



**QUEEN'S
UNIVERSITY
BELFAST**

ESTATE STRATEGY

2012 - 2022



Contents

1. Executive Summary
2. Introduction
3. The University's Mission Strategic Priorities and Goals
4. Guiding Principles for Development of the Estate
5. Development Context and Sustainability
6. Overview of the Estate
7. Review of Capital Plan and Strategic Development Challenges
8. Potential Solutions to Development Challenges
9. Capital Funding and Affordability

Appendices

1. Plan of Existing Campus
2. Schedule and Plan of Vacant Buildings
3. Distribution of School Space and Utilisation of Teaching Accommodation
4. Building Condition, Functional Suitability, Asset Value and Insurance Replacement Cost
5. Summary of Capital Project Investment 2001-12
6. Estimated Expansion in Student Numbers and Summary of Major School Issues
7. Masterplan 2012-22
8. Capital Project Development Process

1. EXECUTIVE SUMMARY

- 1.1 Founded in 1845 as Queen's College, today Queen's University Belfast is a broadly-based research-driven university, and member of the Russell Group, with a dynamic world-class research and education portfolio and strong international connections.
- 1.2 The estate must provide a physical environment that will support the delivery of the Corporate Plan 2011-16, the ethos of which is embodied in the University's Mission. This is to become: a world-class university that links Northern Ireland to the global community through the life-changing experience we offer to our students, the distinctive contribution made to society by our graduates, and the high quality and impact of our research.
- 1.3 The Corporate Plan states that during the planning period the University will:
- Continue to invest strategically in the estate and IT infrastructure to support the delivery of the four strategic priorities, although the level of investment will be reduced as a result of the reductions in Government funding
 - Continue to enhance the sustainability of the estate
 - Seek more effective utilisation of space, particularly in regard to teaching, while seeking further opportunities to develop new income streams through external contracts
 - Progress development of the estate to provide a focus for internationally recognised, globally competitive and sustainable research.
- 1.4 In keeping with the Corporate Plan strategic priorities, the emphasis for the ten year period of the Estate Strategy must be sustainability - both environmental and economic. Common to both is minimization of waste and optimization of major resources including staff, space, equipment and energy.

The core requirements will be to:

- Align the size of the estate with identified need, through re-use and rationalisation of existing buildings, or disposal of vacant properties where appropriate
 - Reduce recurrent operating costs, with particular focus on energy and carbon emissions
 - Ensure that appropriate funding is provided to maintain the estate, so that it is safe and supports the functional requirements and expectations of students and staff.
- 1.5 The University estate is located primarily in South Belfast and now incorporates a significant part of the Victorian suburb which grew up around the Lanyon building. It covers an area of approximately 67 hectares, includes 250 individual buildings, 97 of which are listed, and provides a total gross internal area (GIA) of 328,000m². Of the overall buildings, 85% are situated within one of three adjoining Conservation Areas.
- 1.6 The estate has been transformed since 2001 as a result of a major capital investment programme totalling over £350m (excluding equipment). In addition to a

comprehensive refurbishment programme, 21% of the core estate and 83% of the student residential estate has been constructed since 1999-2000.

- 1.7 The annual return to the Higher Education Statistics Agency (HESA) for 2010-11 shows that the distribution of the core estate - over teaching, research, support etc. categories - is broadly in line with the Russell Group 8 peer group. This is with the exception of vacant space which, at 9%, is almost twice the upper quartile result (4.8%) for the overall Higher Education sector. The scale of vacant buildings is, largely, as a consequence of the implementation of a number of major capital projects since 2009. Re-use of much of this vacant space, to meet Corporate strategic priorities, is addressed in the Capital Plan.
- 1.8 The condition and functional suitability of the estate have improved consistently over the last ten years. Continuing this improvement is integral to the Estate Strategy and major projects included in the Capital Plan – in particular, the Library Stack and Lynn Library project - will address very significant elements of backlog maintenance. The demolition, in due course, of other buildings in poor condition, (e.g. the Science Library) will also have a major impact.
- 1.9 An analysis of the University's performance shows that it is well positioned against the sector with respect to operating costs, condition and level of investment. This is a significant result, considering the high cost of energy and rates in Northern Ireland relative to Great Britain.
- 1.10 There still remains significant scope for improvement in the performance of the estate, in line with the guiding principles for estate development and with the focus on environmental sustainability. There will be particular focus on energy management, given the relatively high cost of energy in Northern Ireland and the requirements of the Climate Change Act 2008.
- 1.11 The key performance targets for the Strategy period are:
 - Capital and Maintenance Expenditure: minimum annual investment of 5% of the Insurance Replacement Value (IRV) of the estate
 - Cost to upgrade to Condition B: at or below 3% of IRV
 - Percentage of core estate in Functional Suitability categories 1 and 2: 90%
 - Carbon Emissions: Reduction of 21% by 2020 (2020-21 academic year) against a 2007-08 baseline.
- 1.12 The major development challenges identified in the Strategy period are informed both by the Corporate Plan strategic priorities and by plans, approved by Senate in October 2011, for student expansion totalling some 1,200 students (home/EU, mainly UG). The University's Internationalisation Strategy will also seek to expand the overseas student population by some 800.
- 1.13 The Estate Strategy incorporates a Masterplan which sets out solutions to the major development challenges. The solutions reflect the fundamental premise that the optimum physical estate, attuned to needs, can be substantially achieved through the improved use of existing accommodation. Further, the acquisition of sites and expansion of the estate will be considered only where the investment appraisal demonstrates that this presents the best option for achieving the Corporate Plan

strategic priorities.

- 1.14 In relation to teaching and research space, the Strategy aims to align Schools' accommodation with identified needs and to develop and maintain effective research facilities to support the delivery of world-class research.

In terms of the student experience, the target will be to continue to develop and enhance the already wide range of sporting, social and cultural facilities available to students. A major focus will be on improving the quality of teaching accommodation and expanding formal and informal group study space.

- 1.15 Following completion of Elms 11, and assuming that the three student residential schemes included in the Capital Plan proceed, the shortfall in the residential provision is in the region of 500 plus beds. The University has no further sites which might be developed to meet this demand and, therefore, discussions must continue with third party providers. These discussions will be in the context of Belfast City Council's report on student housing, *Belfast: A Learning City* (Buchanan Report) published in March 2012.
- 1.16 Given the high proportion of the estate located within Conservation Areas, the statutory planning process will be a major challenge in the delivery of the Estate Strategy - especially in relation to the student residential schemes. However, Queen's will continue to work in partnership with statutory agencies, Government departments, major stakeholders and neighbours to help achieve Belfast City Council's ambition to make Belfast a Learning City and destination of choice for students.
- 1.17 Building on the Estate Strategy 2007-17, the University's target annual investment in capital developments over the period of this Strategy remains at 5% of the IRV of the estate, with at least half of this to be funded from internal sources.

Based on 5% of IRV, the current target annual investment is approximately £29m. With additions and improvements to the estate, the IRV will increase over the planning period and it is estimated that the annual target investment will reach £38m by 2021-22.

The total target investment over the ten year period of the Strategy is £334.4m.

2. INTRODUCTION

- 2.1 The Estate Strategy provides a comprehensive framework for accommodation planning for the period 2012-22 and aims to describe in one document:
- The relationship between the Corporate Plan strategic priorities and the estate
 - The University's existing estate, its condition, performance, problems and opportunities
 - The current and future requirements of the estate, i.e. what buildings and facilities will be needed to deliver the Plan
 - The opportunities for development and rationalisation to deliver the optimum physical environment and one that will enhance the student experience
 - The scale of maintenance required to provide and retain the estate in an appropriate condition
 - Assessments resulting in the identification of preferred development options
 - Proposed changes to management processes that will support the delivery of the strategic priorities of the University.
- 2.2 The Estate Strategy 2012-22 builds on the Estate Strategy 2007-17 approved by Senate in June 2007.
- 2.3 The Estate Strategy, while setting down parameters for the use of the estate, must also be flexible in order to react to new demands and changes, both internally and externally.
- 2.4 The University's estate is one of its most valuable assets, second only to its staff and students, and it is essential that it provides a high quality sustainable physical environment that is safe, accessible, attractive, fit for purpose, properly managed, and ensures value for money.
- 2.5 The Estate Strategy requires a long view of institutional development and, in line with guidance, a ten year planning period has been adopted. This reflects the fact that major changes to accommodation provision involve long planning and construction periods and require large scale investment both in construction and in recurrent expenditure. Poor development decisions are generally very costly and often irreversible.
- 2.6 The challenge the ten year planning period poses to the institution as a whole cannot be overstated. It requires reasoned projections to be made over a wide range of issues touching on virtually every area of the University's operation, as well as taking account of external factors.
- 2.7 To meet this challenge, the Strategy and the strategic priorities for the estate are reviewed each year, in order to reflect the annual Academic and Financial planning process. This process, in turn, informs a major five-yearly update of the Strategy, designed to ensure that all underlying assumptions remain both appropriate and relevant.
- 2.8 The structure of the Estate Strategy is based on the guidelines set out in the Higher Education Funding Council for England (HEFCE) publication, *Estate Strategies, a Good Practice Guide* (HEFCE 00-04).

3. THE UNIVERSITY'S MISSION, STRATEGIC PRIORITIES AND GOALS

3.1 General

The Estate Strategy aims to provide a physical environment that will support the delivery of the Corporate Plan, the ethos of which is embodied in the University's Mission which is to become: a world-class university that links Northern Ireland to the global community through the life-changing experience we offer to our students, the distinctive contribution made to society by our graduates, and the high quality and impact of our research.

Queen's University Belfast has a reputation for excellence in education and research, acknowledged by our membership of the Russell Group of the UK's 24 leading research-intensive universities. It is also reflected in the Corporate Plan 2011- 2016, which sets out a clear and consistent strategic direction for the University, focused on excellence in learning and teaching, excellence in research, and leadership in corporate social responsibility.

3.2 Corporate Strategic Priorities

The Corporate Plan 2011-16 recognises a key aspiration of the University to move 'Towards a Global Top 100 University', and identifies four Strategic Priorities upon which the University will focus on for the next five years:

- To offer an exceptional student experience and high quality education, leading to improved progression, attainment and excellent career opportunities for our graduates
- To enhance internationally recognised, globally competitive and sustainable research areas
- To grow an efficient, effective and sustainable enterprise
- To develop global citizens and address international challenges.

Plan 924i sets out the institutional goals which will help achieve the strategic priorities.

- 9 - Achieving 90% progression and attainment rates for all undergraduate students by 2016
- 2- Progression towards a doubling of the institutional research citation score
- 4- Growth of 4% in income, year-on-year, from sources other than the Government block grant
- i- Internationalisation, which underpins the Corporate Plan and the delivery of plans to increase the diversity of the University's student body and the global reputation of its research.

3.3 Estates Strategic Priorities

The Corporate Plan 2011-16 states that during the planning period the University will:

- Continue to invest strategically in the estate and IT infrastructure to support the delivery of the four strategic priorities, although the level of investment will be reduced as a result of the reductions in Government funding
- Continue to enhance the sustainability of the estate

- Seek a more effective utilisation of space, particularly in regard to teaching, while seeking further opportunities to develop new income streams through external contracts
- Progress development of the estate to provide a focus for internationally recognised, globally competitive and sustainable research.



4. GUIDING PRINCIPLES FOR DEVELOPMENT OF THE ESTATE

Underpinning the Strategy, and allied to the Corporate Plan priorities, are a series of guiding principles which form the basis for the ongoing development and operation of the estate. These are grouped under four broad headings.

4.1 Integration with Institutional Aims

- (i) The University's approach to the management and development of its estate and facilities will be based upon the guiding principle that the purpose of owning and leasing property is to support the objectives and operational needs of the core business of the institution, namely education, research, the student experience and economic development.

4.2 Capital Development

- (ii) Realisation of the opportunities presented by the present capital development programme, and future external capital funding initiatives, to rationalise the estate and make more effective use of existing space – both of which will contribute to an exceptional student experience. Targeted growth in student numbers will be met from within the existing, rationalised, estate.
- (iii) Meet the requirements of the University's Carbon Management Plan and in particular a reduction of Scope 1 and 2 carbon emissions by 21%, against a 2008 base year, by 2020.
- (iv) Annual investment of some 5% of Insurance Replacement Value (IRV) in the core estate.
- (v) Maximising the potential of sites in the University's ownership, through changes in existing use or exploitation for commercial development.
- (vi) Implementation of new build solutions only where a detailed investment appraisal demonstrates that this is the best option, taking into account the Corporate Plan strategic priorities.
- (vii) Ensuring, through the setting of clear objectives and targets, that the principles of environmental sustainability underpin the development of the estate.
- (viii) Ensuring design excellence in all new-build/refurbishment projects, with particular reference to the challenges of preserving the University's historic buildings and fabric, while also ensuring that any new buildings are seen by future generations to make a significant contribution to Northern Ireland's built heritage.
- (ix) Implementation, where possible, of best practice methodology in the development and maintenance of the estate.
- (x) Adoption of a whole-life costing approach in the development of the estate. This should aim to offset additional upfront capital expenditure against lifetime recurrent operating and maintenance costs, to ensure financial viability and sustainability.
- (xi) Securing value for money and ensuring transparency of costs.

