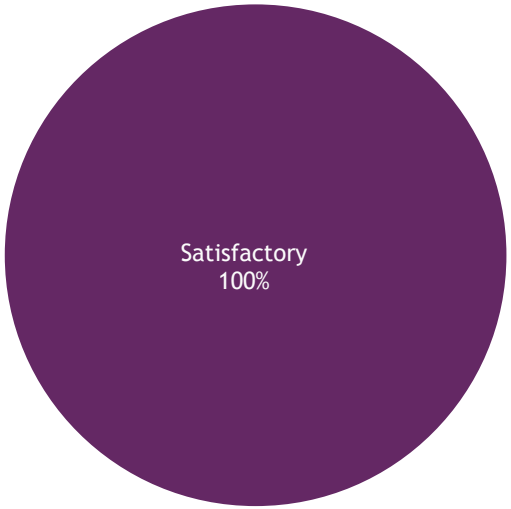
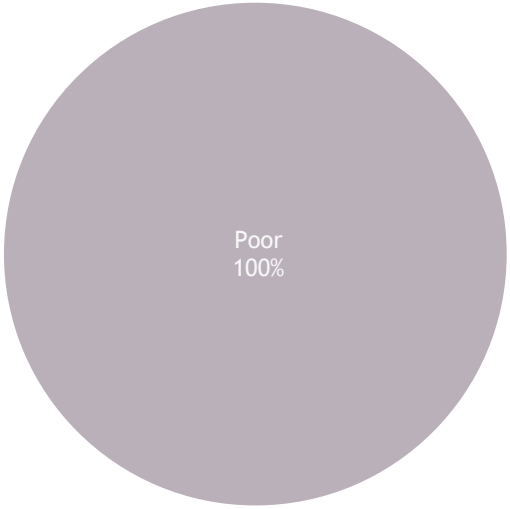
Archway Lodge – Muslim Society

A1.4 Suitability of Users Location

The majority of users of space are appropriately located across the Whiteknights Campus.

Greenlands is ranked as poorly located due to the distance from Reading making it difficult to benefit from any operational synergies with the other two locations. Location is not perceived to be a significant issue for London Road.

Figure 6: Location suitability

Whiteknights (168,093m^2)	**London Road (12,368m^2)**	**Greenlands (12,772m^2)**
		
73% (122,362m^2) of the properties at Whiteknights campus have either excellent or good location. **18%** of the properties (by area) are positioned in poor locations including Mathematics, TOB1&2, Engineering, AMS, Philip Lyle, Knight and Foxhill House.	**100%** (12,368m^2) of the buildings at London Road are satisfactorily located due to its distance away from the main Whiteknights campus.	**100%** (12,772m^2) of the buildings at Greenlands are poorly located due to its distance away from the main Whiteknights campus.

A1.5 University commitment to buildings

The Estates & Facilities department has undertaken an objective asset categorisation exercise to determine the level of future commitment to each building within the Academic Estate in order to inform this ES.

Each building has been evaluated against five criteria to determine its respective asset categorisation:

- Backlog maintenance (£m^2)
- Condition category
- Fitness for Purpose
- Location
- Performance against space norms

The outcome of the assessment is to categorise each building as follows, either:

- **Core:** UoR is making a commitment to the property for a period of at least 15 and up to 25 years;
- **Flexible:** UoR is making a commitment to the building for a minimum of 5 to 15 years;
- **Non-Core:** possible vacate/dispose or if greater than 3 years an option to exit; or
- **Infrastructure support* (core):** this category includes those assets that are essential to the operation of the University's estate and core business and a commitment of 10 to 25 years is anticipated.

Buildings categorised as 'core' should be afforded higher priority when resources are allocated and budgets set rather than 'flexible' or 'non-core' assets. Significant management attention will also be focused on securing the approvals to exit buildings categorised as 'non-core'.

Figure 7: Core, Flex, Non-Core categorisation of academic buildings

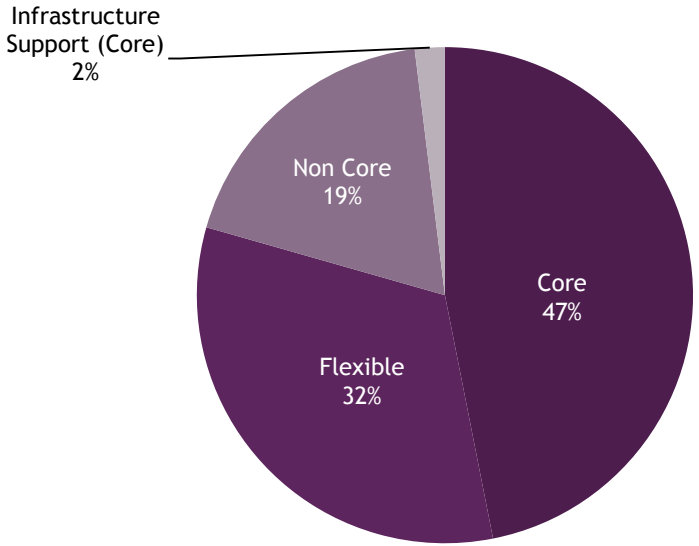


Table 2: Core/non-core summary by location

Location (total assets)	Core	Flexible	Non-Core	Infrastructure Support (core)	Sub-Total (m^2 GIA)
Arborfield/ Shinfield (52)	11,246	0	4,761	0	16,007
Greenlands (38)	0	10,591	2,182	0	12,773
London Road (20)	10,206	1,226	480	456	12,368
Other (10)	1,177	6,215	243	48	7,683
Whiteknights (94)	79,090	52,638	32,754	3,611	168,093
Grand Total (215)	**101,719**	**70,670**	**40,420**	**4,115**	**216,924**

* 47 non-core assets are on the Arborfield/Shinfield site and include polytunnels, stores, sheds and glasshouses

.

At an aggregate level **79% (172,270 m^2)** of the University's academic and operational space is considered to be Core or Flexible.

Approximately 19% (**40,418m^2**) of space across Whiteknights, London Road, Greenlands and the operational farm estate is categorised as Non-Core and equates to 75* buildings or structures.

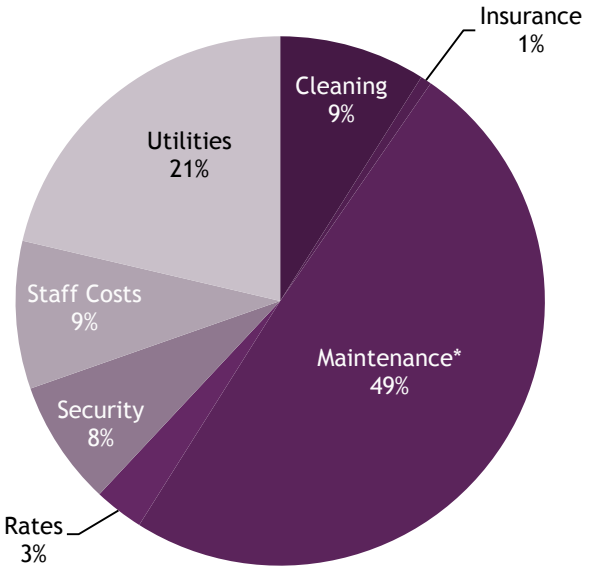
This space has been identified for potential exit within the timeframe for this ES – the majority of which is located at the Whiteknights campus. Further details of the category analysis are included in Appendix 3.

A1.6 Estates Costs

Maintenance accounts for the largest proportion of estates spend across the University portfolio – and in excess of 55% of property-related spend at Greenlands. 78% of total spend at Greenlands is from Maintenance and Utilities related spend only.

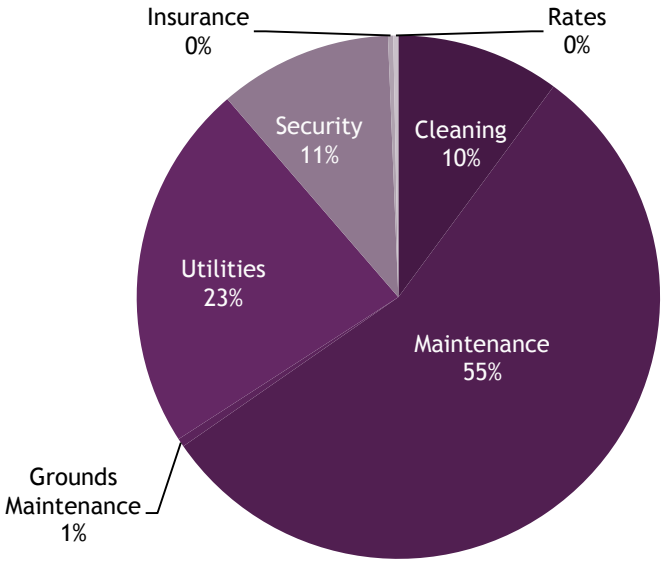
Figure 8: Property related spend by service type

Whiteknights, London Road & all others except Greenlands



The gross estates related costs for the academic and operational portfolio **is £17.6 million** per annum. 49% (£8.6m) is related to maintenance (including grounds), **9% cleaning** (£1.5m), **8% security** (£1.3m) and **21%** (£3.7m) utilities.

Greenlands



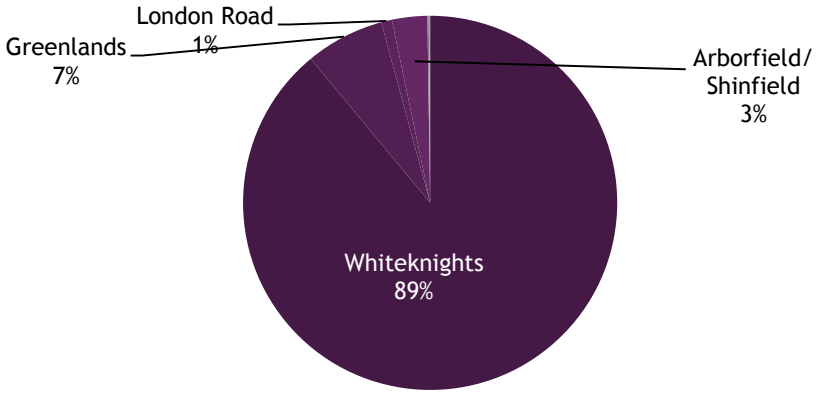
The gross estates related costs for the Greenlands portfolio only is **£1.53 million** per annum. **55%** (£846k) is related to maintenance, **23%** (£349k) utilities and **21%** (£319k) cleaning and security. Utilities unit costs have increased by 56% and 98% for electricity and gas respectively in the last 5 years

* It is important to note that there is an **additional £1.3m** spent on maintenance which is school funded and does not form part of the figures above. Part of this will be related to reconfiguring and refurbishing school space and could be construed as an indication of functionally unsuitable space.

A1.7 Backlog Maintenance

The University needs to invest c.£47m across the Academic Estate to address the sub-standard condition of the existing buildings. The majority (89%) of investment required is across the Whiteknights campus – with major investment required to upgrade the current mechanical and electrical infrastructure. Buildings which require the largest investment include HumSS, Food Biosciences, URS, JJ Thomson, Library, Chemistry, Whiteknights House, TOBs, AMS, Wager, Knight, Systems Engineering and Harborne and together account for 63% of the total backlog. The buildings at London Road are in the best condition overall, reflecting the recent investment in refurbishing the facilities for the Institute of Education.

Figure 9: Backlog maintenance by location



Total backlog maintenance = £47.3m*

Whiteknights = £42.1m

London Road = £0.4m

Greenlands = £3.2m

Other = £1.6m

Table 3: Backlog maintenance by location

Location	Area (sqm)	Total (£m)	£/sqm
Whiteknights	168,093	£42.1	£250
London Road	12,363	£0.4m	£32
Greenlands	12,773	£3.2	£251

Table 4: Backlog maintenance by type

Cost Category	Backlog
Sub-structure	£59,135
Superstructure	£14,153,573
Mechanical & Electrical	£22,110,075
External Fabric	£3,328,900
Internal Fabric	£7,985,812
Total*	£47,637,495*

*Includes £6m external site/infrastructure backlog not attributable to a specific building

A1.8 Carbon Management

The University's activities have a significant impact on the environment as a result of the energy they consume and the waste produced as a result. A significant amount of work has been undertaken by the Energy Team within E&F to identify how the University's carbon footprint is comprised and the scope that exists to reduce it. Carbon emissions from the University estate are dominated by the Whiteknights campus due to the high density of research intensive buildings, in addition to the high concentration of staff and students on site.

The University has developed a Carbon Management Plan* (CMP) which focuses on reducing scope 1 and scope 2 emissions, namely, those generated directly from sources controlled by the University, and those generated by purchased electricity, against a 2008/09 baseline of 39,433 tonnes CO2, as illustrated in Table 6. A 35% reduction against the 2008/09 baseline has been targeted by 2015/16 and a stretch target of 45% by 2020.

Carbon reduction initiatives and investment have and will continue to focus on those buildings that exhibit high energy consumption at an estate-wide level and/or in relation to benchmarks for similar buildings, in addition to buildings which exhibit condition issues with regard to building fabric and M&E systems and infrastructure. In parallel, the Energy Team will continue to embed a carbon management culture by raising awareness of staff, students and the wider community at both an individual and strategic level.

To date the University has delivered a c15% reduction in emissions against its 2016 target. Currently identified estate changes and planned CO2 reduction initiatives are expected to lead to a further 15% reduction resulting in an overall change of 30.4% by 2016 - a marginal shortfall against the target of 35%.

Achieving financial savings on energy will become increasingly important during the period of the Estates Strategy as energy prices are likely to be volatile and government levies on carbon through the Carbon Reduction Commitment (CRC) are likely to become more onerous.

Table 5: Emissions source breakdown and progress against CMP target

	2008/09 tCO2e	2012/13 tCO2e	Total % change
Electricity (generation)	19,126	16,583	-13.3%
Electricity (transmission)	1,487	1,310	-11.9%
Burning Oil	1,544	810	-47.5%
Natural Gas	12,937	10,690	-17.4%
Vehicle Fleet	138	657	376.1%
Business Travel	2,855	2,781	-2.6%
Refrigerants	207	145	-30.0%
Waste	426	224	-47.4%
Water	713	426	-40.3%
Total	39,433	33,626	-14.7%

* The scope of the CMP includes: academic, residential and Student Union buildings, investment properties, farms, fleet vehicles, aspects of academic and business travel, waste disposal, water and IT delivery and usage.

A1.9 Estates & Facilities – Overview

The Estates & Facilities (E&F) department manages and services the vast majority of the property portfolio on behalf of the University. This function reports through the Chief Operating Officer to the Vice Chancellor and the President of Council. Other parts of the University also have influence on the management and service arrangements to the estate and these are highlighted in this section. This section includes:

- Summary of the E&F function activities
- Current Operating structure across the University
- Space Management
- Current Service Delivery Model

A1.10 Estates & Facilities Department

The Estates and Facilities Department provide and manage property and facilities management (FM) services on behalf of the University, and comprises nine integrated functional business areas. The key management and service activities undertaken by the functional business units are summarised below.

Table 6: Summary of Management & Service Activities

Function	Scope	Role
Directors Office	All Estates	The senior management team and includes the head of each functional area in addition to the Director and Deputy Director of Estates and Facilities.
Training & Development	All Estates	Support staff and a training and development manager are also included in the resourcing of this functional area.
Estates Management	Investment & Academic Estates	Responsible for managing the University's investment portfolio and for providing a range of professional property services across all property holdings including advice and guidance on development opportunities and projects. The investment portfolio generates a net income to the University.
Contract & Relationship Management	Residential Estate	Responsible for managing the contract and relationship with the University's residential accommodation provider, UPP.
Projects	All Estates	Definition, management and delivery of major capital schemes and revenue funded projects using a small in-house team of client facing project managers. Additional project management services are called off from frameworks contracts when required. Delivery is undertaken by third party construction contractors procured by the project managers.
Strategy & Space Management	Academic Estate	Responsible for the development and implementation of the University's Estate Strategy, developing, maintaining and reporting management information regarding the use and occupation of the academic estate, providing demand challenge to schools and departments on property projects and for coordinating strategic property input and advice to business cases where physical property solutions are required.

Numerous services are provided directly or via third parties. The functions within E&F that are focussed on service delivery are summarised below.

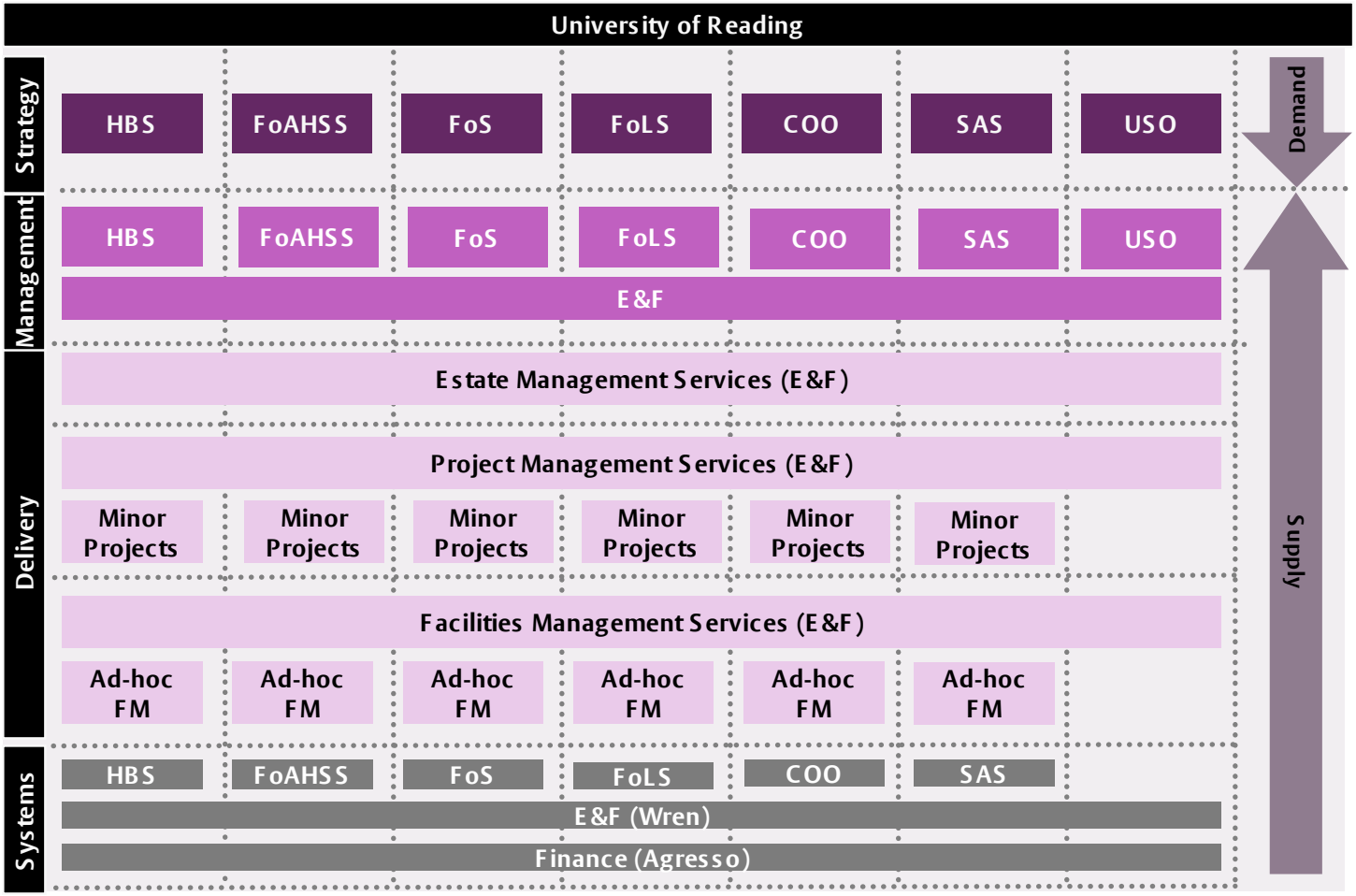
Table 7: Summary of Management & Service Delivery Activities

Function	Scope	Role
Hotel and Conference Services	Greenlands Campus and Venue Reading at Whiteknights	Management and operation of the Greenlands campus to support the Henley Business School and Executive Education business and the Venue Reading hotel and conferencing business situated on the Whiteknights campus. The function employs a range of professional and service delivery staff including a conferencing and events management team, catering, housekeeping and security staff. The Venue Reading function makes a net contribution to revenue budgets.
Sport & Recreation	Whiteknights & other sites off campus	Responsible for the management and operation of the University's sports and recreation infrastructure including Sports Parks, the pavilion, playing fields and pitches across Whiteknights. The function is income generating and is therefore not subsidised by the University.
Maintenance, Grounds and Business Support	Academic Estate	Responsible for maintaining the University's built infrastructure, energy management and for providing grounds maintenance services. The function manages the University's CAFM system and maintenance helpdesk, provides strategic planning and coordination activities and delivers property and grounds maintenance services through a direct labour organisation (DLO).
	Residential Estate	Responsible for providing grounds maintenance services
Campus Services	Academic Estate	Manages and delivers soft FM services across the University's property portfolio and includes cleaning, security, post, reception services, environmental services and waste management.
	Residential Estate	Responsible for providing security services
Catering	Academic Estate	Provides catering services directly across the University's Reading campuses through a wide range of venues and outlets. The function is income generating and is expected to make a net annual contribution to the University's revenue budget. This function also supports Hotel and Conference Services with catering by exception.
	Residential Estate	Responsible for providing catering services

A1.11 E&F Operating Structure

The current operating structure is not yet completely integrated. Other University Departments and Faculties are providing and managing a limited scope of property-related services across the estate.

Figure 9: Current operating structure



The Estates & Facilities function (E&F) sits under the COO's department and provides a centralised property capability on behalf of the University.

This ES is determining the strategic property needs of UoR across all of the existing Departments and Faculties.

Faculties still control the majority of space bookings within their respective buildings.

E&F delivers the majority of services across the estate and there is some ad-hoc service provision delivered by Faculties and by the Library FM team.

The delivery of services is undertaken by a combination of in-house resource and external suppliers. The service delivery structure varies across different Faculties.

The existing management arrangements with multiple sources of data impedes the ability to identify opportunities to rationalise and simplify the existing estate.

A1.12 E&F Service Delivery Model

Supply chain

The University's Estates and Facilities services are delivered using a hybrid model comprising elements of in-house and external delivery. Typical for the sector, a significant proportion of the E&F services are delivered by the in-house team with additional professional services and resources provided under a range of framework contracts in the following areas:

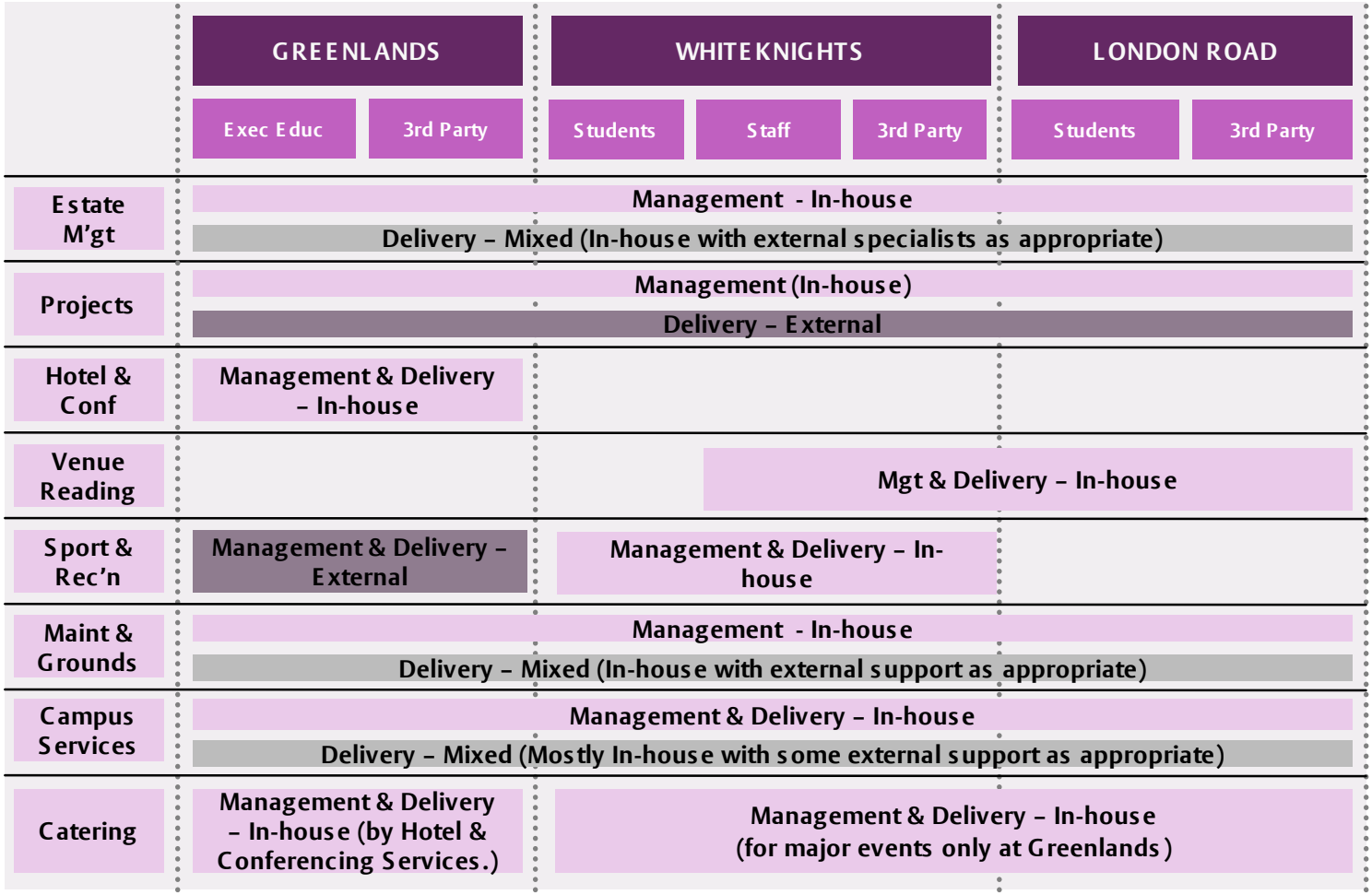
- **Maintenance** – the DLO within E&F are responsible for delivering the reactive maintenance works across the campus. Planned works and planned preventative maintenance (PPM) activities are currently contracted out. Building maintenance delivery is 85% outsourced (by spend) with only non-specialist reactive maintenance delivered in-house (15% by spend).
- **Campus Services** – E&F has a contract in place with an external provider for waste management services. Cleaning services are provided directly by E&F in-house staff with the exception of specialist cleaning services, which are procured and managed directly by the catering function, schools and departments.

  The E&F Campus Services team also provide a range of services to third parties thus generating an additional income stream for the University. Cleaning services are currently delivered to RSSL, the Enterprise Centre and across the investment portfolio.
- **Estates management** – a number of professional service contracts are in place and include local agency and legal support associated with the residential aspects of the investment portfolio. Professional property advisors are individually appointed to provide support in relation to the investment portfolio, and specific development opportunities and projects.
- **Projects** – the in-house team is supported by the external supply chain who are appointed on framework arrangements or by direct appointment, subject to the project to be delivered.

A1.12 E&F Service Delivery Model

The service delivery model is evolving as additional services are transferred and integrated within the E&F function – such as the integration of services from Greenlands since the merger with Henley Management College.

Figure 10: Current service delivery model



The Estates & Facilities function (E&F) continues to consolidate and integrate service provision and management across the department.

Since the merger with Henley Management College, some operations which had previously been managed at site level at Greenlands, are now integrated with service provision at Whiteknights. Opportunities to streamline service provision are ongoing.

Some services are campus specific, such as Sport and Recreation, and Venue Reading – both at Whiteknights, and Hotel & Conf services at Greenlands.

Catering provides a broad range of service offerings to meet the different needs of the user groups at Whiteknights and London Road. The Hotel & Conferencing service at Greenlands provides catering.

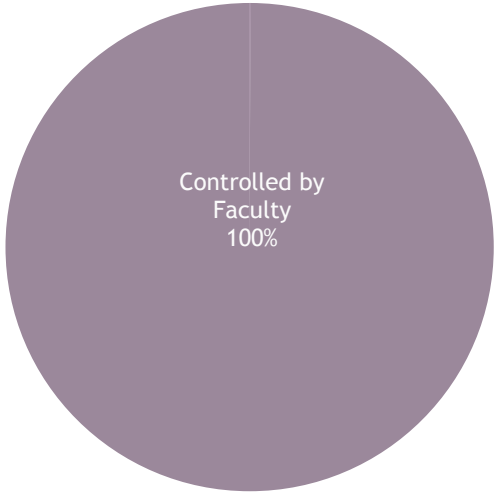
A1.13 Space Management

Currently c.7% of the overall academic portfolio is controlled through a central booking system with the majority of space booked directly by Schools and other departments. Only 32% of the core teaching space is booked centrally. All non-office research space, accounting for 18% of the total portfolio (by NIA), is controlled and booked directly by Schools and Departments.

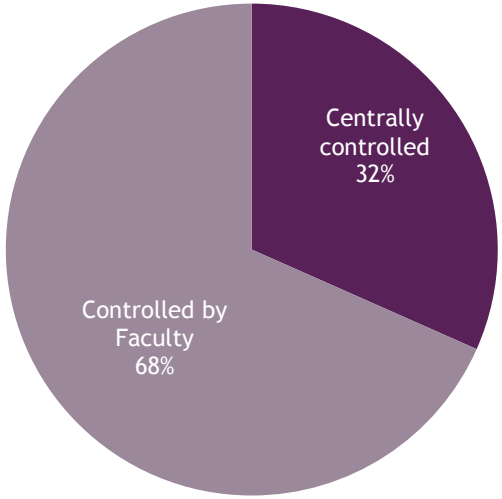
Opportunities to reconfigure and realign space to better support academic activity are constrained under the current model. Transparent utilisation data is only available for those centrally booked spaces across the University and is recognised as an area for improvement to be addressed in the short-term as part of this strategy and to support wide change initiatives that are progressing across the University to enhance the student experience.

Figure 10: Space management by space type

Non office research space (c. 28,207 m^2)



Core teaching space (c. 34,324 m^2)



Appendix 2 – Quantitative Demand Analysis

A2 Quantitative Demand Analysis

A2.1 Quantitative Demand Analysis

Introduction

The University's demand for academic and operational space is driven by the total number of students, academics and support staff across the institution, the type of activities that these different occupier groups undertake and the support infrastructure that is required to enable these activities.

For the purposes of the Estate Strategy and to support future demand modelling exercises occupier types have been broken down into the following categories and sub-categories:

- Student
  - Undergraduate (typically 3-year full-time courses)
  - Postgraduate Taught (full or part-time and from 1 – 3 years)
  - Postgraduate Research (full or part-time over 3 years)
- Staff
  - Academic staff
  - Faculty based support staff
  - Central support staff

This Quantitative Analysis provides a high level assessment of:

- Current student and staff demand for space
- Current student population by Faculty
- Demand Gap Analysis
  - Overview
  - By Faculty
  - Office Accommodation
- Future demand based on growth plans
- Impact of growth plans on current space provision

A2.2 Current Staff and Student Population

The University's academic and operational portfolio currently accommodates 14,803 FTE, made up of 12,113 students and 2,690 staff. The 2012/13 student FTE population make up approximately 82% of all space users whilst the remaining 18% comprise academics, research staff and support service staff based across the Faculties and central departments.

Table 8: Total population by occupier type

Occupier Group	Sub-group	2012/13 FTE
Students	Undergraduate	9,096
	Postgraduate Taught	2,127
	Postgraduate Research	890
	Student sub-total	**12,113**
Academic & Research Staff		1,019
Faculty-based support staff*		690
Central support staff**	Office-based	696
	Non-office***	285
	Staff sub-total	**2,690**
	Total	**14,803**

* Faculty based support staff include ALC, O/R, Clerical and Technical FTE categories
** Central support staff 'office-based' include ALC, O/R, Clerical and Technical FTE categories.
*** Non-office based staff include cleaners, porters, maintenance, catering and other Campus Support services

A2.3 Current Student Population by Faculty

The Faculty of Arts, Humanities and Social Sciences (FAHSS) is the largest University Faculty and accounts for 40% of the total student population.

The composition of the student population across the Faculties of Arts, Humanities and Social Science, Life Science and Science is similar with undergraduates accounting for between 77% and 83% of all students, with postgraduate taught and research cohorts accounting for the balance of between 17% and 23%.

The composition of Henley Business School is significantly different – more than 50% of students are on postgraduate taught programmes whilst a further 45% are undergraduates. Relative to the other faculties only a small proportion of students are within the postgraduate research cohort (4%).

Figure 11: 2012/13 Student Population by Faculty (12,113 FTE)

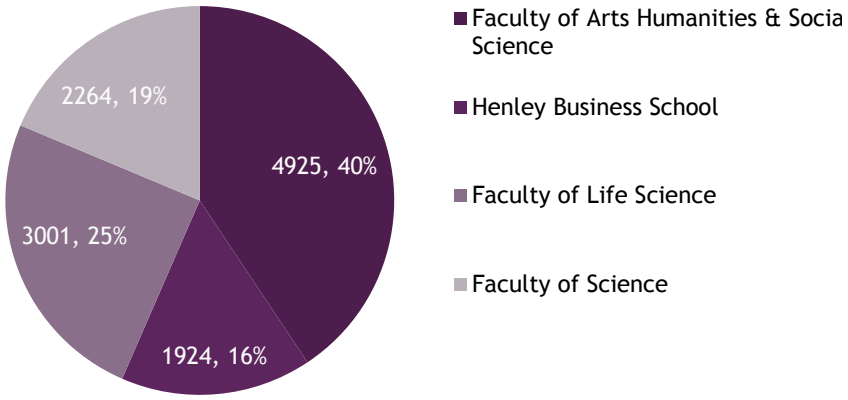
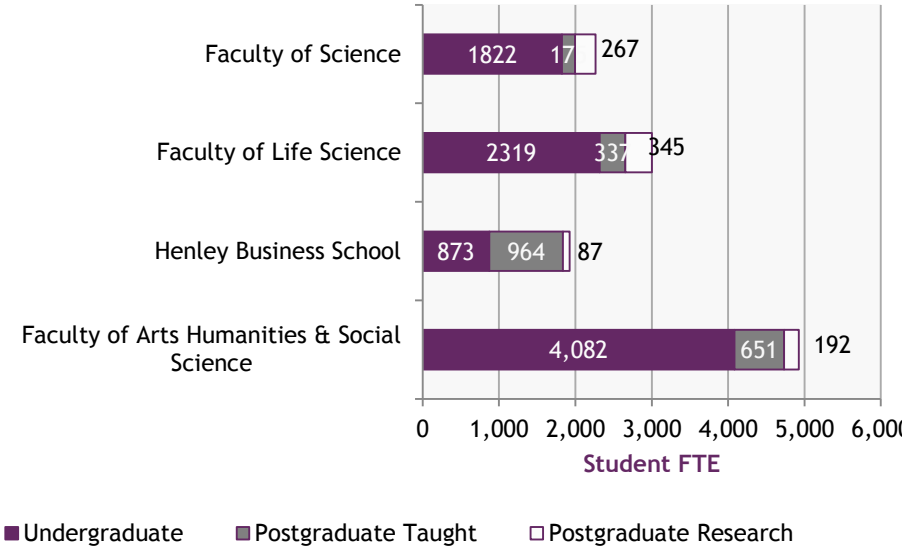


Figure 12: 2012/13 Student Population by Faculty & Student Cohort (12,113 FTE)



A2.4 Demand Gap analysis – Overview

Space per FTE

Data collated by Estates & Facilities as part of the annual Estate Management Statistics return to HEFCE indicates that the University operates a significantly larger amount of space per FTE than its peer comparators; 29% more space per FTE (NIA) than the peer median and c.35% more space per FTE (GIA) - see Appendix 2.9 for further details.

The analysis in section 3 of this document indicates that the University is spread across three locations, has a high proportion of balance space in the portfolio, accommodates museums, and a large portfolio of specialist space - all of which contribute to creating an extensive and expensive estate. However, removing surplus space is not straightforward due to the combination of uses and complexity of the estate.

Faculty level space provision

To enable the University to drive space efficiencies, challenge school and department occupation levels across the operational portfolio and assist capacity planning, Estates and Facilities has developed a space model which calculates space requirements through the application of allowances for academic activities for students and staff at a department level.