4.3 Optimal Use of Space

- (xii) Maximising overall utilisation of the estate. Use of surveys and performance indicators and targets to review the provision of teaching accommodation, technical support space, research accommodation and equipment dominated space, and to inform rationalisation projects.
- (xiii) Regular review of the University's estate to assess the potential for alternative use.
- (xiv) Development and maintenance of comprehensive management information systems, including Transparent Approach to Costing (TRAC) and Space Management Group (SMG) space management tools, which serve to foster a sense of ownership of space and which, in turn, alert staff to the opportunities offered by improved utilisation of space.
- (xv) Consolidation and co-location of cognate subjects and complementary activities to optimise synergies and efficiency gains.
- (xvi) Continual improvement in the management of centrally booked teaching spaces and realising the further potential of the Syllabus Plus timetabling system for the management of all teaching space.
- (xvii) Development of modern, flexible and generic accommodation, along with the creation of common core technology facilities.

4.4 Maintenance and Operational

- (xviii) Upgrading and maintaining the central infrastructure.
- (xix) Maintenance of the estate to the highest possible standard, so that it is fit for purpose and able to support the delivery of high quality education and research.
- (xx) Ensure the effective management of all Health and Safety risks, and compliance with statutory legislation, with respect to Estates operations.
- (xxi) Continually improving the environmental performance of the University during the day to day operation of the estate.



5. DEVELOPMENT CONTEXT AND SUSTAINABILITY

5.1 Context

Since 2001, the University has carried out a programme of major capital investment in the estate in support of teaching, research and the student experience.

The estate has changed significantly as a consequence and, while much of the programme has involved comprehensive refurbishment, the estate has also expanded - despite a number of buildings having been demolished to make way for new developments.

Since 2007, these developments - including the McClay Library, the Centre for Cancer Research and Cell Biology, the Health Sciences Building and the Medical Biology Centre Anatomy Wing extension – have increased the size of the core estate by over 29,000m² Gross Internal Area (GIA). This expansion will continue with the implementation of the current Capital Plan, resulting in a further increase of circa 4,000m² to the core (non-commercial, non-residential) estate by 2017-18. The Total Property Cost KPI, based on the University's 2011 Estates Management Statistics (EMS) return¹, shows that the cost of space is £125/m² Net Internal Area (NIA) or £91/m² GIA (benchmarked against the sector median of £132/m² NIA). The additional annual cost associated with this expansion in the estate is, therefore, approximately £3m per annum.

Increased costs will be offset to an extent by the anticipated expansion in student numbers, particularly the Northern Ireland cohort, as a result of the Northern Ireland Model for the Funding of Higher Education and Student Finance. The anticipated increase is in the region of 1,200 full-time equivalent (FTE) home/European Union (EU), mainly undergraduate, students. Further, the University's Internationalisation Strategy, which is integral to the Corporate Plan, will seek to expand the overseas student population by some 800 FTE.

Irrespective of the opportunities to increase tuition income, and in keeping with the Corporate Plan strategic priorities, the emphasis for the ten year period of the Estate Strategy must be sustainability - both environmental and economic. Common to both is minimization of waste and optimization of major resources including staff, space, equipment and energy.

The core requirements will be to:

- Align the size of the estate with identified need, through re-use and rationalisation of existing buildings, or disposal of vacant properties where appropriate. Vacant space, in particular, is a costly waste of resource. While it is an inevitable result of a rolling development plan, and an amount is necessary for decant purposes to support refurbishment projects, it is essential that the Estate Strategy and associated Development Masterplan clearly differentiates between accommodation to be retained for future use/redevelopment and that which is surplus. The latter should be disposed of, where appropriate.
- Reduce recurrent operating costs, with particular focus on energy and carbon emissions.

¹ The University's annual return to the Higher Education Statistics Agency (HESA)

- Ensure that appropriate funding is provided to maintain the estate, so that it is safe and supports the functional requirements and expectations of students and staff.

The following sections look in more detail at the environmental and economic context and impacts; and the measures being taken to manage these impacts so that the estate can be developed in accordance with the Corporate Plan strategic priorities.

5.2 Capital Investment Framework (CIF)

CIF is an important factor in the allocation of capital funding from the Department of Education and Learning (DEL) and HEFCE. The original CIF initiative, (CIF1) implemented in April 2008 allowed HEFCE-funded Higher Education institutions (HEIs), which were able to demonstrate a strategic and sustainable approach to capital investment, to benefit from greater flexibility in the deployment of capital funds.

The assessment process for this included measurement of each HEI's performance and strategic approach in relation to: building condition and functional suitability; non-carbon environmental performance; affordability; and institutional sustainability. The introduction of CIF2 in December 2009 saw the inclusion of two additional criteria, which further reinforced the importance of sustainability, managing growth, and improving the effectiveness of the estate. The additional criteria are:

(i) Improved Space Usage

This relates to effective strategic planning, benchmarking, awareness of space costs and utilisation levels, and the ability to quantify efficiencies over time. As currently formulated, CIF2 will use the Space Management Model developed by the SMG and London Economics as a means of predicting the appropriate size of the estate. This predictive model is based on sector-wide performance indicators derived from the EMS process; and it promotes, and assumes, use by HEIs of effective space management tools including central timetabling and space charging. The model provides a target for a substantial reduction of 20-35% in the size of the HE estate.

(ii) Reducing Carbon Emissions

This deals with the necessity for Carbon Management Plans, and the ability of institutions to identify projects that will lead to absolute reductions in Scope 1 and 2 emissions by 2020.

CIF2 is designed to target improved strategic estate management by constraining the level of HEFCE capital funding allocated to institutions that perform poorly, when rated against the various sustainability criteria. In 2011, HEFCE stipulated that 40% of an institution's capital allocation would be contingent on it meeting the requirements of CIF2. As with CIF1, DEL may, however, continue to operate a separate procedure.

For CIF1, the University's performance was assessed as being in the top 10% of the sector. While no equivalent ranking information has been provided for CIF2, informal indications are that the University has maintained this high level of performance.

5.3 Environmental Management System (EnvMS)

In order to effectively manage the environmental performance of the estate, Estates and the Purchasing Office have implemented an ISO 14001 certified EnvMS. As well as managing environmental impacts and reducing risk, this also drives continuous improvement in performance. Various environmental programmes have been introduced and documented through the EnvMS in relation to energy efficiency/conservation, waste management, and green procurement. Further information on these is available at:

<http://www.qub.ac.uk/directorates/EstatesDirectorate/Services/EnvironmentalServices>

5.4 CMP

The requirement to reduce carbon emissions in line with the Government's Carbon Reduction Commitment will impact directly on both the operation of the estate and on its future development. The University target is a 21% reduction in Scope 1 and 2 carbon emissions by 2020-21, against a 2007-08 base year. This equates to a 34% reduction against a 1990 base year which is fully aligned with the national target, as stated in the 2008 Climate Change Act. The substantial increase in the size of the estate since 2007-08 and the planned future developments, most of which are energy-intensive in nature, make this a highly challenging target.

To manage this impact, and in order to meet the required target reduction, the University, in conjunction with the Carbon Trust, has developed a Carbon Management Plan (www.qub.ac.uk/carbon). The Plan is based around a proven five-step process and sets out an organisation-wide strategy for the next ten years, including identification of a programme of specific carbon saving measures.

This programme has been developed, where possible, into fully costed projects which address: procurement; green Information and Communications Technology (ICT); energy use in buildings; waste; travel and transport; and change management. These represent an investment by the University of £10m, partly funded from a Green Revolving Fund (GRF) introduced for this specific purpose, over the ten year period of the Plan.

Energy represents 97% of the estate's existing carbon footprint (excluding travel). While carbon emissions reduction is not necessarily related to the level of energy used, energy management is an important means of achieving it and delivering cost benefits.

In 2010-11, electricity accounted for 43% of consumption, 64% of emissions and 69% of cost, whereas gas accounted for 57%, 36% and 31%, respectively. While in terms of heating, changing to low carbon fuel sources can impact on emissions to an extent, controlling electrical consumption is clearly the most effective means of addressing carbon and cost. Energy costs in Northern Ireland are relatively high, so energy efficiency and management is a natural priority.

Accordingly, reduction in energy consumption is a key component of the Plan and will be effected through:

- (i) Technology initiatives (voltage optimisation, lighting controls and upgrades, virtual servers; heat recovery; improvement of thermal performance of fabric).
- (ii) Staff and student behavioural change ('Switch-off' campaigns, recruitment of environmental champions).

- (iii) Adoption of renewable energy systems (electrical and thermal generation, wind energy, biomass, solar).

The University's GRF has been implemented to ensure a stream of capital investment for sustainable projects that reduce carbon emissions and recurrent costs. The fund was established with an initial allocation of £0.5m, with subsequent investment of £0.33m from Salix - an independent company funded by the Carbon Trust. Potential projects are evaluated with respect to payback periods and are addressed in priority order. The recurrent savings over the payback period are retained in the scheme to fund further GRF projects, hence creating a self-sustaining fund.

To date, the University has initiated 24 GRF projects at a total capital investment of £1m. These will reduce CO₂ emissions by 1,050 tonnes per annum and generate savings of £207k for reinvestment. The average technical payback period for these initial projects is approximately 4 years.

5.5 Sustainable Development Design Brief (SDDB)

The University, in conjunction with Health Estates and the University of Ulster, has developed the SDDB to drive environmental sustainability within the capital development plan. Implemented in February 2009, it provides a structured approach to sustainable construction, by identifying best practice opportunities and by setting targets and sustainable construction criteria. Design teams are required to demonstrate performance against the criteria. The BREEAM method of environmental assessment has been adopted in relation to major new-build and refurbishment projects.



5.6 Capital Investment

The University's target annual investment in capital developments over the period of this strategy remains at 5% of the IRV of the estate, with at least half of this to be funded from internal sources.

Within the context of the 2012 Integrated Operating Plan, the proposed annual recurrent capital funding from internal sources, up to the end of the current Comprehensive Spending Review period in 2014-15, is £19.9m from formula capital funds and contributions from projected University surpluses (see Section 9). Of this, £4.9m has been earmarked for equipment leaving £15m per annum for Estates capital works.

The funding position beyond 2014-15 is uncertain and the ability of the University to maintain funding at this level will depend on the:

- (i) Level of earmarked capital grant funding from Government.
- (ii) Level of recurrent grant funding from Government.

- (iii) Success of the University in generating additional capital grant funding from other sources, including the Queen's University Foundation.



6. OVERVIEW OF THE ESTATE

6.1 General Location

The University estate is located primarily in South Belfast. It is still centred on the original Lanyon building, completed in 1849, and now incorporates a significant part of the Victorian suburb which subsequently grew up around it during the rapid expansion of the industrial city (Appendix 1 Campus plan). This integrated estate is a major contributory factor to the 'experience' offered by the University.

6.2 Key Facts

- The overall estate covers an area of approximately 67 hectares (ha)
- The Elms Student Village covers an area of 6.8ha
- Total internal area (GIA) of the estate is some 328,000m²
- The estate includes over 250 individual buildings
- Approximately 90% of the estate is located within walking distance of the Lanyon building. The remaining accommodation is located on the Royal Victoria Hospital (RVH); Titanic Quarter; Upper Malone and Portaferry sites.
- The estate incorporates 97 buildings listed as being of special architectural or historic interest, including the Grade A Lanyon Building and Elmwood Hall. Approximately 19% of the estate is listed, putting it in the EMS upper quartile for this metric.
- 85% of the buildings, and 68% of the GIA, are situated within one of the three adjoining Conservation Areas: namely Queen's, Malone and Stranmillis (see Appendix 1)
- Approximately 2,240 bed spaces are provided for students, 90% in self-catered purpose-built accommodation and the remainder in converted terraced houses
- Including Willow Walk (completed June 2012) the total GIA for student residential accommodation is approximately 50,000m², 85% of which is located at the Elms Village providing purpose built low-rise self-catered accommodation and central support facilities
- Excluding equipment, over £350m has been invested in the capital development of the estate since 2000
- The Total Property Cost (TPC) from the HESA EMS 2011 return is £125/m² NIA. This is a high level KPI relating to the annual cost of ownership of the estate
- In 2010-11 the total energy cost for the core estate was £5.3m, with 69% attributable to electricity.

6.3 Size of the Estate

The GIA of the overall estate is 328,000m² and the buildings can be broadly grouped by function, as set out in Table 1.

Table 1: Size and Apportionment of the Built Estate by Predominant Building Use

Category	GIA (m ²)	% GIA
Core Operational Estate	246,350	75%
Student Residential	49,630	15%
Other Residential	3,170	1%
Commercial	6,530	2%
Vacant Buildings	22,320	7%
Total	328,000	100%

The following sections focus primarily on the core operational estate, vacant accommodation and the student residential estate.

6.4 Original Construction Dates

The University has buildings with original construction dates ranging from 1845 to 2012. Figure 1 shows the age distribution of the core operational and residential estates and currently vacant buildings.