The modelling exercise calculates the predicted amount of space (NIA m^2) that each department should occupy – the 'Space Norm'. In Table 9 on the next page, Space Norms have been used to identify both buildings and departments where space inefficiencies exist.

A2.5 Gap Analysis – by Faculty

Across all Faculties, the analysis of space norms indicate that there is an over-provision of space across the academic portfolio of 7,245m^2 (3.5% of the total portfolio GIA). The table below breaks down the variance by Faculty and highlights those schools or departments where space inefficiencies exist.

Only HBS is experiencing under-provision of space and is therefore dependent on the provision of accommodation from outwith its own Faculty premises.

Table 9: Variance between current space allocation & space norms*

Faculty	Aggregate Variance (+/-)	Comments
Arts Humanities & Social Sciences	966m^2 (7.59%)	Space variance across the Faculty is principally driven by the School of Arts & Communication Design which currently occupies c462 m2 more space than its norm. The schools of Literature and Language, the Institute of Education and the Law School are broadly 'in balance' with overprovision between 145m2 and 188m2.
Business School (Whiteknights)	-47 m^2 (-1.02%)	The Business School is currently operating from an allocation of space consistent with its space norm, albeit that ICMA is over-provided by c529 m^2 and HBS under provided by approximately the same amount using current student and staff numbers. The Business School is, in space terms, operating at capacity but requires greater provision of community space.
Science	2,916 m^2 (21.22%)	40% of the University's space variance against space norms is driven by the Faculty of Science. Construction Management & Engineering account for approximately a third of the Faculty variance (1,100 m^2) and SHES another third (1,103 m^2). Maths (451 m^2) and Systems Engineering (397 m^2) currently show positive variances.
Life Science	3,411 m^2 12.50%	The Faculty of Life Science contributes 47% of the total space variance against space norms. Agriculture and Policy Development account for 2,258 m^2 of overprovision, whilst Biological Sciences contribute a further 3,508 m^2. In contrast, Psychology & Clinical Language Sciences (-1,858 m^2) and Chemistry (-496 m^2) are currently operating at a space deficit when norms are applied.
Total	**7,245 m^2 (12.41%)**	

*Space Norms: Cover space occupied by a Faculty only but do not cover central teaching space

A2.6 Gap Analysis – Office space

Approximately **32,000** m^2 of space (21% of total NIA) across the University is classified as 'office' and is either occupied by Faculties or Central Departments. 80% of all office space is within schools and departments whilst 20% of office/administrative space is occupied by centrally managed functions.

The table below identifies the current provision of office space, split between faculties and central support service functions, and applies an 'office space standard' in order to enable the University to calculate the predicted amount of space that faculty based support staff and central departments should occupy on a hypothetical basis.

The analysis identifies an overprovision of 10,327 m^2 (32% of existing office portfolio) and the potential scope that exists to realise efficiencies through space management mechanisms including portfolio reconfiguration. The University's wider transformation programme could further amplify this gap should support services across faculties and within central departments be redesigned to drive service improvements and realise efficiencies.

The current variance is largely driven by office space embedded within schools and departments (8,948 m^2, 87%), with central department office space accounting for the remaining 13% of overprovision (1,379 m^2).

With a few notable exceptions, office space across the University is typically embedded within buildings with broader academic functions.

It is challenging to release significant amounts of office space unless projects which present options to 'lift and shift' schools, departments or central support services are put forward and spaces can be designed with modern space standards in mind. There is a risk that pursuing efficiencies by space type will result in numerous vacant spaces across the estate.

Table 10: Supply and demand for office space*

Office space type	As Is (NIA)
Office teaching (C2)	10,296
Office research (C5)	15,320
Support offices (C8, C9)	361
Faculty sub-total	25,977
Central support sub-total	6,329
TOTAL SUPPLY	**32,306**
**Faculty demand - academic / research	12,661
**Faculty demand - non-academic / support	4,368
**Central demand	4,950
TOTAL DEMAND	**21,979**
Gap	**10,327**

* Supply and demand data taken from 2012/13 E&F space model and 2012/13 Trent data

** Space norms for faculty demand academic / research (13 m^2), non-academic support (8 m^2), central demand (7 m^2)

A2.7 Future Student & Staff Population

Size and shape of the student population

The future size and shape of the student population is difficult to predict as a result of government caps and the introduction of competition for ABB students, however, growth scenarios for the principal student cohorts have been developed in consultation with the University's Planning & Support Office and should inform future estates plans and programmes. These scenarios are summarised below.

Undergraduates

The government cap on recruitment of undergraduate students below ABB means that future growth targets within this student cohort are predicated on increased success at recruitment within the ABB plus market and/or the introduction of new programmes e.g. Clinical Health, Architecture.

Both the home and overseas undergraduate markets continue to be challenging. The overseas undergraduate market does, however, show no sign of reducing and significant growth is anticipated across the Business School and Law. Other subjects including Psychology and Biological Sciences may also see future growth. Over a ten year time horizon the University predicts a net increase of **1,000 extra undergraduate students.**

Post graduate taught

Home recruitment within the postgraduate taught cohort is predicted to become increasingly difficult with numbers showing very limited growth. Where growth is forecast, it is likely to be limited to the Business School and Law.

The overseas market is predicted to generate the growth in this student cohort across the key subject areas of Business, Law, Construction and the Built Environment and Agriculture. Over a 10 year time horizon the University predicts a net increase of **750 extra postgraduate taught students.**

Postgraduate research

With significant reductions in research funding anticipated in the medium to long term the University predicts that the majority of postgraduate research subjects will see very little growth, with exceptions within Meteorology. Over a 10 year time horizon the University predicts a net increase of **approximately 3% per annum**

Part time Executive Education / CPD

The emerging University Strategy is focused on achieving growth, in part as a result of entering into new programmes, and delivering a range of flexible/modular courses to professionals in work which focus on mixing business with other subjects.

The expectation is that the space needs generated by this market will be satisfied on the Whiteknights campus, albeit work on the type, configuration and future location of this space i.e. stand-alone or within schools and departments, is yet to be undertaken.

It is anticipated that the quality of space for part time executive education is likely to be higher than most of the space currently offered. An increase in part time programmes of a modular/flexible nature will create additional challenges for space utilisation as some work will be carried out off-site and some at the University in blocks of lectures/seminars.

Within this new market in particular, opportunities exist to run lectures/seminars in the evenings and weekends as well as within the working day.

Growth in this area is expected to be substantial with increases forecast from 2018 onwards. Future growth targets for this new market are currently being developed. It will be incumbent upon the University's Estate Strategy to ensure that sufficient flexibility is created within the academic portfolio to accommodate growth in this key area.

Staff

For the purposes of future demand analysis staff groups have been split into three groups:

- Academic and research staff within schools and departments;
- Faculty-based support staff; and
- Central support staff

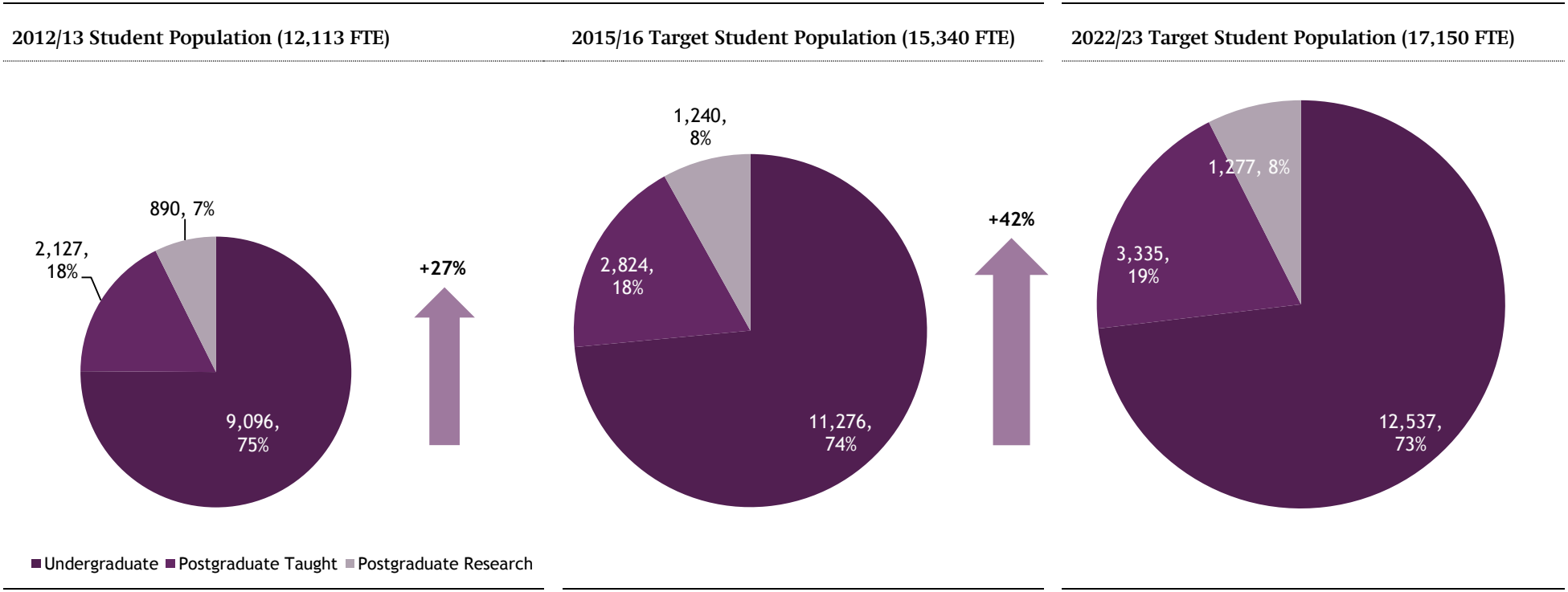
A2.8 University Growth Targets

Future Demand – Total student population growth targets

Figure 13 below illustrates the size and composition of the 2012/13 student population against the target student population across traditional student cohorts in 2015/16 and 2022/23: based on the University's current three year growth targets and the 10 year growth scenario.

Over a three year planning period net growth of 27% is targeted across the student population, equating to an increase in 3,227 student FTE. A 10 year growth scenario highlights net growth of 42% against the 2012/13 baseline and is equivalent to 5,037 student FTE. The Estate Strategy response to growth in the first instance is to address increased demand by increased utilisation of space and provision of flexible accommodation.

Figure 13: Future student population growth scenarios



*Pie charts are not to scale

Future demand – growth targets and space implications

The University Strategy's call for growth in student numbers and the current level of space overprovision per FTE when compared to peer comparators present the University with options in the context of the Estate Strategy if it wishes to bring space per FTE in line with the comparator average (see A2.9):

- Significantly increase student numbers such that the total space envelope is brought in line with the comparator group median;
- Significantly reduce the area of space in occupation; or
- Reconfigure and reduce the total space envelope in parallel with student growth targets being delivered;

High level analysis included in A2.10 – University requirements indicates that the University can still accommodate significant growth in student numbers (at a portfolio level) and reduce the overall footprint before it will be in line with other comparator universities regarding space provision per FTE.

A2.9 Space Comparison with Peers

Table below not to be shared outside of the University

The University submits space data on a yearly basis as part of the EMS returns to HEFCE. This section compares the University of Reading to its peers in terms of provision of teaching and research space from the 2011/2012 EMS data. Please note that the University of Reading's GIA and NIA is smaller than that in this Estate Strategy as certain space types are not submitted.

Table 11: Peer group summary of total floor space per FTE

University*	GIA	NIA	Total Student FTE	Staff FTE	Total FTE	GIA (m^2) per FTE	NIA (m^2) per FTE
The University of Newcastle-upon-Tyne	321,281	212,792	18,95	4,541	23,498	13.67	9.06
University of Reading	194,753	133,461	11,683	2,716.80	14,400	13.52	9.27
The University of Nottingham	467,511	323,806	30,695	6,017	36,713	12.73	8.82
The University of Leicester	195,921	118,689	13,368	3,066	16,435	11.92	7.22
The University of Leeds	425,127	284,736	29,583	6,122	35,705	11.91	7.97
The University of York	205,214	130,807	13,996	3,314	17,311	11.85	7.56
The University of Surrey	148,754	106,481	12,599	2,164	14,764	10.08	7.21
The University of Bath,	139,887	122,704	11,707	2,531	14,239	9.82	8.62
Queen Mary and Westfield College	167,772	113,517	13,851	3,278	17,130	9.79	6.63
The University of Sussex	139,080	96,664	12,096	2,178	14,274	9.74	6.77
University of Durham	169,480	123,175	14,976	3,068	18,045	9.39	6.83
The University of East Anglia	145,860	101,664	13,289	2,502	15,792	9.24	6.44
The University of Exeter	164,401	112,481	17,722	3,136	20,858	7.88	5.39

From the above peer comparison, University of Reading provides 29% more NIA space and 35% more GIA space than the mean in its peer group. Out of this peer group, University of Reading provides the most NIA space to its students and staff and is second from the top in terms of provision of GIA space.