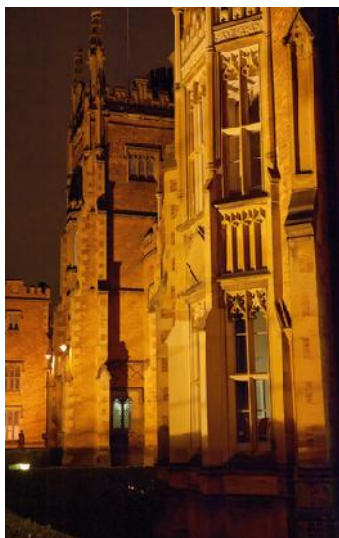
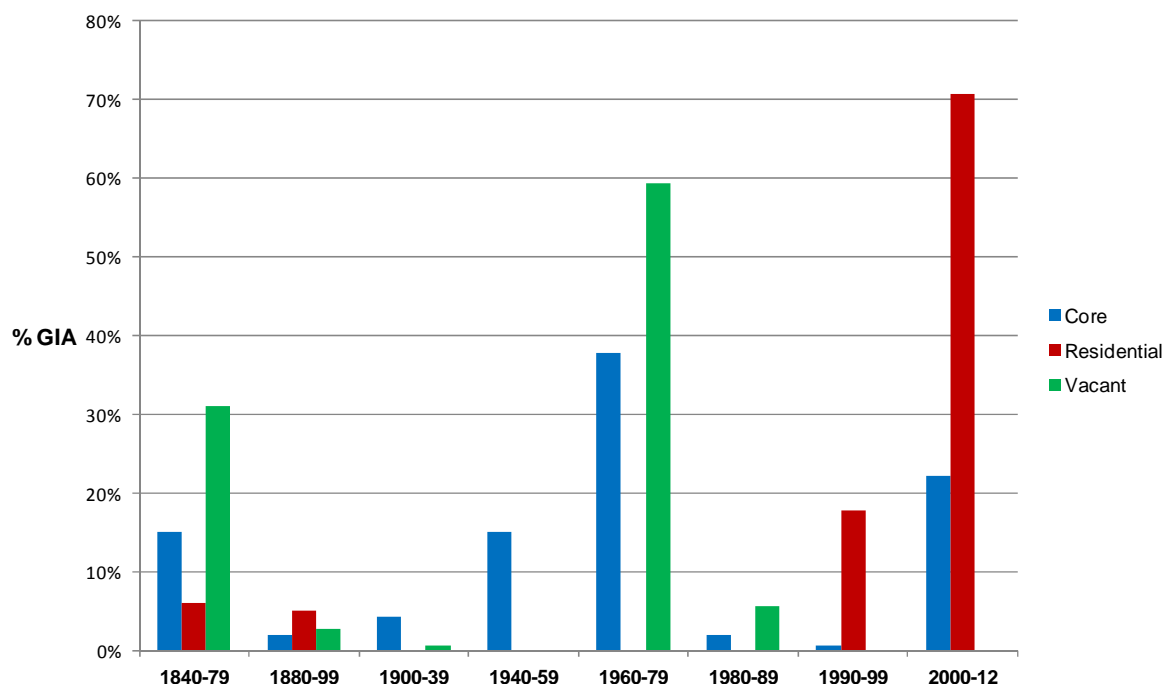


Figure 1: Age of Buildings



% Distribution of Core Operational, Student Residential and Vacant buildings

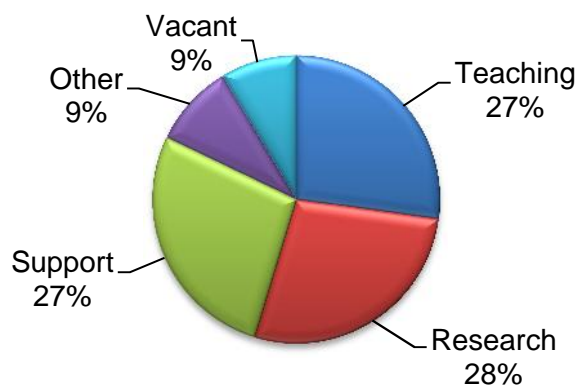
The estate has been transformed since 2001 as a result of the major capital investment programme. In addition to the substantial comprehensive refurbishment programme, 21% of the core estate has been constructed since 2000 and 83% of the student residential estate since 1999.

40% of the total GIA of core operational and vacant buildings dates from the 1960 to 1979 period.

6.5 Overall Distribution and Use of the Core Estate

The distribution of the use of the core estate NIA, based on standardised EMS categories, is set out in Figure 2.

Figure 2: Distribution of the Core Estate²



² The core estate excludes student residential accommodation

The Support category includes libraries (9%), open access facilities and group study accommodation, catering provision, recreational sport facilities and central administration. The Other category includes the Students' Union, galleries and museums, staff residential and commercial accommodation.

This distribution is broadly in line with the Russell Group 8 (RG8) peer group with the exception of vacant space which, at 9%, is almost twice the upper quartile result (4.8%) for the overall sector.

The current scale of vacant buildings (Appendix 2) is largely as a consequence of the implementation of a number of major capital projects since 2009, including:

- Completion of the McClay Library
- Consolidation of Nursing and Midwifery
- Relocation of Queen's University Management School to Riddel Hall
- Re-development of Upper Malone sport facilities

The area vacated as a result of the McClay project (Library Stack, and Lynn and Science Libraries) represents 56% of the overall space currently vacant, while that resulting from the remaining projects is a further 27% of the total.

58% of the total relates to three buildings from the 1960s and 70s i.e. Library Stack, Science Library and the vacated Main Pavilion at Upper Malone.

Re-use of much of this vacant space, to meet Corporate strategic priorities, is addressed in the current Capital Plan and is discussed in Section 8.

The distribution of space across University Schools is shown in Appendix 3, as is the scale and utilisation of the University's centrally managed teaching provision. In respect of the latter, the 2011-12 room survey of both centrally managed and School teaching rooms showed that there is significant scope for improving utilisation in all categories of teaching space (i.e. general, specialist and computer).

Poor utilisation of teaching space is a waste of resource and it is anticipated that the Student Centred Timetabling project, which involves centralised timetabling of all general teaching space from 2012-13, will lead to a more efficient use of this resource.

Specialist teaching rooms are used for specific activities, and low levels of utilisation may be a factor of the degree of this specialism and the numbers of students associated with it. Rooms that fail to meet a threshold level of frequency and occupancy need to be assessed to determine the cause and whether the continued specialist use is sustainable. Potentially a number of these rooms provide accommodation that could now, or with minimal alteration, be used more widely.

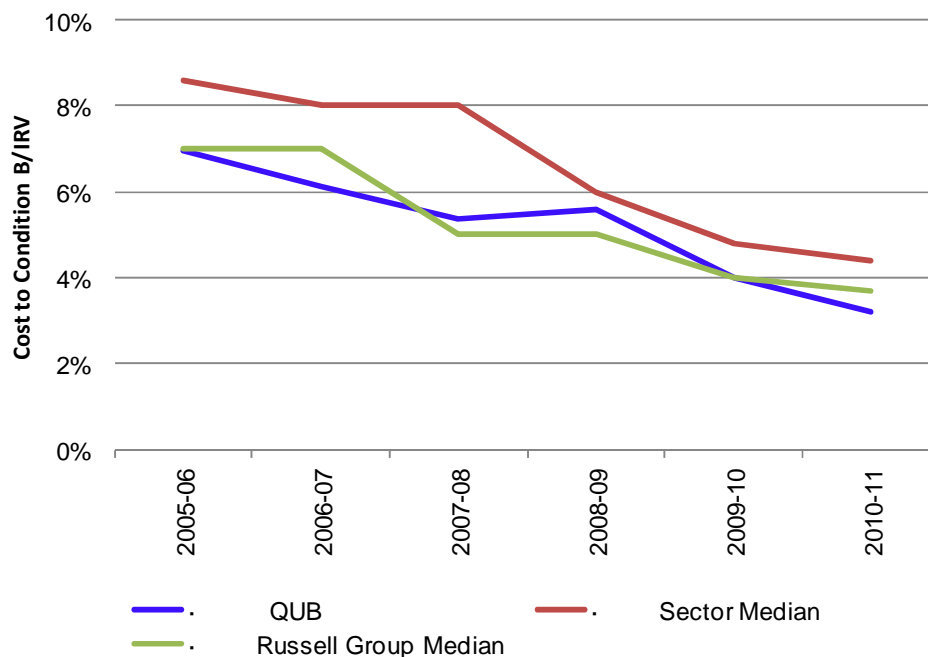
6.6 Building Condition, Functional Suitability, Asset Value and Insurance Replacement Cost

Detailed information, including Asset Value and IRV, is provided in Appendix 4.

Condition and functional suitability have improved consistently over the last ten years, but this has broadly tracked improvement in the sector as a whole. For the core estate, the improvement in condition is indicated by the change in the KPI – Cost to Condition B/IRV. This assesses the cost of upgrading the estate to Condition B

(based on the Royal Institute of Chartered Surveyors (RICS) standard definition) as a proportion of the cost of its replacement, see figure 3.

Figure 3: Cost to Condition B/IRV



Continual improvement in the condition of the estate is integral to the Estate Strategy. In particular, major projects included in the current Capital Plan for the Library Stack and the Lynn Library will address very significant elements of backlog maintenance; and the eventual demolition of other major elements of the estate in poor condition, (e.g. the Science Library) will also have a major impact.

6.7 Operating Costs

6.7.1 Component Costs

The major component recurrent costs for the estate are set out in Table 2 and are compared to the results of the EMS 2011 survey (Academic Year 2010-11) which provides standardised benchmarks for the HE sector.

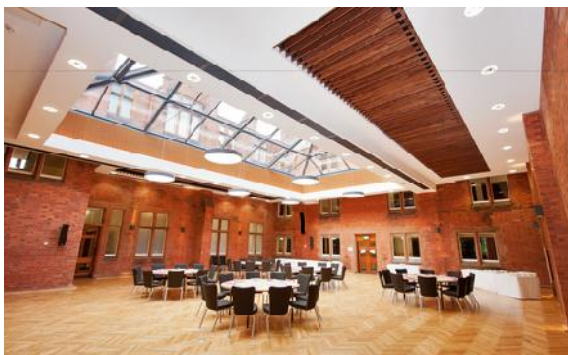


Table 2: Component Cost (Core Estate, unless otherwise stated)

Measure	QUB 2010-11	Results for All Institutions 2010-11		
		Median	Lower Quartile	Upper Quartile
Total Property Costs (TPC) £/ m ² NIA	125	139	121	168
Rates paid £/m ² NIA	17	4	3	5
Maintenance Costs £/m ² NIA	26	38	28	59
Insurance and Service Charges £/m ² NIA	7	5	2	8
Core Estate Cleaning Costs £/m ² NIA	10	16	12	19
Residential Estate Cleaning Costs £/m ² NIA	22	17	11	23
Energy Costs £/m ² NIA	26	21	18	26
Rateable Value £/m ² NIA	34	39	36	49
Average Energy Costs £/100KWh Consumption	7	6	5	7
Energy Consumption kWh/m ² GIA	282	254	215	311
Notional Energy Emissions Kg CO ₂ / m ² GIA	95	84	72	101

A review of the results is provided in the following sections.

6.7.2 TPC

The TPC includes: rates paid; insurance premiums; energy; water and sewerage; repair and maintenance; cleaning; internal and external estate management costs; and service charges. It provides an overall cost of ownership of the estate.

The TPC is in line with the lower quartile which, considering the high cost of energy and rates in Northern Ireland relative to HE institutions in Great Britain (GB) is a significant outcome. The result will be influenced by the scale of the vacant estate.

6.7.3 Rates

The University's rates liability is five times the sector median. In 2010-11 the liability was circa £3.5m. This is increasing as new developments become operational, with the estimated liability for 2011-12 rising to £4.4m. Under present legislation, although charities are exempt from rates, the University is one of a number of bodies specifically excluded from this exemption. This is in contrast to universities in GB which are granted 80% mandatory relief from rates, with up to a further 20% discretionary relief.

A strategic goal of the University is to have this anomaly addressed by the Department of Finance and Personnel Northern Ireland (Rating Policy Division), as part of the ongoing Review of Public Administration. This is with a view to achieving exemption from rates for the core estate - legislation in 2007 granted rates exemption for student Halls of Residence.

6.7.4 Maintenance

For 2010-11, the planned and reactive maintenance cost for the core estate equates to £26/m² NIA which is in the lower quartile of the sector. This figure is necessarily an estimate as it includes an element of the expenditure on planned and backlog maintenance liabilities addressed by projects within the capital development programme.

The Estate Strategy must ensure an appropriate level of funding over the planning period, particularly on planned preventative maintenance, to address fabric and services upgrades to buildings and infrastructure that are not included in the capital development programme.

6.7.5 Cleaning

Cleaning costs for the core estate are in the lower quartile of the sample, while the residential estate costs are twice the core cost/m² and are close to the upper quartile.

6.7.6 Energy

In 2010-11 the total energy cost for the core estate was £5.3m, with 69% attributable to electricity

At 282 kWh/m² GIA, annual energy consumption is 11% above the sector median. This has been increasing since 2006, due substantially to intensification of use and a greater focus on energy-intensive biomedical and chemical research.

Energy cost per kWhr increased by 15% between 2009 and 2010 – this is 18% higher than the median and is in the upper quartile for the sector.