*Table ranked by GIA (m^2) per FTE

A2.10 University Requirements

Table 12: Impact of increased FTE and reduced area on GIA m^2 per FTE

			Gross Internal Area					
		m^2	2011/12	-5%	-10%	-15%	-20%	-25%
	FTE		194,753	185,015	175,278	165,540	155,802	146,065
Total FTE	2011/12	14,400	13.5	12.8	12.2	11.5	10.8	**10.1**
	1,000	15,400	12.6	12.0	11.4	10.7	**10.1**	9.5
	2,000	16,400	11.9	11.3	10.7	**10.1**	9.5	8.9
	3,000	17,400	11.2	10.6	**10.1**	9.5	9.0	8.4
	4,000	18,400	10.6	**10.1**	9.5	9.0	8.5	7.9
	5,000	19,400	**10.0**	9.5	9.0	8.5	8.0	7.5

* The table is calculated using CIF2 metrics taken from EMS data for 2011/12

Conclusions

- A significant increase in student numbers in addition to a significant reduction in the total space envelope is required to bring the University in line with the comparator group median of 10.0m2 GIA.
- Without an area change an increase in FTE of approximately **5,000 FTE** is needed to move the University toward the 10.0m2/FTE comparator group median.
- Without any FTE increase a reduction in area of approximately **25% or 49,000m2** is required to attain the current comparator median.
- Various scenarios move the University towards the peer median. The most likely of these seems to be a combination of a 2,000 increase in FTE coupled with a 15% area reduction (29,000m2).
-

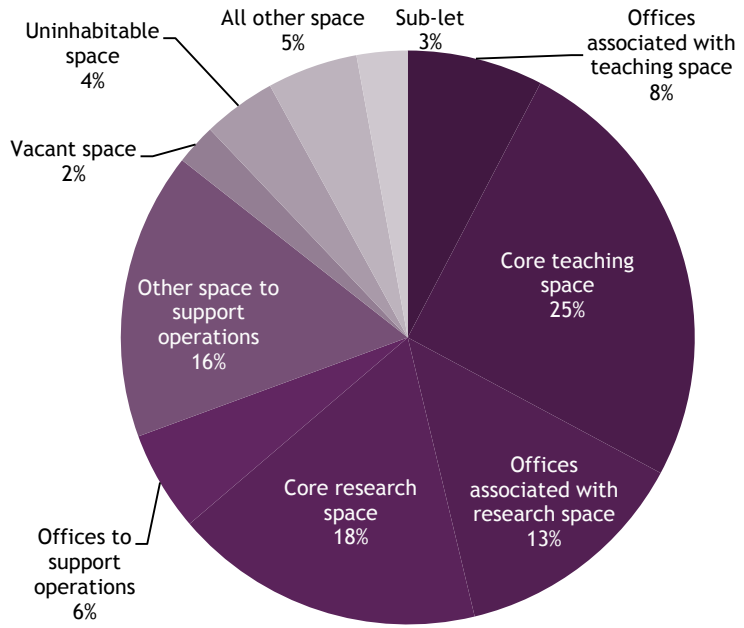
Appendix 3 – Space Analysis

A3 Detailed Space Analysis

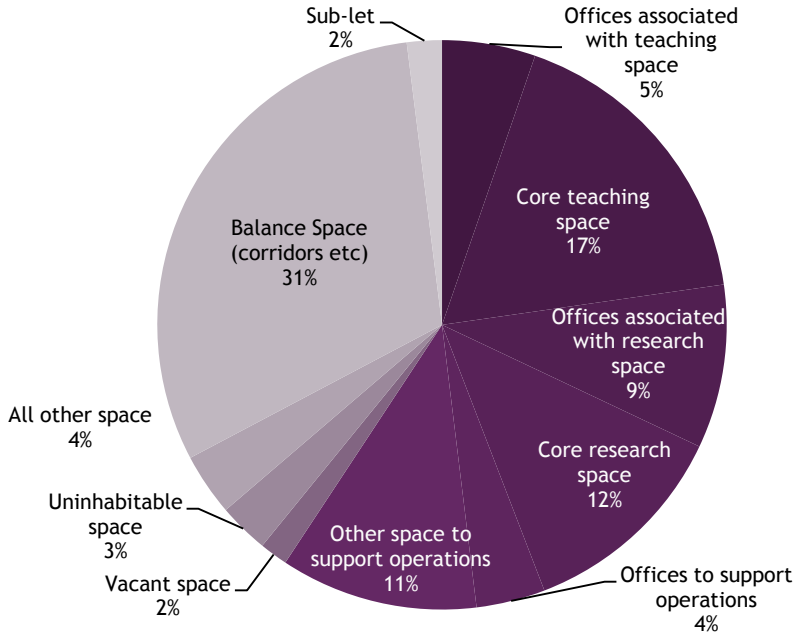
A3.1 Space by type – Whiteknights

Figure 14: Space by type Whiteknights (NIA & GIA)

116,402 m^2 NIA



168,093 m^2 GIA



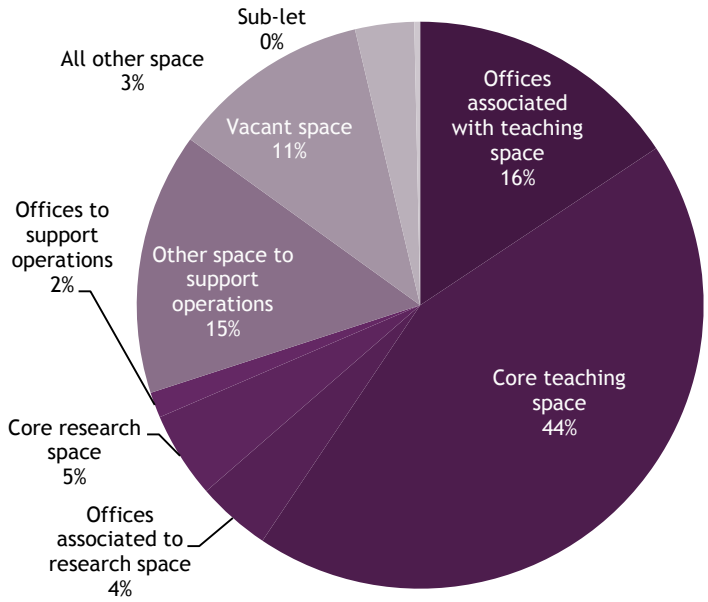
25% (29,302m^2) of Whiteknights is made up of core teaching space and **18%** (20,365m^2) core research space. Total office space makes up **27%** (31,118m^2) of the campus with offices associated with research space having the greatest proportion. **4%** (4,802m^2) is uninhabitable and **2%** (2,683m^2) vacant.

31% (51,691m^2) of GIA is made up of balance space including corridors, stairwells, lifts etc. This amount of balance space is above the norm and indicates inefficiency in the estates assets.

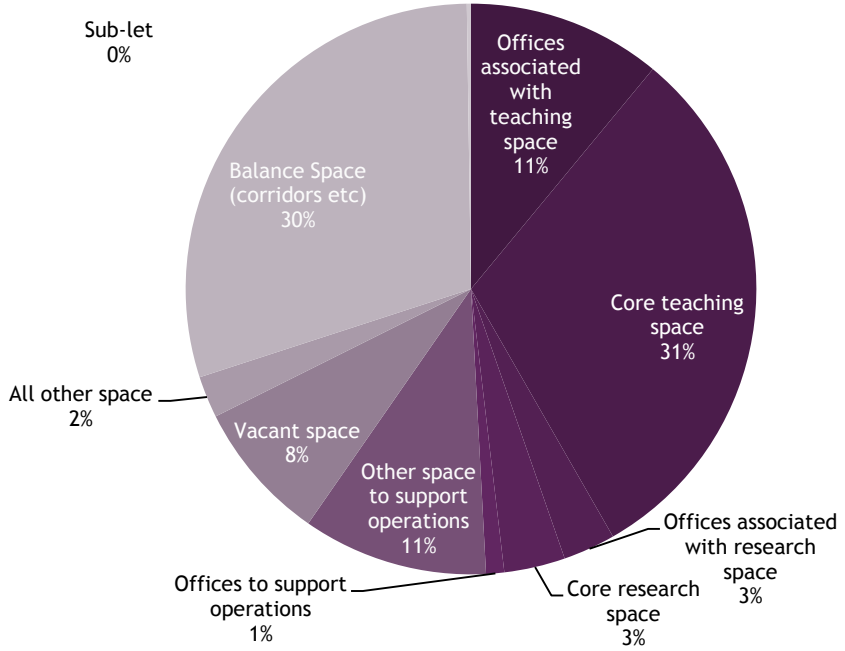
A3.2 Space by type – London Road

Figure 15: Space by type at London Road (NIA & GIA)

8,686m2 NIA



12,368m2 GIA



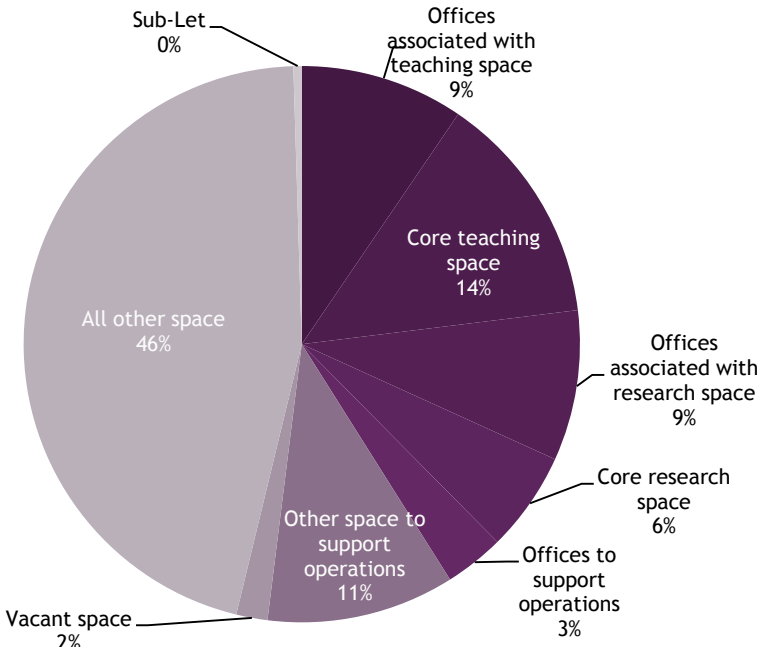
44% (3,798m2) of London Road campus is made up of core teaching space and **5%** (427m2) core research space. Total office space makes up **22%** (1,853m2) of the portfolio with offices associated with teaching space having the greatest proportion. **11%** (986m2) of the space is vacant with majority being the library.

30% (3,682m^2) of GIA is made up of balance space including corridors, stairwells, lifts etc. This amount of balance space is above the norm and indicates inefficiency in the estates assets.

A3.3 Space by type – Greenlands

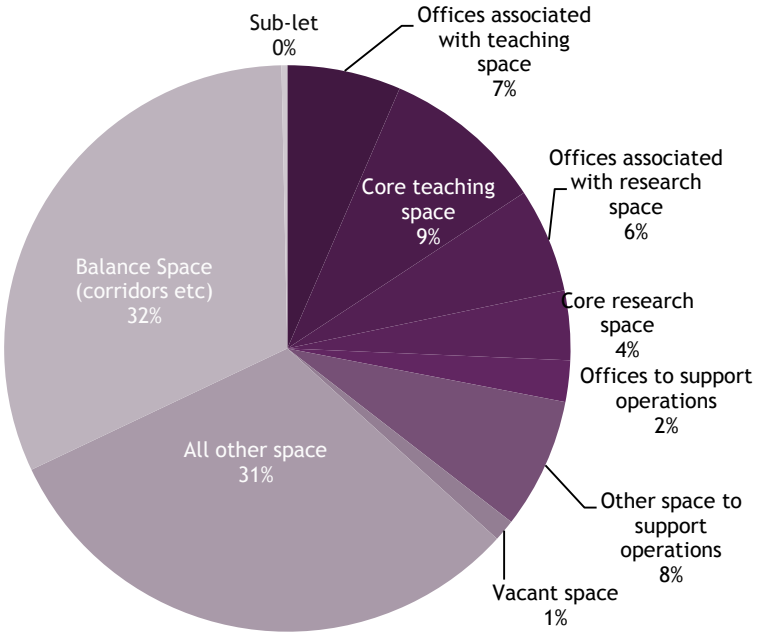
Figure 16: Space by type at Greenlands (NIA & GIA)

8,722 m2 NIA



The largest proportion, **46%** (3,988m2), of space at Greenlands is made up of space which has been categorised as separate from the institutions academic and support activities and is kept for some specific purpose which includes the overnight accommodation. **14%** (1,181m2) is core teaching space and **21%** (1,893m2) offices.

12,368m2 GIA

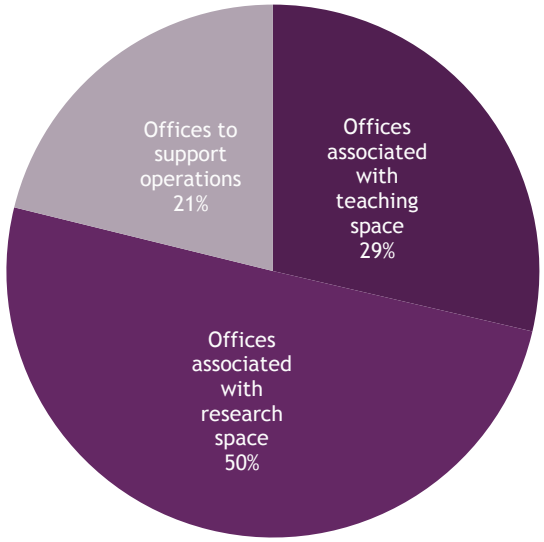


32% (4,050m2) of GIA is made up of balance space including corridors, stairwells, lifts etc. This amount of balance space is above the norm and indicates inefficiency in the estates assets.

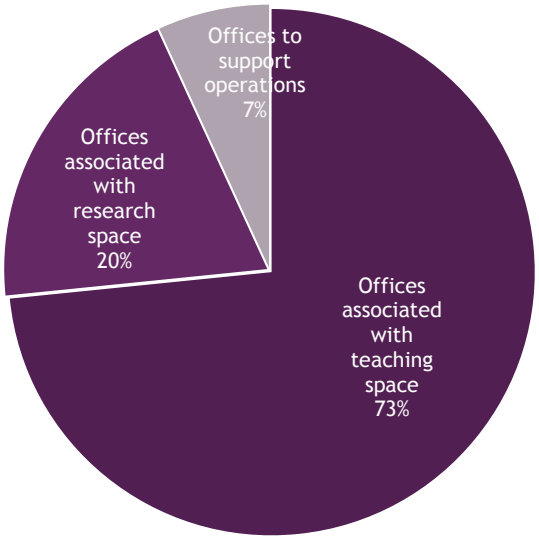
A3.4 Office space by type by location (m^2)

Figure 17: Office space by type by location

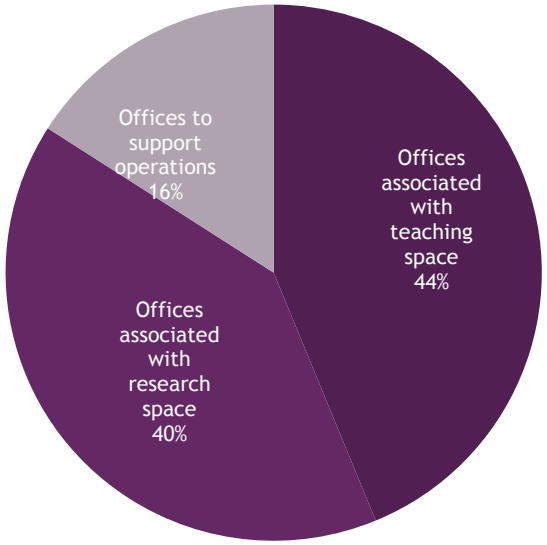
Whiteknights (31,118 m2)



London Road (1,853 m2)



Greenlands (1,893 m2)

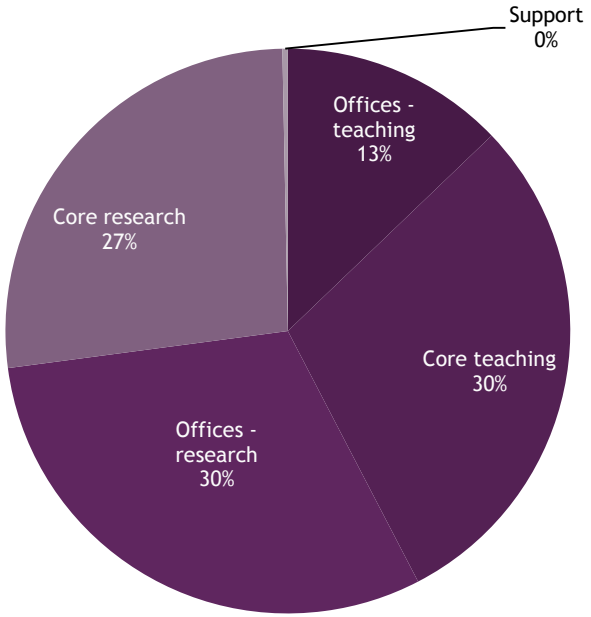


Offices within the academic and operational portfolio make up **16% (**35,242m^2) of the gross internal area. The largest proportion of office space on the Whiteknights campus is associated with research space accounting for **50%** (15,621m^2) of the total office space. At London Road, offices associated with teaching space dominate with **73%** (1,360m^2). Greenlands has an almost equal proportion of offices associated with research **40%** (762m^2) and teaching **44%** (762m^2).

A3.5 Space by Faculty – Science

Figure 18: Space by Faculty of Science

Floor Area17,934m^2



Current Space Issues/Challenges

- School of Mathematical and Physical Sciences
  - School is dispersed across the Whiteknights campus– Meteorology at Earley gate, Mathematics in JJ Thomson and Mathematics building. School would like to be co-located in one location.
  - Meteorology is an area of growth and is currently in need of more space. Taking up space in the Philip Lyle building but is not strategically well placed with the rest of the department. Would like to be in one location.
- Archaeology, Geography and Environmental Science are overprovided and currently dispersed across 5 buildings across the Whiteknights campus creating space efficiency issues and lack of academic cohesion.
- School of Construction Management and Engineering – currently dispersed between Engineering and URS building. School would like to be located in one single fit for purpose building.
- School of Systems Engineering – split between Engineering and Systems Engineering and JJ Thomson building. School would like to be in 1-2 locations with Systems Engineering building acting as the main building to improve academic cohesion.

Current projects committed

- Plans to allow more expansion of Meteorology into the Philip Lyle building
- School of Human and Environmental Sciences due to exit the Miller building moving from 5 – 4 by reconfiguring Russell building.

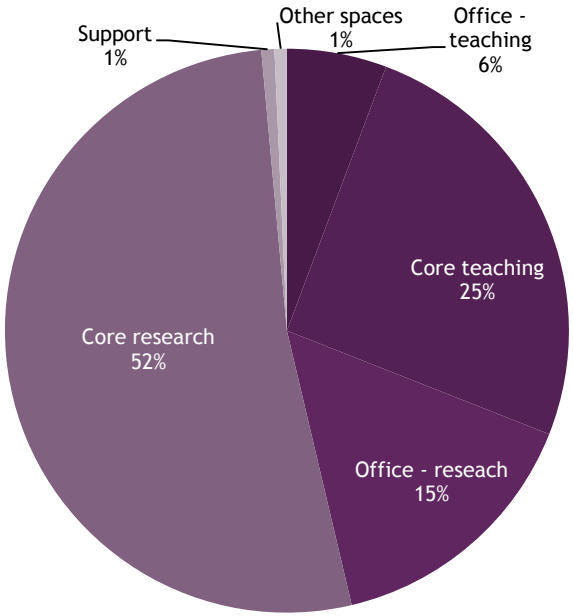
Recent investment in faculty (last 5 years)

- Created a new front office for Archaeology, Geography and Environmental Science academics in the Russell building to facilitate exiting Miller building
- Created a home for Atta Badii research group in JJ Thomson
- Moved Meteorology into part of the Philip Lyle building
- Co-located Applied Statistics with the rest of Mathematics in JJ Thomson building
- Created TSBE Centre in JJ Thomson for School of Construction Management

A3.6 Space by Faculty – Life Sciences

Figure 19: Space by Faculty of Life Sciences

Floor area - 35,532m^2



Current Space Issues/Challenges

- Faulty is dispersed around the Whiteknights campus due to legacy reasons
- School of Biological Sciences accommodates AMS Tower, Knight and Harborne which are approaching end of life
- School of Chemistry, Food and Pharmacy – Pharmacy are growing rapidly and have overflowed existing capacity this year without a physical solution being provided.
- School of Psychology – lack of space for future growth
- School of Agriculture – lack of office and standard lab space in the Agriculture building to enable future growth. Offsite, space at Shinfield requires consolidation and relocation of capabilities to Whiteknights and elsewhere due to road being built through site.
- Relocation of faculty activities in the AMS Tower required as the building is approaching end of life.

Current projects committed

- None currently committed

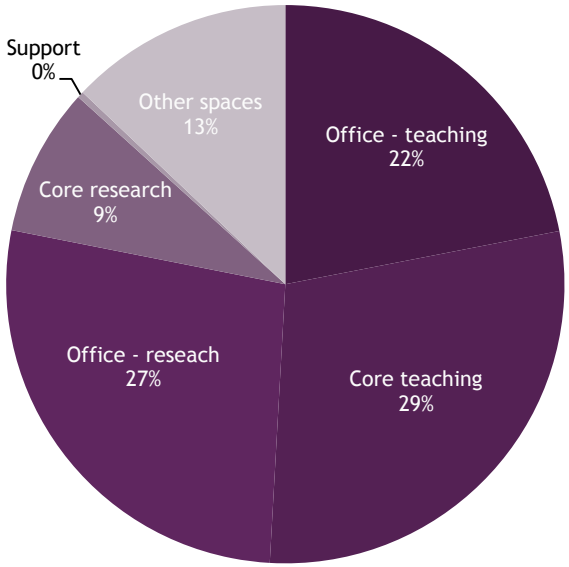
Recent investment in faculty (last 5 years)

- University invested in CINN (Centre for Integrative Neuroscience and Neurodynamics)
- Built Hopkins building for School of Biological Sciences and Pharmacy

A3.7 Space by Faculty – Henley Business School

Figure 20: Space by Faculty of Henley Business School

Floor area - 11,191m^2



Current Space Issues/Challenges

- Faculty requires more space to accommodate future growth targets on Whiteknights campus
- Students are currently taught across different buildings around campus- would like to accommodate students within one building, supporting the HBS brand
- Greenlands overnight accommodation at Paddock House not adequate for executive education students and a new development is required if provision remains at Greenlands
- If extension was built on to existing HBS at Whiteknights campus to accommodate future growth, there is an issue around how to accommodate the imminent growth prior to building completion. HBS is currently at capacity and have overflowed in the HumSS building

Current projects committed

- None currently committed

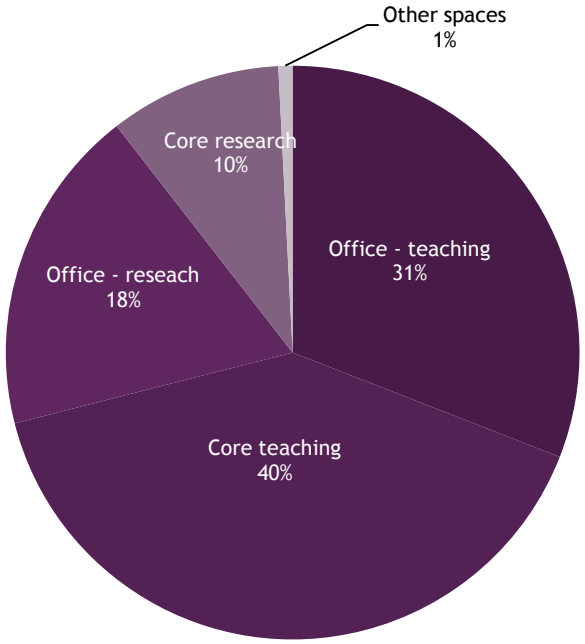
Recent investment in faculty (last 5 years)

- University of Reading merged with Henley Business School
- New purpose built building on Whiteknights campus
- Extension of the ICMA centre
- Merged with HBS 2008

A3.8 Space by Faculty – Arts, Humanities & Social Sciences

Figure 21: Space by Faculty of Arts, Humanities & Social Sciences

Floor area - 15,434m^2



Current Space Issues/Challenges

- Schools Arts and Communications Design
  - School currently very dispersed across Whiteknights main campus and Earley Gate– Minghella-Film Theatre & Television, and HumSS-History of Art located on main Whiteknights campus and TOB1 – Art and TOB2- Typography located at Earley Gate
  - Art & Typography located in the TOBS' have exhausted the space and provide lack of room to grow. Recruitment of new students is also being impacted by the facilities. To aid growth, more suitable accommodation in a fit for purpose/marketable building is required
- International Study and Language Institute create a space pressure over the summer for pre-sessional English courses and pressure in term time for their year long foundation programme. Space will continue to be an issue as ISLI grows.
- School of Politics, Economics and International Relations – lack of space to grow on current space arrangements
- School of Law – lack of space for future growth. Require more academic staff offices and teaching space.
- Institute of Education – space mix is currently not quite right for activities and lack of social and informal space in London Road.