This is a significant negative factor for the University and gives particular focus to energy saving measures and optimising the overall size of the estate. Effective energy management and flexibility of energy source, including the introduction of combined heat and power (CHP) infrastructure, can achieve some reduction in the disparity but the costs are largely associated with the relatively high cost of energy in Northern Ireland. Reduction in energy consumption must continue to be a particular focus for the University.

While future new-build projects will be constructed to high energy standards, this constitutes only a small proportion of the estate. Effective energy measures that relate to the whole estate are essential to address high recurrent cost and associated carbon emissions.

6.8 Other Performance Measures and Targets

6.8.1 Use, Investment and Condition

The measures in Table 3, relating to the core estate, are key indicators of use, condition, fitness for purpose and investment. A number have been identified as key metrics of performance by HEFCE as part of the CIF process.

Table 3: Other Performance Measures and KPIs

Measure	QUB 2010-11	All Institutions 2010-11		
		Median	Lower Quartile	Upper Quartile
Total NIA / student FTE (m ² /FTE)	12	7	5	11
Capital & Maintenance Expenditure / IRV	9%	5%	3%	7%
Space in Condition A and B / Total GIA	85%	81%	68%	90%
Cost to Upgrade to Condition B / IRV	3%	4%	2%	8%
Space with Functional Suitability Grades 1 & 2 / Total GIA	87%	86%	78%	93%

- NIA / Student FTE

While a high level statistic, this measure gives an overall indication of the level of space provided by the University relative to the sector. At 12m²/FTE, the University is in the upper quartile for the sector and marginally above the median for the RG8 peer group.

- Capital and Maintenance Expenditure / IRV

At 9%, the University is currently well in excess of the 4.5% recommended minimum level of investment necessary for a sustainable estate identified in the HEFCE report, *Future needs for capital funding in Higher Education*, (J M Consulting, September 2006).

Investment in the estate is in the upper quartile for the sector, although it should be noted that, with a median result of 5%, over 50% of the sector are currently investing above the 4.5% level. The University average over three years is 7% reflecting the scale of the Capital Plan investment during this period.

The University target for this KPI is to maintain a minimum investment of 5% of IRV.

- Condition

With 85% of space in condition A or B, the University is above the median reflecting an estate in a reasonable condition relative to the sector. The University's strategy of addressing the 1960s and 1970s accommodation, either by replacement or fundamental refurbishment, is making a significant impact on this position.

The University target for this KPI is to have 85% of the core estate GIA in condition A or B.

The level of expenditure required to bring the estate to condition B, relative to the IRV, is an alternative measure of general condition. At 3%, the University is below the sector median, again reflecting an estate in good condition relative to the sector.

The University target for this KPI is to maintain the cost to condition B at or below 3% of IRV.

- Functional Suitability

This is a measure of fitness for purpose. With 87% in grades 1 and 2, the University is in line with the median.

The University target for this KPI is to achieve 90% of the core estate GIA in functional suitability grades 1 or 2.

6.8.2 Carbon Emissions and Energy Consumption

The University is required to cut carbon dioxide emissions by 21% by 2020 (2020-21 academic year), against a 2007-08 baseline. This equates to the national target of a 34% reduction, against a 1990 base year, as set out in the 2008 Climate Change Act.

Table 4 provides a comparison of the University's annual energy consumption, associated carbon emissions, and cost by source.

Table 4: Distribution of Energy Consumption, Carbon Emissions, and Cost

	% Energy Consumption	% Carbon Emissions	% Cost
Lighting	24	36	38
General Power	13	19	21
Ventilation and Air Conditioning (Electrical)	6	9	10
Heating	57	36	31

With over 64% of the carbon emissions and 69% of the cost relating to only 43% of the consumption, a major focus for a reduction in emissions must be the efficient generation and use of electricity.

While the above distribution relates to emissions associated with the supply of energy to buildings, there are additional emissions associated with water, waste and University vehicles. In 2010-11, total emissions were in excess of 28,000 tonnes.

6.9 Summary

The analysis shows that the University is well positioned against the sector with respect to operating costs, condition and level of investment.

The University's rates liability is five times the sector median. A strategic goal of the University is to have this anomaly addressed, with a view to achieving exemption from rates for the core estate.

There is significant scope for further rationalisation of the estate in line with the guiding principles for estate development.

A focus on environmental sustainability, especially energy use, must be embedded into the operation and development of the estate.

Summary of KPI Targets:

- Capital and Maintenance Expenditure: minimum investment of 5% of IRV.
- Cost to upgrade to Condition B: at or below 3% of IRV.

- Percentage of core estate in Functional Suitability categories 1 and 2: 90% of GIA in grades 1 or 2.
- Carbon emissions: Reduction of 21% by 2020 (2020-21 academic year) against a 2007-08 baseline.



7. REVIEW OF CAPITAL PLAN AND STRATEGIC DEVELOPMENT CHALLENGES

7.1 Strategic Approach to Development of Estate

Development of the estate over the last decade has been based on a strategic approach, which can be summarised under the following headings:

- Rationalisation for improved utilisation
- Reorganisation to meet changing requirements
- Development of core teaching and research facilities
- Development of generic research facilities
- Progressive refurbishment of major buildings including the external envelope
- Redevelopment, extensions and new-builds to meet changing need and to support new opportunities
- Targeted demolition or disposal of inefficient and ineffective buildings
- Strategic acquisitions to support future development opportunities

Central to the development of the estate is the adoption of a strategic approach where refurbishment projects address entire buildings, complete floors or vertical stacks of space. This allows the effective renewal of major elements such as services infrastructure and external fabric, which could not readily be incorporated into more dispersed works. This strategic approach will continue to be central to future capital programmes.

7.2 Summary of Major Project Completions 2001-12

In line with the major capital investment in the estate of circa £350m since 2001, Appendix 5 summarises the major projects completed between 2001 and 2012.

Of particular note is the McClay Library, completed in 2009, which has had a fundamental impact on the student experience and, with the vacation of the original library buildings (Lynn Building, Library Stack, Science Library), it has impacted directly on how other parts of the estate are used and has opened up major opportunities for further development of the estate.

7.3 Review of Development Challenges from Estate Strategy 2007-17

In the five years since the approval of the Estate Strategy 2007-17 by Senate in 2007, considerable progress has been made with respect to many of the identified challenges. These are summarised in Table 5.

Table 5: Progress against Estate Strategy 2007-17 Development Challenges

Arts, Humanities and Social Sciences	Implemented	Implementation Underway/ Scheduled	Not Implemented	Investment	Comment (Project references Appendix 5)
Postgraduate and Executive Education Centre	✓			£14m	Project 38: Riddel Hall, completed 2011
Relocation of QUMS	✓				
Relocation of the School of Law		✓			Design development underway for the relocation of Law to the former Library Stack site
Music Conservatoire and Media Lab		✓			New School of Creative Arts created in 2011. Planned reorganisation and development of accommodation for the new School progressing

Engineering and Physical Sciences	Implemented	Implementation Underway/ Scheduled	Not Implemented	Investment	Comment (Project references Appendix 5)
Chemistry and Chemical Engineering Research	✓			£7.5m	Project 31: DKB Laboratories (SPACE and CCE), completed 2010.
Astrophysics Research		✓			Plans for rationalisation and refurbishment of Physics space in Old and New Physics buildings progressing
Institute for a Sustainable World	✓				No major space requirement identified
Consolidation of accommodation for EECS and MAE	✓			£12.3m	Projects 30 and 44: Ashby Tower Refurb, Ph. 1 & 2, completed 2010 and 2012
Relocation of the School of Psychology		✓			Relocation option rejected. Refurbishment of School space in DKB proceeding
Northern Ireland Advanced Composites and Engineering Centre (NIACE) ²	✓			£4.2m	Project 40: NIACE, completed 2011

² Projects also completed in the period, but not identified in 2007-17 Estate Strategy

Glossary

DKB – David Keir Building

SPACE- School of Planning, Architecture and Civil Engineering

CCE – School of Chemistry and Chemical Engineering

EECS – School of Electronics, Electrical Engineering and Computer Science

MAE – School of Mechanical and Aerospace Engineering

Medicine Health and Life Sciences	Implemented	Implementation Underway/ Scheduled	Not Implemented	Investment	Comment (Project references Appendix 5)
Development of Centre for Vision Sciences, RVH	✓			£7.0m	Projects: 27 - Biomedical Research Accommodation, completed 2009
Rationalisation of former Schools of Medicine and Dentistry and Biomedical Sciences and the School of Biological Sciences, on RVH site and Health Sciences Campus (HSC)	✓			£4.4m £11.6m	32 - MBC and Whitla Medical Building (WMB) Refurbishment, completed 2010 29 - Health Sciences Building, completed 2010
New-build Institute of Health Sciences (IHS) on HSC		✓			Nurses' Old Home site acquired and Planning Application submitted. Programmed completion 2014
Consolidation of the School of Nursing and Midwifery (NAM) on HSC (long term); identification of interim medium term solution	✓			£8.0m	Project 39: MBC Anatomy Wing Extension (Nursing Consolidation), completed 2011
Clinical Research Facility ²	✓			£1.1m	Project 45: Clinical Research Facility, completed 2012

Student Experience	Implemented	Implementation Underway/ Scheduled	Not Implemented	Investment	Comment (Project references Appendix 5)
Redevelopment of Upper Malone for Outdoor Sport	✓			£11.0m	Project 43: Redevelopment of Upper Malone site, completed 2012
Development of Student Residential Accommodation	✓			£14.5m	Project 42: Elms Village Phase 11, completed 2012.
Consolidation of Childcare Facilities	✓				Present provision to be retained
International and Postgraduate Student Centre ²	✓			£1.1m	Project 36: Completed 2010
INTO@Queen's ²	✓			£1.3m	Project 37: Completed 2010

² Projects also completed in the period, but not identified in 2007-17 Estate Strategy

Infrastructure, External Fabric and Planned Maintenance	Implemented	Implementation Underway/ Scheduled	Not Implemented	Investment	Comment
Reduction of Accommodation in Condition C and D	✓	✓			Cost to Condition B/IRV reduced to 3.2%. Capital Plan will continue to include major refurbishments and upgrading of external envelopes.
Information Networks & Systems	✓	✓			Enhancement of underground fibre-optic network continuing
Main M & E Services Infrastructure	✓	✓			Ongoing and completed works include: <ul style="list-style-type: none"> • Enhancement of electrical infrastructure at Main, HSC, DKB/Ashby sites • Deep water extraction at DKB/Ashby, Elms Village and Upper Malone to reduce mains water demand • Major development of metering infrastructure, supporting targeted energy use • CHP projects on Main, DKB/Ashby HSC sites

Enhancement of Public Spaces	Implemented	Implementation Underway/ Scheduled	Not Implemented	Investment	Comment (Project references Appendix 5)
Rationalisation of Physics workshops and development of East West pedestrian link	✓			£2.0m	Project 41: East West Link, completed 2011

7.4 Current Development Opportunities

Development of the estate to meet Corporate strategic priorities is dependent on a number of factors, including rationalisation of use of existing buildings, optimisation of University development sites, and strategic acquisitions/ and disposals. These are dealt with in the following sections.

7.4.1 Rationalisation of Use of Existing Buildings

Effective utilisation of the occupied estate is critical to a sustainable operation, from both environmental and economic perspectives. The enhancement of CIF, the Carbon Reduction Commitment and the marked increase in estates recurrent costs all make this a critical strategic priority for the planning period.

Any strategic expansion in the estate must be carefully controlled. It is critically important to assess the opportunities for effective use of existing vacant accommodation and, ideally, any new-build accommodation should be offset by associated demolition or disposal.

There is significant potential for rationalisation and a more effective use of the estate and the major areas of review are staff offices and teaching, research, postgraduate and support space. Target reductions have been identified for each School although these will be reviewed in the light of planned strategic investment and the distribution of the planned student expansion.

One of the key principles underpinning the University's new Sustainability Model is the apportionment of academic support costs on a TRAC cost driver basis. One of the key cost drivers used is space occupied and its inclusion in this model should influence the behaviour of all managers to help improve the efficient and effective use of space across the University.

With respect to teaching space, there is a need to align the existing provision so that it meets the demand imposed by: the greater spread of teaching activities across the week in support of the seven day university; and the move to increase the utilisation of School managed teaching accommodation as part of the student engagement process. To address this, School managed general teaching space will migrate to central control from 2012-13.

Re-modelling of the teaching estate is also required to reflect a reduced demand for large lecture theatre accommodation in favour of small group study spaces. This provides an opportunity for the conversion of a number of large theatres to other uses, in line with Corporate Plan priorities. The impact of the planned expansion in student numbers needs to be assessed, however, prior to any major irreversible change.

7.4.2 Opportunity Space and Development Sites

An area of circa 24,000m² GIA, equivalent to 9% of the core estate, is currently vacant. This is substantially associated with individual vacant buildings, but also includes vacant areas within occupied buildings.

This scale of space is obviously a major opportunity for the University, although also an ongoing liability if not addressed as a priority. A significant proportion of the vacant space, including the Science Library and the Library Stack which constitute 42% of the total, was originally constructed in the 1960s and 1970s and has had no major refurbishment since.

Demolition of these buildings is a potential option but, as they are located in Conservation Areas, planning approval is required. Permission to demolish is subject to there being an alternative development project for the site, and actual demolition of the existing buildings cannot proceed until any new project is ready to go on site.

In light of this, the preferred option is for the University to retain such sites and to redevelop/refurbish them in support of the institutional strategic priorities.

The principal sites are:

- Main Site: Lynn Library (listed) and Library Stack
- Lennoxvale: North side, including Science Library, 14 and 14A
- Lennoxvale: South side, including lands to the rear of nos. 1, 3, 5 & 7
- University Square, following relocation of QUMS
- Mount Charles: nos.1-9, and nos.38/40 University Road

Major projects have been identified within the current Capital Plan for each of these sites.

While 1 and 3 Lennoxvale are vacant, releasing the opportunity of the south side of Lennoxvale will require the vacation of 5, 5A and 7 Lennoxvale. Capital projects have been instigated to achieve this as a matter of priority.

In addition to vacant sites, a number of spaces which are currently occupied offer potential for alternative use. In particular, the success of the McClay Library as an independent study facility has significantly reduced the level of use of similar facilities, such as the Elmwood Learning and Teaching Centre.

7.4.3 Expansion, Strategic Site Acquisitions and Disposals

This section is available to internal University users only.

7.5 Major Development Challenges 2012-22

The major development challenges in the Strategy period are set out below and are informed both by the Corporate Plan strategic priorities and by plans, approved by Senate in October 2011 for student expansion totalling some 1,200 students (home/EU, mainly UG); as well as by the University's Internationalisation Strategy that will seek to expand the overseas student population by some 800.

The challenges facing each individual School and the impact of student expansion, where applicable, are summarized in Appendix 6. At a strategic level, and in the context of the Estate Strategy, there is a need to align Schools' space allocations with identified needs to ensure sustainability going into the future.

A summary of the challenges for 2012 - 22 is as follows:

7.5.1 Faculty of Arts, Humanities and Social Sciences

- Relocation of the School of Law
- University Square reorganisation, post QUMS and Law relocations
- Integration of postgraduate space with School accommodation
- Reorganisation associated with the creation of the new Schools of Modern Languages and Creative Arts.
- Developments in Education
- Provision for the new research institutes of Conflict Transformation and Social Justice, and Collaborative Research in the Humanities

7.5.2 Faculty of Engineering and Physical Sciences

- Completion of Ashby Lab Block refurbishment for the Schools of EECS and MAE - Ashby Refurbishment Phase 3
- Expansion of the Schools of CCE and SPACE research accommodation and design space in the DKB
- Expansion of Astrophysics research and general rationalisation and refurbishment of School of Mathematics and Physics (MAP) accommodation

7.5.3 Faculty of Medicine Health and Life Sciences

- Construction of the new IHS Building on the Nurses' Old Home site.
- Integrated School of Biological Sciences (BLS) incorporating expansion of Food Science research
- Creation of new Simulation Hospital in the MBC
- Further expansion of Biomedical research on the HSC and the effective use of RVH research accommodation

7.5.4 Student Experience

- Continual improvement of teaching facilities and matching of provision to demand
- Enhanced provision of formal and informal group study and social space
- Consolidation of Medical and Biomedical libraries
- Re-modelling of Elmwood Learning and Teaching Centre to better meet Corporate strategic priorities
- Enhanced facilities supporting student engagement and employability
- Ongoing development of residential accommodation
- Completion of the redevelopment of Upper Malone for outdoor sport
- Creation of a wireless campus

7.5.5 Academic Support Directorates

Provision of appropriate accommodation, mainly office space to support strategic investment aligned to the delivery of Corporate strategic priorities.

7.5.6 Enhancement of Public Spaces, Infrastructure, External Fabric and Planned Maintenance

- Enhancement of public spaces (landscaping)
- Increase in the proportion of accommodation in condition A and B
- Full implementation of the Carbon Management Plan, including upgrades to main plant and mechanical and electrical services infrastructure, electrical energy generation projects including CHP, and improved energy performance of the external fabric of buildings.
- Upgrading of IT network infrastructure



8. POTENTIAL SOLUTIONS TO DEVELOPMENT CHALLENGES

The key to meeting the development challenges outlined in Section 7 is the effective use of space and rationalisation of the estate. The latter is an essential and continuous process to minimise waste and maximise opportunity.

The scale of vacant accommodation within the estate should be addressed through the identification of major projects for the re-use of this space, in order to meet Corporate strategic priorities. While an element of vacant operational accommodation is necessary for flexibility and for decant purposes, this must be maintained at an appropriate level. Where, and when appropriate, strategic disposal of buildings should be progressed.

The potential solutions to the major development challenges are set out in the following sections and shown on the attached Masterplan (Appendix 7).

8.1 Main Site Reorganisation

The Library Stack provides the opportunity for a new School of Law building in a high profile location on the Main site. This solution addresses a major element of the estate's vacant space and offers an important re-use option for a key building.

The Lynn Building has major potential as a supported learning facility, incorporating group study space. This would greatly enhance the student experience, especially in the Faculty of Arts, Humanities and Social Sciences.

The relocation of the QUMS to Riddell Hall in summer 2011 vacated circa 2,000m² NIA in University Square and adjacent properties. The proposed relocation of the School of Law releases a further 1700m² NIA. These vacated spaces will allow consolidation of the remaining Schools in University Square, as well as alignment of the new Schools of Modern Languages and Creative Arts. Consolidation will include integrating additional teaching and group study space with School accommodation, in order to enhance the student experience; and provision for the two new research institutes - the Institute for Collaborative Research in the Humanities and the Institute for the Study of Conflict Transformation and Social Justice.

The changes in University Square will support the realignment of space and strategic expansion in other adjacent Schools, including the School of Sociology, Social Policy and Social Work in College Park East.

Consolidation of University Square will also release 101-107, 111 Botanic Avenue and 61-63 University Street, providing the opportunity for a student residential courtyard development on the site. Acquisition of 109 Botanic Avenue, necessary to deliver the strategic optimum solution, is currently being addressed.

8.2 Ashby Building Refurbishment

The comprehensive refurbishment of the Ashby Tower (floors 1-10), to support a 21st century student-centred approach to engineering education, should be continued. The phased upgrading of the Ashby Lab Block, to provide fit for purpose teaching and research accommodation, will complete the comprehensive refurbishment of the building.

8.3. Institute of Health Sciences Building (IHS)

Construction of the IHS building on the recently acquired site of the Nurses' Old Home is programmed to start in late 2012. This will support the relocation of a research cluster from Clinical Sciences A at the RVH site and provide generic biomedical research space to meet planned expansion.

8.4 Further Expansion of Biomedical Research and the Effective Use of RVH Research Accommodation

While the focus for the development of research will continue to be on the HSC, it is still important that opportunities on the RVH site, including the vacated space in Clinical Sciences A, are fully realised in the overall Strategy. This is a critical issue going forward.

8.5 Provision of a Simulation Hospital for Clinical Skills

Simulation based teaching is an increasingly important part of clinical skills teaching for doctors, nurses, midwives and pharmacists. The six-storey extension to the MBC, for the consolidation of NAM, released a substantial part of the former Nursing Wing. This provides the opportunity for the creation of an interdisciplinary Simulation Hospital, including a major expansion of simulator based teaching facilities for MDBS, NAM and Pharmacy.

8.6 Consolidation of the School of Biological Sciences (incorporating the Expansion of Food Science Research)

Consolidation is a priority for the School, and Institute of Agri-Food & Land Use (IAFLU) teaching has already been relocated to the HSC. The relocation of IAFLU research from the DKB will support the expansion of CCE and SPACE research there. However, IAFLU research has expanded substantially within the DKB and further expansion is projected. Some immediate space for expansion is available in the Northern Ireland Technology Centre (NITC) on the DKB/Ashby site, but the relocation of IAFLU to the HSC to consolidate Biological Sciences is not realistic, given the constraints on further expansion of the HSC outlined in Section 7.

The development of a new Biological Sciences building on the Science Library site provides a number of benefits. It integrates the School and provides a state of the art facility in a good operational location. The relocation releases expansion space on the HSC for uses, which include expanded biomedical research and the consolidation of the Medical and Biomedical Libraries. Release of the north-east wing of the MBC delivers a major opportunity site for future redevelopment and expansion of the HSC.

The relocation of IAFLU from the DKB and the NITC also releases substantial accommodation for the expansion of the Schools of CCE, SPACE and Psychology.

As the Science Library is vacant, the works to create the new building can be completed without any disruption to the School's day-to-day operations. Re-use of the building removes a major element of the vacant estate which is in poor condition. This is a key project that unlocks solutions for a range of major challenges for the ongoing development of the estate.

8.7 Schools of CCE and SPACE: Research Expansion and Design Space

The scale of the requirement for additional research space within the DKB for the two Schools has not yet been fully quantified. However, while there is scope for some growth within the building, and improved utilisation of space may provide additional opportunities, significant expansion depends on the relocation of IAFLU and/or extension to the building.

The potential to rationalise teaching accommodation will provide opportunities for expansion of design space and group study space. Provision of staff offices is a major challenge in the DKB and options for conversion of space, or a minor extension of the building, to support this should be assessed.

8.8 Academic Support Directorates

Additional staff office space is required to enable Directorates to support the Corporate strategic priorities. It is expected that most of this expansion will be met from within existing space, but major initiatives may require additional accommodation.

8.9 Residential Accommodation

The level of provision of student residential accommodation is both a strategic and a significant political issue for the University.

The recommendations in Belfast City Council's report on student housing, *Belfast: A Learning City* (Buchanan Report) published in March 2012, are important considerations for the development of additional residential facilities. It is worth noting that the University provides approximately 80% of the student beds offered by Further and HE institutions in Belfast.

Following completion of Elms Village, Phase 11, the shortfall in student residential provision is assessed at some 900 beds. The Capital Plan includes three projects that, subject to planning approval, will provide circa 350 spaces on University owned sites:

- Lennoxvale (south side) - 224 beds
- Botanic Avenue/University Street - 69 beds
- Sans Souci Park - 54 beds.

All of the sites lie within Conservation Areas and the statutory planning process for each scheme is expected to be challenging.

There is no potential to provide the remaining 500 plus beds within University-owned sites. A range of procurement options should continue to be assessed as a matter of priority and in the context of the Buchanan Report. In particular, the University will continue its discussions with third party providers.

8.10 Infrastructure, Building Fabric and Systems

To sustain an effective estate, it is imperative that the main mechanical and electrical services infrastructure is maintained effectively. A programme of renewing and upgrading this infrastructure, including the IT network, is an essential aspect of the investment in the estate.

With respect to building condition, reducing the proportion of accommodation in condition C and D has been largely addressed by replacement of poor buildings (e.g. the McClay Library project) or comprehensive refurbishment of complete buildings (e.g. MBC Tower, Ashby Tower). The recent disposal of the Microbiology Building at the RVH, and the proposed redevelopment of the Library Stack and the Science Library, will have a major impact on the backlog maintenance requirement and the average condition of the estate. Refurbishment projects addressing buildings in poor condition and with poor functional suitability must continue to be prioritised as part of the Capital Plan process.

Information technology is a rapidly changing area, especially in the area of mobile devices. The development of a wireless campus is a priority project if student and staff expectations are to be met.

8.11 Carbon Emissions and Energy

The focus on sustainability will involve a strategic approach to the development of infrastructure to reduce carbon emissions and energy use and to improve external fabric - particularly in respect of thermal insulation. This multi-faceted approach is reflected in the Carbon Management Plan outlined in Section 5.

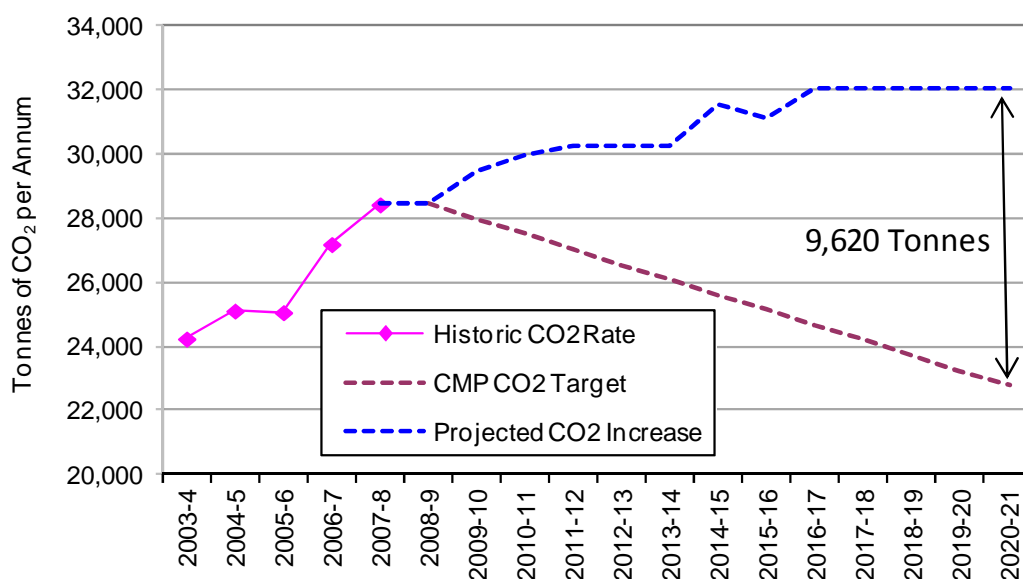
Central to success in implementing the Carbon Management Plan, and achieving the target reduction in emissions, is the ability to assess and report on energy use for each School/Directorate. This is being facilitated by a new metering infrastructure that supplies data on electrical energy use across the estate on a continuous basis, in segments of approximately 1,000m². This data is being used to support targeted, remedial, measures designed to reduce consumption.