Current projects committed

- None currently committed

Recent investment in faculty (last 5 years)

- Built Minghella building for Film Theatre and Television
- Restacked HumSS to create space for ISLI and relocated School of Literature and Languages
- SPEIR – part relocated to HumSS Tower
- School of Law – created overflow space in HumSS
- Refurbished London Road for Institute of Education
- Relocated Economics into HumSS
- Refurbished Foxhill House for School of Law

A3.9 Museums

Within its estate, the University holds 3 museums listed below which take up 3% of space in the academic and operational portfolio. The largest of which is the Museum of English Rural Life which is located on London Road and has a backlog maintenance figure £57,900.

Table 13: Summary of Museum space

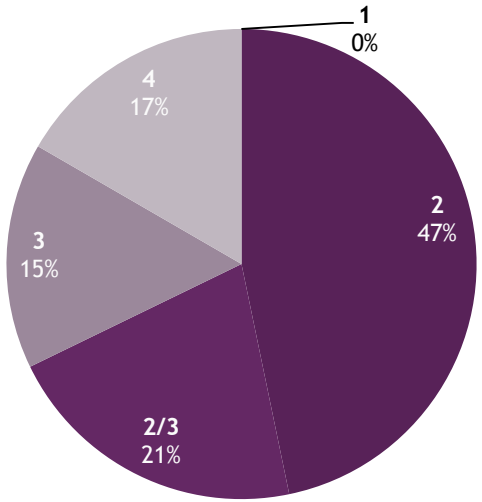
Museum	Purpose	Location	Space m2
The Ure Museum	Greek Archaeology	HumSS	91
Cole Museum	Zoology	AMS	252
Museum of English Rural Life	National collection of farming and countryside objects	Redlands	3,733
TOTAL			**4,076**

A3.10 Functional Suitability - Whiteknights

Figure 22: Functional suitability of Whiteknights by space type

Generic Teaching Space (16,488m2)

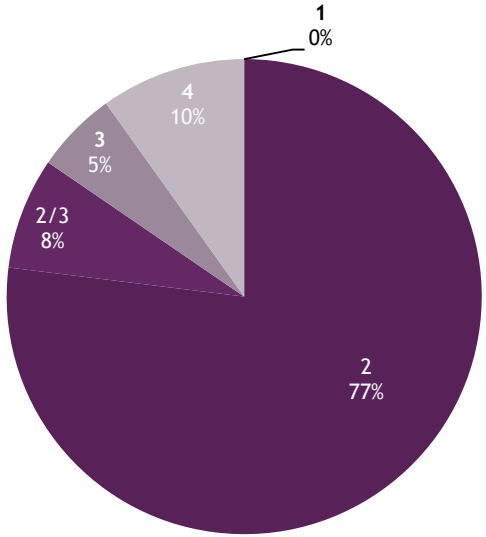
*Total generic teaching space 17,591m2



0% of generic teaching space is rated grade 1 “excellent”. The majority of the space, 47% (7,707m2) is rated as grade 2 “good” whilst 17% (2,746m2) is rated as grade 4 “Poor”.

Office Space (31,022m2)

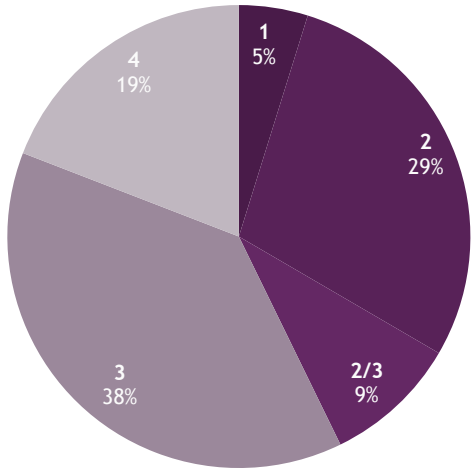
*Total generic teaching space 31,117m2



Only 4% (1,343m2) of office space is rated grade 1 “excellent”. The majority of the space, 74% (24,970m2) is rated as grade 2 “good” whilst 9% (3,066m2) is rated as grade 4 “Poor”.

Specialist Space (23,251m2)

*Total generic teaching space 26,014m2



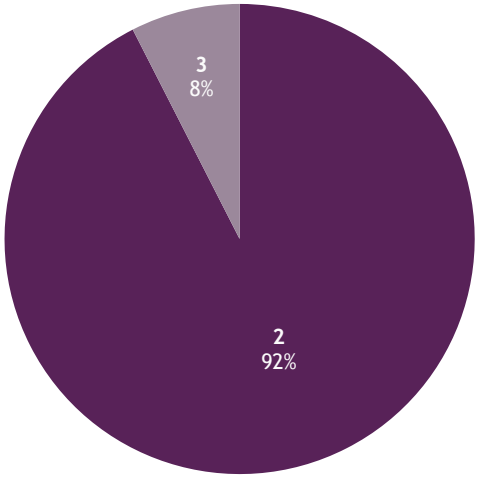
Only 5% (1,118m2) of specialist space is rated grade 1 “excellent”. The majority of the space, 38% (8,859m2) is rated as grade 3 “satisfactory” whilst 19% (4,448m2) is rated as grade 4 “Poor”.

A3.11 Functional Suitability – London Road

Figure 23: Functional suitability of London Road by space type

Generic Teaching Space (1,531m2)

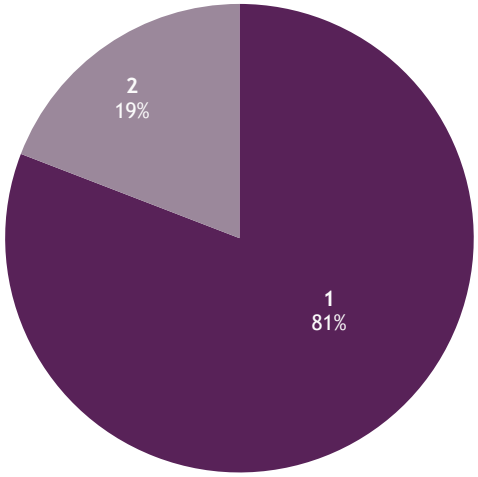
*Total generic teaching space 2,892m^2



The majority of the space, 92% (1,416m2) is rated as grade 2 “good” and the rest, 8% (115m2) is rated grade 3 ”satisfactory”.

Office Space (1,661m2)

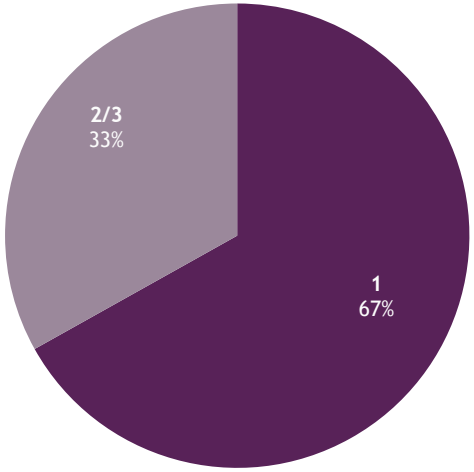
*Total generic teaching space 1,853m2



81% (1,343m2) of office space is rated grade 1 “excellent”. The rest of the space, 19% (318m2) is rated as grade 2 “good”.

Specialist Space (1,090m2)

*Total generic teaching space 1.090m2



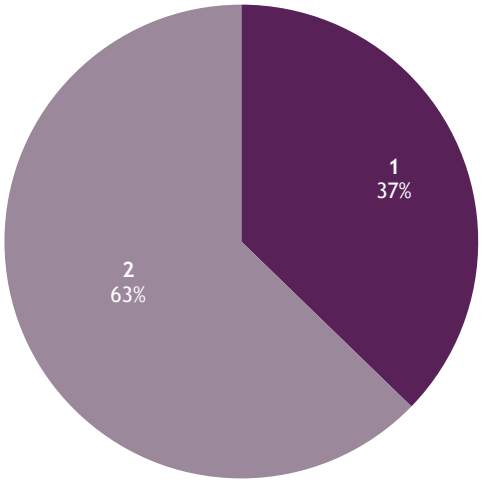
67% (729m2) of specialist space is rated grade 1 “excellent”. The rest of the space, 22% (361m2) is rated as grade 2/3 “good/satisfactory”

A3.12 Functional Suitability – Greenlands

Figure 24: Functional suitability of Greenlands by space type

Generic Teaching Space (8162 m2)

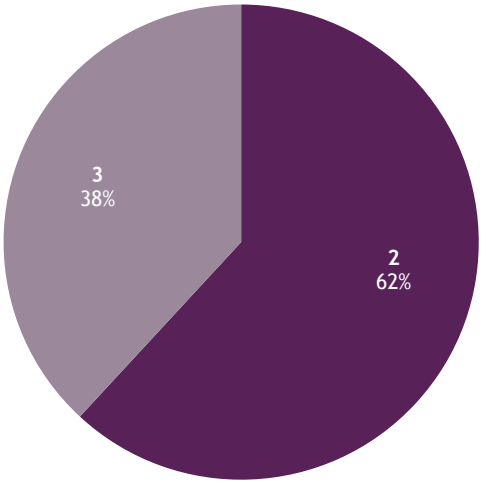
*Total generic teaching space 1,204m2



The majority of the space, 63% (512m2) is rated as grade 2 “good” and the rest, 37% (304m2) is rated grade 1 ”excellent”.

Office Space (1,259m2)

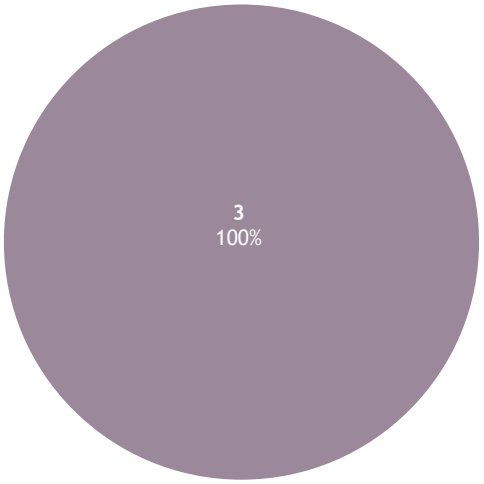
*Total generic teaching space 1,259m2



62% (512m2) of office space is rated grade 2 “good”. The rest of the space, 38% (480m2) is rated as grade 2 “good”.