It will also be necessary to offset any expansion or intensification in the use of the existing estate through substantial improvements in energy consumption and in its mode of production. The anticipated expansion in the core estate by circa 4,000m² by 2017-18, resulting from implementation of the Capital Plan and greater intensification of use, will result in an annual increase of approximately 3,650 tonnes of CO₂ by the end of the Plan period, and 4,800 tonnes by the end of the Estate Strategy period.

Figure 5 projects the impact of this increase together with the targeted reduction in emissions of 5,970 tonnes, as set out in the Carbon Management Plan. This equates to a required total annual saving of 9,620 tonnes.



Figure 5: Forecast of Annual Carbon Emissions Rate



The Plan assumes that projected growth in carbon emissions of 3,650 tonnes of CO₂ will be offset through the introduction of on-site renewable energy generation; together with the decarbonisation of purchased grid electricity, in accordance with Government policy, and the disposal of vacant space. In relation to renewable energy, a number of large-scale strategic generation projects are being assessed, including the feasibility of establishing CHP Energy Centres at the Main, DKB/Ashby, Elms Village and the HSC sites.

Clearly, the recurrent carbon cost of major capital projects is likely to be substantial and must be factored into any expansion plan, unless the University can implement savings by other means. This is particularly critical with respect to developments that include major equipment provision and high electrical usage, e.g. chemical and biomedical research labs, computer data centres.

8.12 Development Constraints and Management of the Capital Development Process

Universities are a critical element in the development of sustainable cities, and working in partnership with statutory agencies and Government departments is essential if the University is to develop and achieve its Corporate priorities and deliver crucial benefits to the City and to Northern Ireland.

Offsetting the risks associated with the statutory planning process will require continued liaison and consultation with the Planning authorities, major stakeholders and residents' groups.

Car use and parking will remain a major issue and the University's evolving Travel Plan is vital in addressing statutory requirements and in maintaining good relations with neighbours.

To mitigate the risk of delays and potential loss of funding, as a result of capital funding constraints imposed by DEL (short allocation periods and virtually no end-year flexibility), it is important that consideration is given to starting the design process, including obtaining planning approval where appropriate, for time critical projects ahead of the award of funding.

While the Estate Strategy has a ten year planning period, with programmed formal updates at five year intervals, the Capital Plan is kept under constant review by the Capital Projects Group. Further, a five year rolling Capital Plan, addressing the strategic estate priorities emerging from the Corporate and Academic Planning process, is formally updated and approved by Senate on an annual basis.



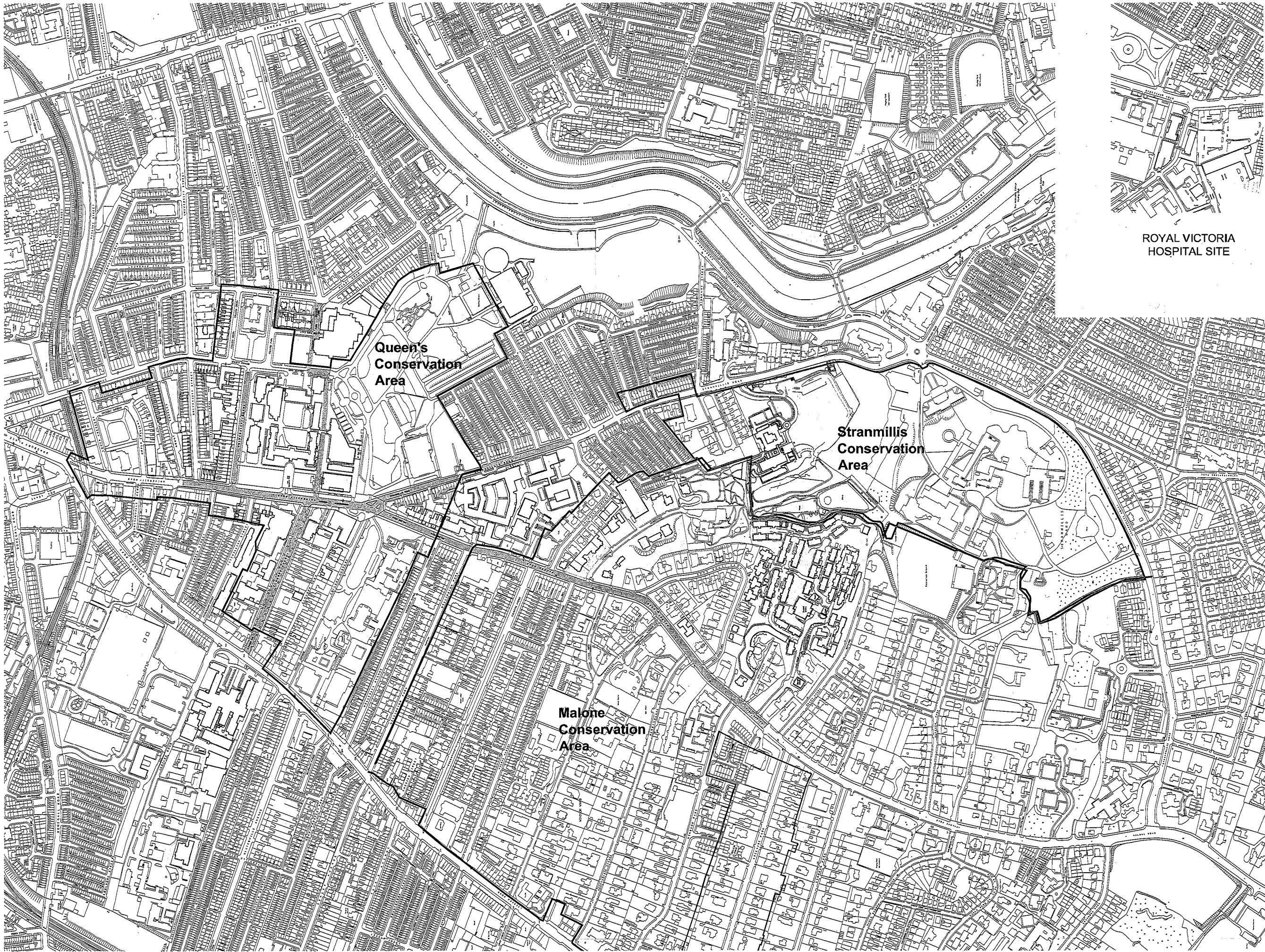
The University's current detailed five year Capital Plan 2012-17 outlines projected and fully funded expenditure of approximately £192m over the planning period on a range of approved projects.

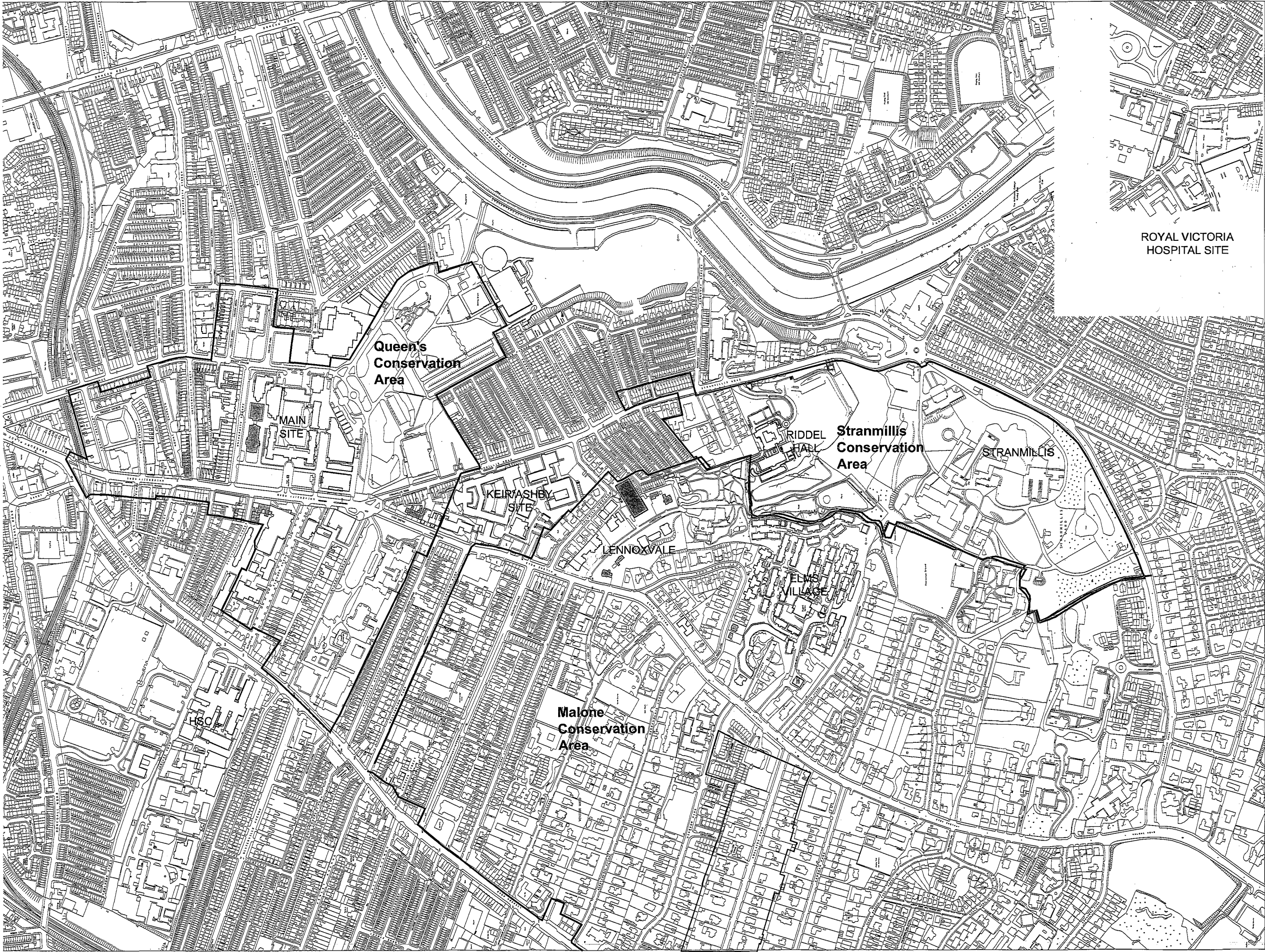
Successful implementation of individual capital projects is dependent on adherence to the University's well established and effective management process. This process is summarised in Appendix 8.



9. **CAPITAL FUNDING AND AFFORDABILITY**

This section is available to internal University users only.





KEY

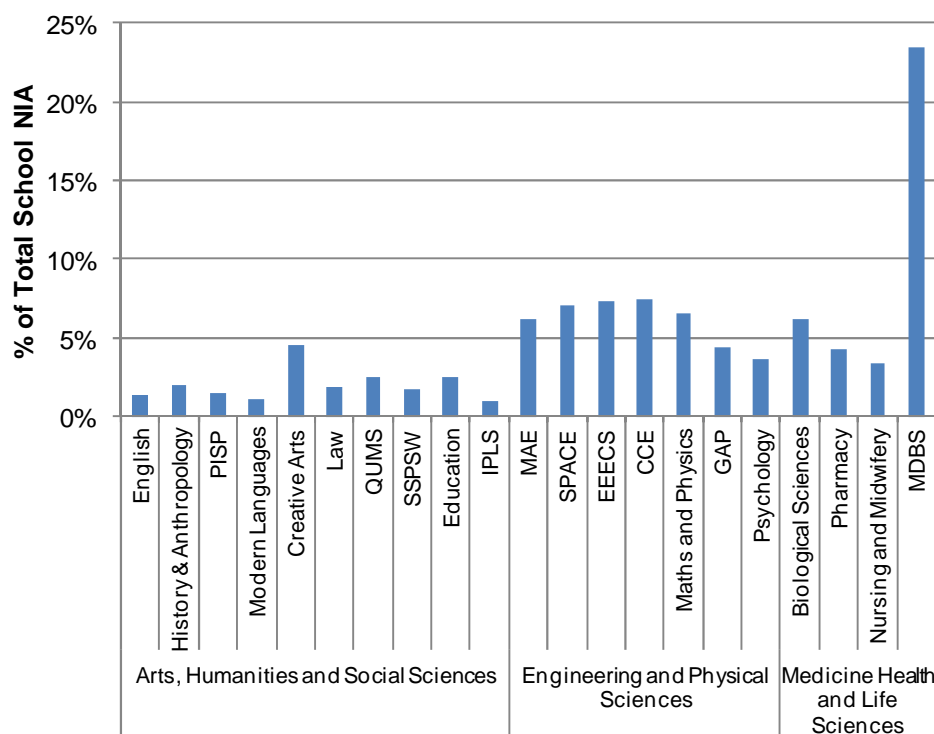
 VACANT PROPERTIES

Distribution of School Space and Utilisation of Teaching Accommodation

1. Distribution of School Space

The overall distribution of space by School is shown in Figure 1.