Specialist Space (48m2)

*Total generic teaching space 193m2

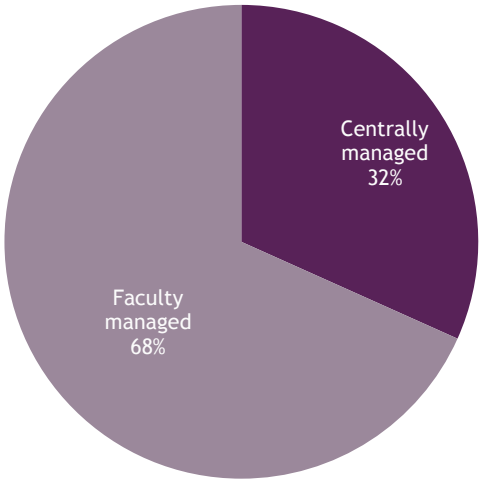


100% (48m2) of specialist space is rated grade 3 “satisfactory”.

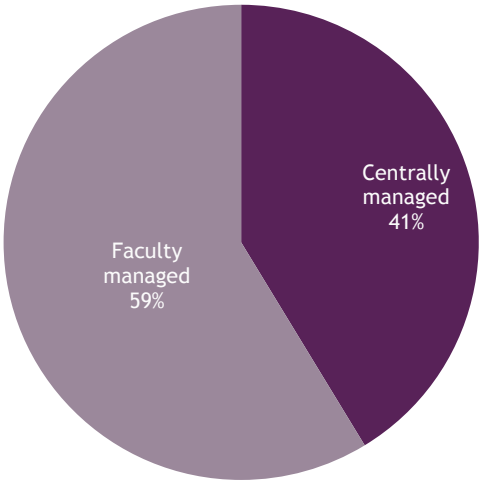
A3.13 Space Management by Location

Figure 25: Space management of Core Teaching Space by location

Whiteknights (29,302m2)



London Road (3,798m2)



Greenlands (1,180m2)

A third of the core teaching space on Whiteknights is reserved centrally with a further 41% of space reserved centrally at London Road. There is no visibility of any space booking and utilisation at Greenlands by the E&F function.

A3.14 Space Management by Location

Figure 26: Space management of Core Research Space by location

Whiteknights (29,302m2)

London Road (3,798m2)

Greenlands (1,180m2)

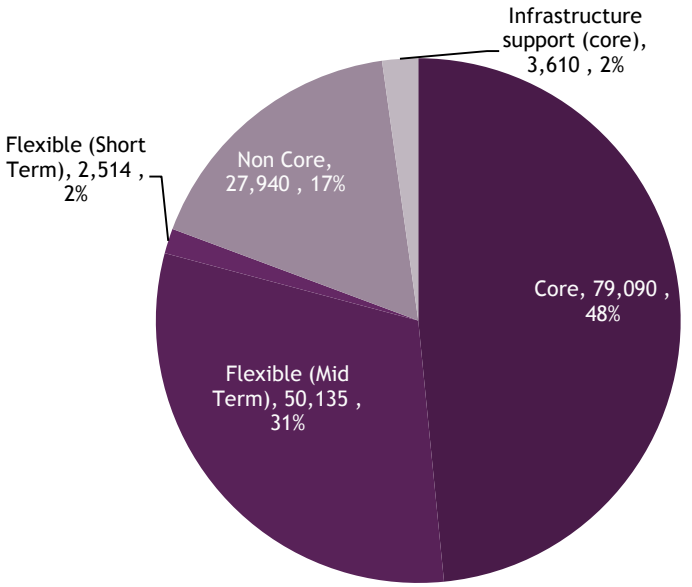
A3.15 Core, Flex, Non-Core - Whiteknights

Of the **168,093 m2** of academic / operational space (94 assets) on Whiteknights approximately 80% has been categorised as Core or Flexible (Medium Term).

A total 17 assets are categorised as Non-Core and equate to approximately **28,000m2** of space.

Table 14 & Figure 27: Summary of Core, Flex, Non-Core categorisation at Whiteknights

Category	No	Buildings
Core	26	Agriculture, Henley Business School, HBS Offices, Carrington, Citadel, Cocoa House, Harry Pitt, Harry Pitt Meteorology & Psychology, Hopkins, HumSS* main, ICMA Centre, ICMA Extension, Library, Meteorology, Minghella, Old Whiteknights House, Palmer, Park Eat, Park House, Reading Atmospheric Observatory, RUSU Nursery, RUSU The Lounge, Sports Park, Students Union, The Cedars (Catering), Whiteknights House
Flexible (MT)	25	Agriculture Glasshouse, Archaeology, Archway Lodge, Blandford Lodge, Chemistry, Controlled Environment Building, Food Biosciences, Foxhill House, GHG1A, GH8A, GH14-GH16, GH17-GH26, ASG01, GH27-GH28, Harborne, HumSS tower*, JJ Thomson, Mathematics and IT, Park House Lodge, Philip Lyle, Russell, Systems Engineering, The Allen Lab, The Cedars Hotel & Conference Centre, Wager
Flexible (ST)	1	Science Store Building (TBC)
Non-Core	17	1-4 Boiler House Cottages, AMS Tower, Athletics Pavilion, Elmhurst Barn, Employee Social Club & Pre-School Group, Engineering, GHG1 – 8 / ABG23, GH9 – GH13, Knight, Marsden Shed, Miller, TOB 1, TOB 2, URS



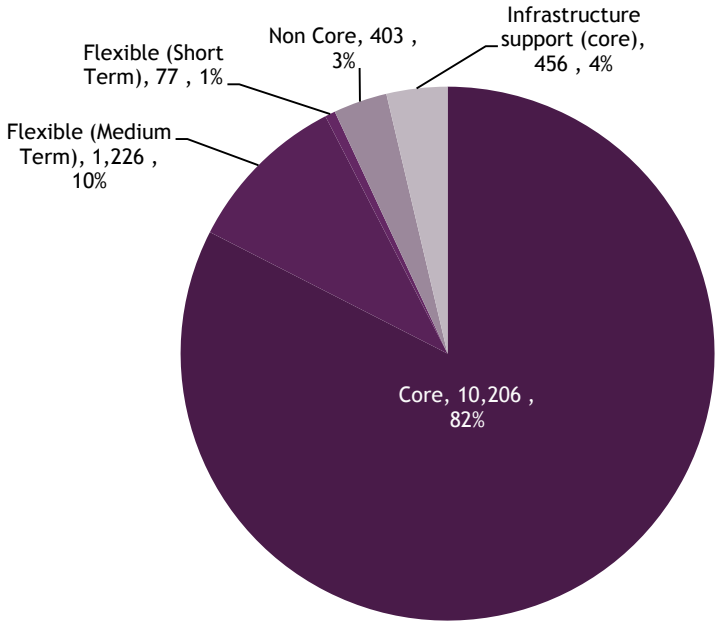
A3.16 Core, Flex, Non-Core - London Road

Of the **12,368 m2** of academic / operational space (20 assets) at London Road approximately 96% has been categorised as Core or Flexible (Medium Term).

Four assets across the campus have been identified as Flexible (Short Term) or Non-Core.

Table 15 & Figure 28: Summary of Core, Flex, Non-Core categorisation at London Road

Category	No.	Buildings
Core	13	Clock Tower, L004, L005, L010, L014, L016, L019, L022, L024, L028, L029, L033, The Great Hall
Flexible (MT)	1	Library & Administration
Flexible (ST)	1	L040
Non-Core	3	L035, L041, The Great Hall Toilets & Stores



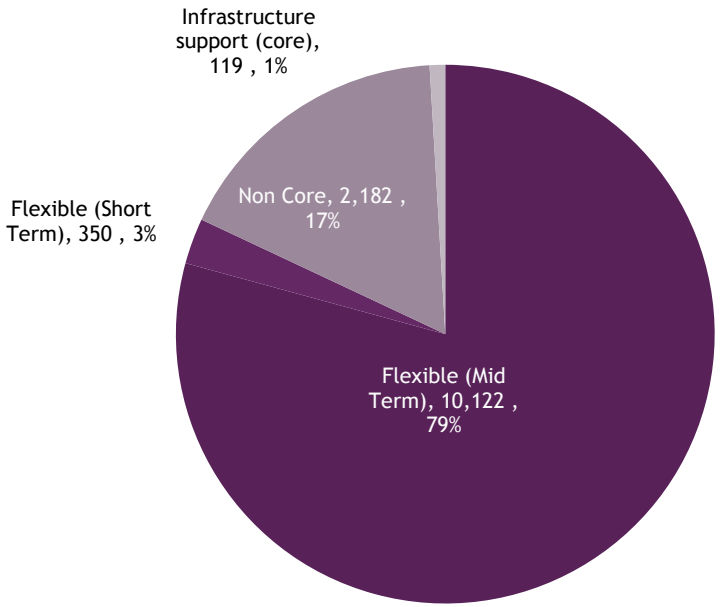
A3.17 Core, Flex, Non-Core - Greenlands

Of the **12,773 m2** of academic / operational space (38 assets) at Greenlands approximately 80% has been categorised as Flexible (Medium Term). No assets are currently categorised as Core.

Nine assets across the location have been identified as Flexible (Short Term) or Non-Core. Opportunities to release a number of these assets are currently being explored.

Table 16 & Figure 29: Summary of Core, Flex, Non-Core categorisation at Greenlands

Category	No.	Buildings
Core	0	N/A
Flexible (MT)	23	Anniversary & Greenlands, ARC, East Lodge, Engine House, Game House, Main House, National Grid Conference Room, North House, Pool House, River House, Thames Court (Cherwell, Evenlode, Windrush, Loddon), Thomas Kempner , TK Conference Room, Stores & Workshops x7
Flexible (ST)	1	Kennet House
Non-Core	8	Furniture Store / Old Finance Building, Glasshouse, Greenlands Garage, Paddock House & Boiler Room, Sports Hall, Swimming Pool, Swimming Pool Changing Rooms



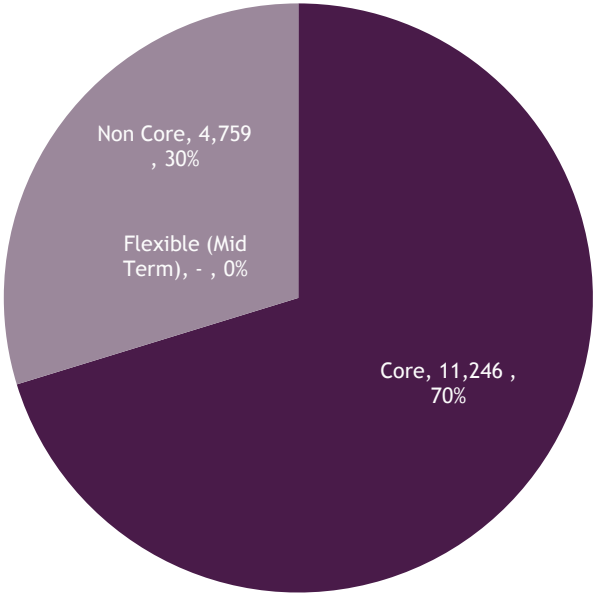
A3.18 Core, Flex, Non-Core - Shinfield

Of the **16,007 m²** of academic / operational space (52 assets) at Arborfield / Shinfield approximately 70% has been categorised as Core.

A significant number of assets (47) are associated with the research activity undertaken by PEL and Biological Sciences and have been classified as 'non-core'. These assets are currently under review as their associated research activity would be better co-located on the main Whiteknights campus.

Table 17 & Figure 30: Summary of Core, Flex, Non-Core categorisation at London Road

Category	No.	Buildings
Core	4	CEDAR Met Unit, CEDAR – MGRU, Hall Farm Feed Mill & Storage, Main Dairy Unit
Non-Core	47	Plant & Environmental Laboratories (PEL) & Biological Sciences - Offices, Sheds, Stores, Polytunnels, Workshops, Glasshouses, Portacabins



A3.19 Core, Flex, Non-Core - Other

Of the **7,683 m²** of 'other' academic / operational space (10 assets) at Sonning, Redlands and miscellaneous locations, approximately 97% has been categorised as Core or Flexible (Medium Term). Only one asset is categorised as Non-Core.

Table 18 & Figure 31: Summary of Core, Flex, Non-Core categorisation at London Road

Category	No.	Buildings
Core	3	National Fruit Collection Offices, Sonning Farm, Sonning Farm CEDAR
Flexible (MT)	4	Library Repository Worton Grange, Men's Boathouse (Caversham Bridge), MERL, MERL Archive Store,
Non-Core	1	Women's Boathouse (Caversham)