Figure 1: Distribution of Allocated Space by School



The graph indicates the relative scale of space allocation between Schools, with the School of Medicine, Dentistry and Biomedical Sciences (MDBS) having an allocation equivalent to 116% of the total for the Faculty of Arts, Humanities and Social Sciences.

2. Scale and Use of Timetabled Teaching Accommodation

Table 1 indicates the variation between the three main categories of teaching space, based on the results of the 2011-12 teaching space utilisation survey undertaken over a standard 36 hour week in semester 1.

Table 1: Use of Timetabled Teaching Accommodation – 2011-12

Room Type	No of Rooms	Frequency %	Occupancy %	Utilisation %
General Teaching	200	48	56	27
Computer	29	63	44	28
Specialist	57	29	47	14

The results show that there is significant scope for improvement in all categories.

Building Condition, Functional Suitability, Asset Value and Insurance Replacement Cost

1. Condition

The University has a continuing commitment to address the maintenance of the estate and this is reflected in the substantial expenditure on major planned backlog maintenance projects, most particularly through the capital programme. This expenditure has resulted in a significant improvement in the overall condition of the estate.

The condition appraisal assesses the estate in line with standard RICS building maintenance definitions:

- A = as new
- B = sound, operationally safe, exhibiting only minor deterioration
- C = operational, but major repair or replacement needed soon
- D = inoperable or serious risk of failure or breakdown

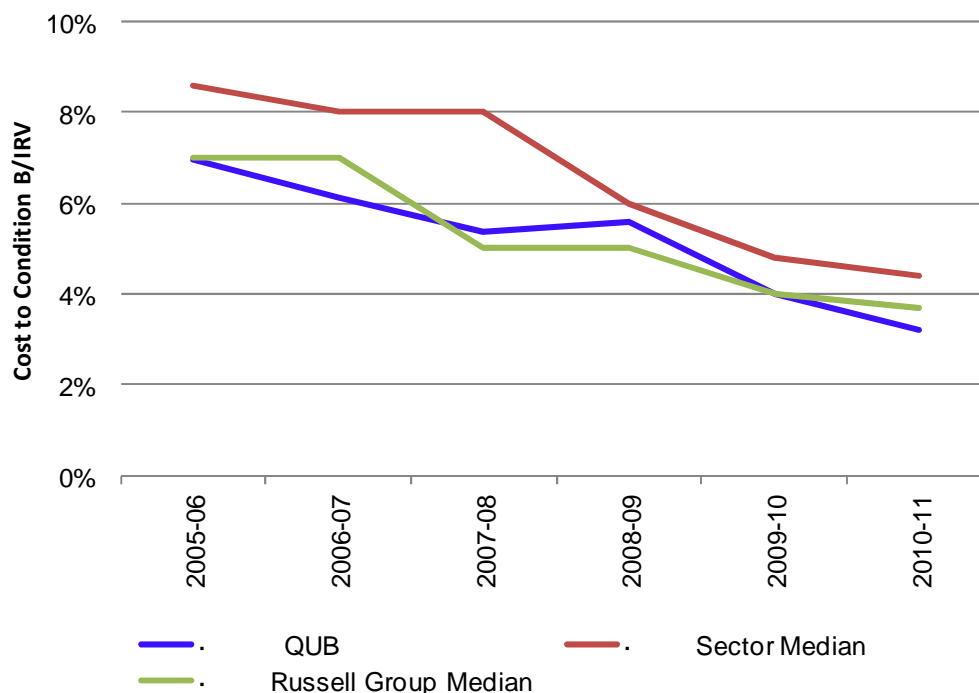
Table 1 indicates the condition grades of the core and non-residential estates.

Table 1: Condition of Buildings 2010-11

	Condition A %	Condition B %	Condition C %	Condition D %
Core Estate	20	65	14	1
Residential	66	29	4.5	0.5

As a result of the major capital development programme, 85% of the core estate is in condition A or B. For the residential estate, following the recent major redevelopment programme, the equivalent statistic is 95%.

The improvement in the Cost to Condition B/IRV over the period 2005-11 is shown below.

Figure 1: EMS Comparison of Cost to B/IRV Ratio 2005 to 2011

The graph shows that the University's condition has improved from 7% to 3.2%, although this improvement is true of the sector in general with the median falling from 8.6% to 4.4% over the same period. The University's position is also closely aligned with the median result for the RG8.

The distribution of Cost to B by block will inform investment and disinvestment decisions. Of the core buildings, the analysis identifies Music, the Library Stack, the Lynn Library and the PFC in the top ten in relation to backlog maintenance. These properties are identified in the current Capital Plan, and assuming these projects proceed, substantial elements of backlog maintenance will be addressed. The proposed demolition of the Science Library will also make a significant impact.

2. Functional Suitability

The functional suitability assessment is based on the definitions provided for the EMS process and uses "All Institutions" as the comparator.

2.1 Core Estate

Table 2 indicates the proportion of the core estate in the various grades and, following significant capital expenditure on refurbishment and new-build developments, shows the trend of annual increase in grades 1 and 2.

Table 2: Change in Functional Suitability % of Core Estate

	2002-03	2006-07	2010-11
Grade 1 - Excellent	40	45	52
Grade 2 - Good	39	39	35
Grade 3 - Fair	19	15	12
Grade 4 - Poor	2	1	1

Benchmarked against the EMS return for 2010-11, the results place the University above the median for the sector.

2.2 Residential Estate

The phased capital redevelopment at the Elms Village has seen a steady improvement in overall functional suitability. Following recent improvements to Mount Charles, accommodation categorised as grade 4 relates to the College Gardens which are currently 'unaligned' with student expectation.

Table 3: Change in Functional Suitability of Residential Estate

	2002-03	2006-07	2010-11
Grade 1 - Excellent	52	77	86
Grade 2 - Good	7	3	4
Grade 3 - Fair	9	1	1
Grade 4 - Poor	32	19	9

3. Asset Valuation and Insurance Replacement Value

The most recent full asset valuation of the overall estate was prepared by the Valuation and Lands Agency in 2005, and indicated a value of £422.3m. Due to the extreme volatility of the property market since 2005, an updated valuation has not been undertaken. One will be carried out when it is considered appropriate and worthwhile to do so.

The IRV is updated annually to reflect changes to the estate. While the IRV is also dependent on market forces associated with construction cost, these are captured by the Building Cost Information Service (BCIS) index. Table 4 sets out the annual change in IRV from 2005-06.

Table 4: Insurance Replacement Value

	2005-06 (£m)	2006-07 (£m)	2007-08 (£m)	2008-09 (£m)	2009-10 (£m)	2010-11 (£M)
Total	495	560	641	600	576	574

This shows an overall increase of 16% in IRV since 2005-06. This is a result of expansion of the estate but is also impacted by the significant volatility in construction costs over the period.

Summary of Capital Project Investment 2001-2012
based on year of Project Completion

APPENDIX 5

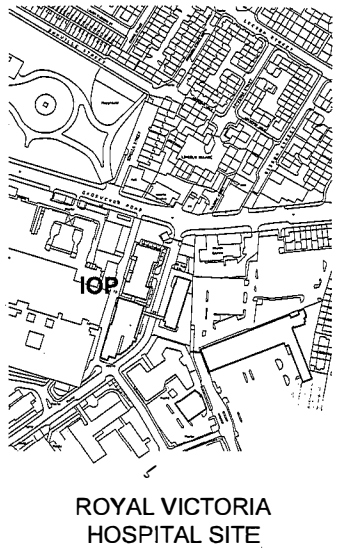
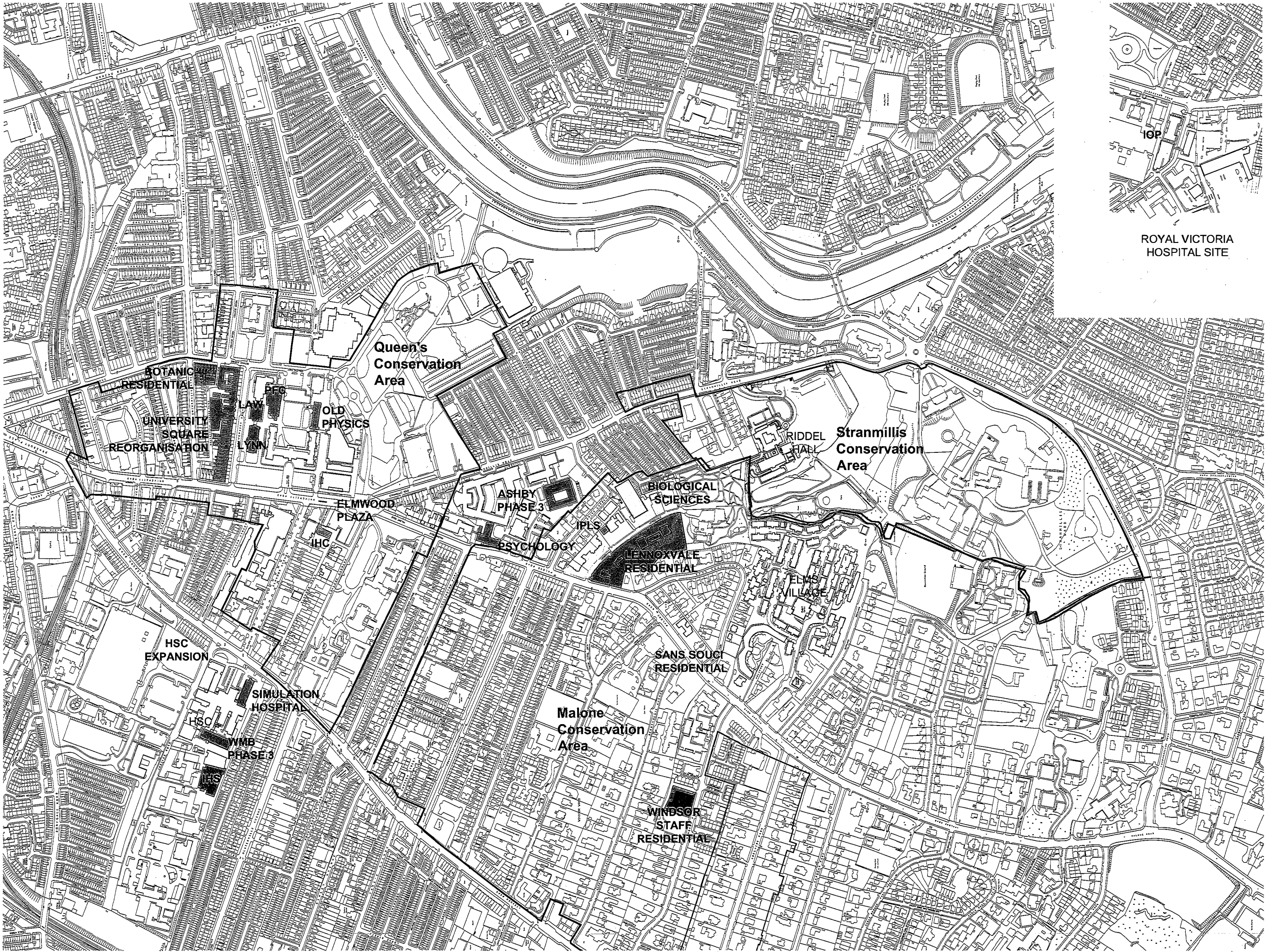
	Project Description	Completion Date	Investment	
			Project (£m)	Total by Year of Completion (£m)
1	Elmwood Learning & Teaching Centre	2003	2.8	2.8
2	IRCEP	2004	9.4	
3	ECIT	2004	6.3	
4	SARC & Computer Science	2004	5.4	
5	IOG - 63 University Road	2004	2.6	
6	Elms Village Phases 1-4	2007	20.0	
7	MBC Teaching Centre	2004	2.5	
8	Centre for Drama and Film Studies	2004	1.7	47.9
9	Bio-imaging Centre - MBC	2005	1.7	1.7
10	Students' Union Refurbishment	2006	8.8	
11	PEC Extension	2006	6.6	
12	CentaCat	2006	3.3	
13	Medical Expansion (MBC and WMB)	2006	3.0	
14	CHRONO	2006	2.1	
15	Social Work Expansion	2006	1.7	
16	Institute of Lifelong Learning	2006	1.2	
17	Refurbishment of General Teaching Accommodation	2006	1.1	
18	Graduate Research Centre	2006	0.9	28.7
19	New Library Phase 1	2007	1.5	
20	Elms Village Phases 5-10	2007	20.0	
21	CCRCB	2007	13.3	
22	New Mathematics Building	2007	3.4	
23	Student Guidance Centre	2007	2.7	
24	Mulhouse and Institute of Pathology	2007	1.7	42.6
25	Biomedical Research Accommodation (HSC)	2008	9.0	
26	Implementing the Vision (SPACE CCE & GAP)	2008	7.0	16.0
27	Biomedical Research Accommodation (RVH)	2009	7.0	
28	New Library Phase 2	2009	44.0	51.0
29	Health Sciences Building	2010	11.6	
30	Ashby Refurbishment Phase 1	2010	8.0	
31	DKB Teaching accommodation and Research Laboratories	2010	7.5	
32	MBC and WMB refurbishment	2010	4.4	
33	MBC Café and TZ	2010	1.3	
34	Refurbishment of Architecture Building	2010	1.0	
35	Teaching Accommodation and Infrastructure	2010	2.9	
36	International and Postgraduate Student Centre	2010	1.1	
37	INTO @ Queen's	2010	1.3	39.1
38	Riddel Hall - QUMS and Executive Education	2011	14.0	
39	MBC Anatomy Wing Extension (Nursing Consolidation)	2011	8.0	
40	NIACE	2011	4.2	
41	East-West Link	2011	2.0	28.2
42	Elms Village Phases 11	2012	14.5	
43	Outdoor Sport – Upper Malone	2012	11.0	
44	Ashby Refurbishment Phase 2	2012	4.3	
45	Clinical Research Facility (CRF)	2012	1.1	30.9
46	Minor Projects (including Energy Efficiency, Disability, Health and Safety, infrastructure) and Strategic Acquisitions	Various	60.0	60.0
	Total			348.9

Estimated Expansion in Student Numbers and Summary of Major School Issues


Appendix 6


School	Projected Change in Student Numbers	Estates Issues/ Impact	Proposals	Current Space Allocation (m ²)
English	Minimal or no change	Increased student space in University Square including teaching and group study accommodation. Staff office accommodation to support strategic investment	Reorganisation of University Square post QUMS and Law relocation to consolidate Schools and research institutes	1285.52
History & Anthropology				1792.31
Politics, International Studies and Philosophy				1381.74
Sociology, Social Policy and Social Work				1617.99
Modern Languages				964.55
Creative Arts		Reorganisation of new School within University Square, Music and SARC including the provision of Film Studio space	Reorganisation of University Square post QUMS and Law relocation to consolidate Schools and research institutes. Black Box at University Square. Electronic practice facilities relocated to Main site within Library Stack redevelopment	4124.08
Queen's University Management School	15% (220 FTE) increase in U/G 90% increase in PGT	Substantial increase in student numbers. Preferred location for Undergraduate teaching following School's relocation to Riddel Hall. Restricted opportunities for expansion at Riddel Hall for associated additional staff. This is also impacted by any planned expansion of the Leadership Institute at Riddel Hall.	Optimise use of Riddel Hall to accommodate academic staff. Model increased demand on preferred teaching accommodation and amend provision as required.	2338.62
Education	10% increase in PGT	Consolidation of PGs and staff from Lennoxvale and Botanic Avenue. Merger on hold.	Use of PRC (College Green) to support consolidation and growth following greater integration of other AHSS School PGs in University Square. Balanced investment in School accommodation due to continued uncertainty with respect to merger.	2323.23
Law	Minimal or no change	Additional student space including Mock Court	Proposed relocation of School to Library Stack site	
Institute of Professional Legal Studies	Minimal or no change	Consolidation of accommodation at 10 Lennoxvale	Extension to 10 Lennoxvale to support relocation of provision from No. 7	914.56
Arts , Humanities and Social Sciences (Faculty)		2 No. New Research Institutes	Reorganisation of University Square to consolidate Schools and research institutes. Research institutes probably adjacent to Faculty Office.	
Mechanical and Aerospace Engineering	20% (108 FTE) increase in U/G 200% increase in PGT		Refurbishment of Ashby Lab block	5660.44
Planning, Architecture and Civil Engineering	Small increases in UG and PGT	Access to design space and model workshop space. Increased student social and study space.	Review of current combined current demand for design space from CCE, SPACE, GAP, EEECS. Develop options for student social and group study space at DKB	6473.65
Electronics, Electrical Engineering and Computer Science	10% (105 FTE) increase in U/G 200% (76 FTE) increase in PGT	Pressure anticipated mainly on CS. Development of new electric car project	Rationalisation of accommodation. Refurbishment of Ashby Lab block	6751.65
Chemistry and Chemical Engineering	19% (92 FTE) increase in U/G 150% (17 FTE) increase in PGT	Pressure on Lab space and design space	Effective use of teaching space. Review of current combined current demand for design space from CCE, SPACE, GAP, EEECS	6877.78
Maths and Physics	30% (170 FTE) increase in U/G	Accommodation for expansion of research	Rationalisation of School accommodation. Refurbishment of Old Physics to include accommodation for Atomic Physics	6068.2
Geography and Palaeoecology	Minimal or no change		Rationalisation for improved use	4071.44
Psychology	10% (50 FTE) increase in U/G 62% (50 FTE) increase in PGT	Need to address areas of poor accommodation to meet demand for increased PGR and PGT accommodation	Rationalisation of accommodation to create additional PGT and PGR space and improved teaching space	3316.7

School	Projected Change in Student Numbers	Estates Issues/ Impact	Proposals	Current Space Allocation (m ²)
Biological Sciences	20% (115 FTE) increase in U/G 50% (35 FTE) increase in PGT	Immediate and substantial planned future expansion of AFLU research space. Consolidation of AFLU with main School accommodation. Greenhouse and 'allotment' space requirement	Potential relocation of School to a new site.	5662.95
Pharmacy	17% (26 FTE) increase in PGT		Intensification of use of PGT accommodation in WMB	3889.6
Nursing and Midwifery	Minimal or no change	Continued consolidation of School into new MBC extension. Improved clinical skills provision	Clinical Skills proposals for Nursing wing	3126.53
Medicine, Dentistry and Biomedical Sciences	8% (147 FTE) increase in U/G 33% (39 FTE) increase in PGT	Additional independent and group study facilities at HSC. Improved clinical skills provision. Expansion of biomedical research accommodation at HSC	Potential consolidation of Medical and Biomed libraries at HSC will provide enhanced study space. CVVS building will deliver a major enhancement of biomed research space. Clinical Skills proposals for Nursing wing	21530.11



KEY

 **CURRENTLY PLANNED PROJECTS**

 **PROPOSED PROJECTS & OPPORTUNITY SITES**

Capital Project Development Process

1. Background

Individual capital projects are subject to the investment appraisal process. However, the capital development plan is an integrated programme, within which the preferred option for an individual project may be influenced directly by its impact on the ability to deliver the aims of another project. This interdependency is central to the programming and delivery of the Capital Plan, effectively making groups of projects into a single integrated phased development programme.

The overall programme will be developed in line with the emerging detail associated with the individual projects, and the preferred options resulting from detailed investment appraisals.

As a prudent risk adverse client, the University, through its Estates Directorate, must ensure that the following arrangements for the management of major projects are in place:

- An effective and unambiguous project organisation to manage all aspects of the construction project and other related activities
- Project management mechanisms that will maintain the construction project within identified programme, cost, and quality related parameters

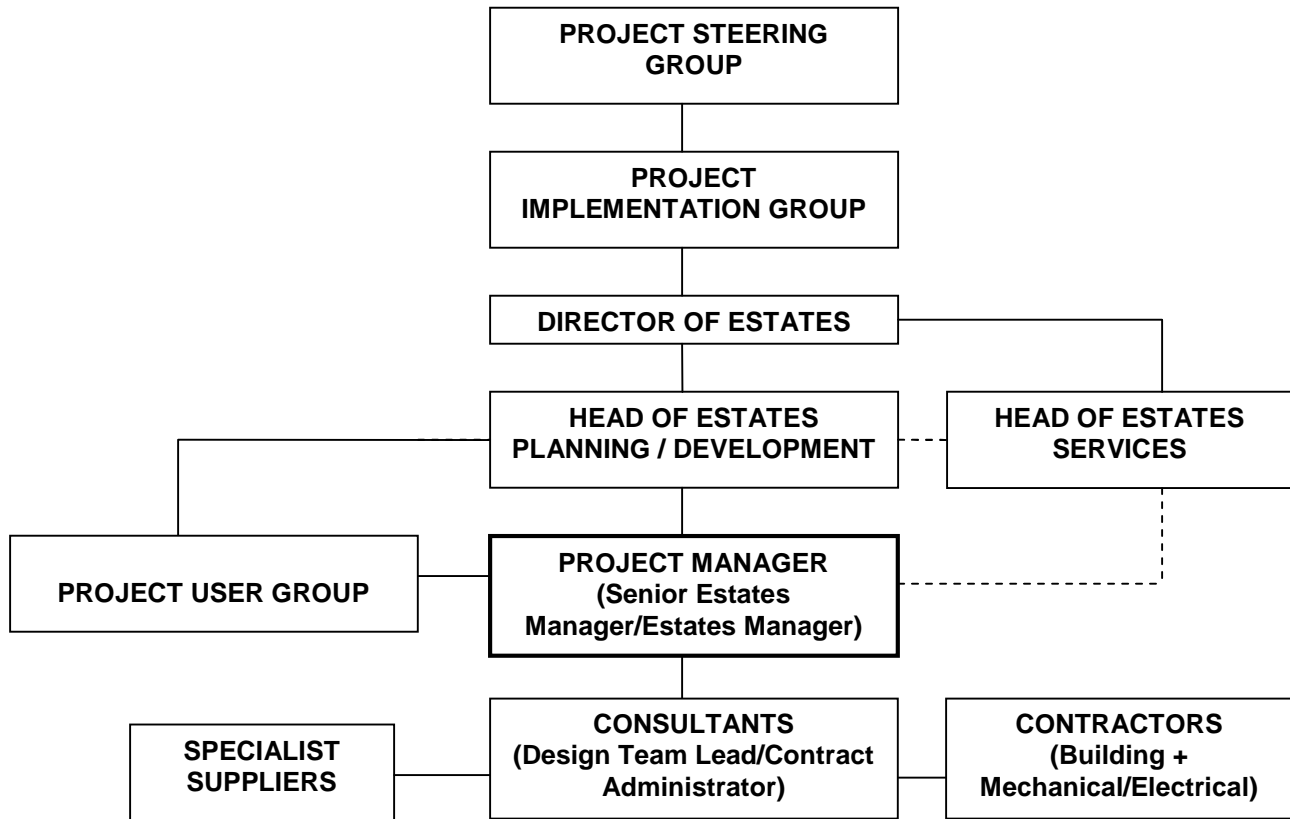
2. Project Management of Capital Projects

The University has a tried and tested management process for the successful delivery of capital development projects. The System of Control for Major Projects involves a hierarchy of groups with varying responsibilities:

1. Steering Group
2. Project User Group
3. Project Implementation Group
4. Consultant Design Group
5. Post Project Review Group

A typical project organisation structure is detailed in Figure 1.

Figure 1: Project Management Organisational Structure



3. Roles and Responsibilities

The roles and responsibilities of key individuals and groups for major capital projects are set out below.

3.1 Project Steering Group

This role may be taken by an existing group within the University's committee structure. The group will normally have the following responsibilities:

- To plan and manage the development of the project
- To co-ordinate funding
- To approve the development programme, specification and scheme design
- To receive reports from sub-groups
- To review progress and to report to the appropriate University committees
- To advise the Project Implementation Group as appropriate
- To address any issue that has major implications for the project
- To keep the project scope under control as emergent issues force changes to be considered
- To reconcile differences in opinion and approach, and resolve disputes

3.2 Project Implementation Group

- To oversee appointment of the architect and consultants
- To consult with interested parties, service providers and end-users
- To report to the Project Steering Group as appropriate
- To assist the development of the Design Brief and overall scheme
- To co-ordinate effective communications with stakeholders
- To take responsibility for the project's feasibility, business plan and achievement of outcomes
- To ensure that the project's scope aligns with the requirements of the stakeholder groups
- To ensure that effort and expenditure are appropriate to stakeholder expectations

3.3 Project User Group

This group will include end-user representatives together with other key stakeholders.

- To consult with interested parties, service providers and end-users
- To advise the Project Implementation Group as appropriate
- To assist the development of the Design Brief and overall scheme
- To co-ordinate effective communication with stakeholders
- To assist in ensuring a smooth and effective project handover

3.4 Director of Estates and Head of Estates Planning/Development

- The Director of Estates has overall responsibility for effective project delivery through the strategic management of project activity
- The Director of Estates acting as the Project Sponsor will submit Progress Reports to the Project Steering Group at regular intervals
- This is achieved through delegated responsibility to the Head of Estates Development and the Head of Estates Planning Divisions
- The Head of Estates Development has devolved responsibility for procurement of the external resources necessary to complete the project
- Both Division Heads report on project progress to the Director of Estates as appropriate. In addition, progress reports will be submitted to the Project Implementation Group at regular intervals

Depending on the stage of the project, the roles of the Head of Estates Development and the Head of Estates Planning will be interchangeable. Generally, Estates Planning will take the lead to the end of RIBA Stage D.

The Head of Division is responsible for the management of the internal resources necessary to achieve the strategic objectives of the project. This is achieved through the effective management of the Estates Project team whose core roles and responsibilities are described below.

3.5 Estates Project Manager (Estates Manager/Senior Estates Manager)

At an early stage, the project will be assigned to an Estates/Project Manager whose function is to:

- Act as a focal point for key decisions
- Plan and deliver projects using the appropriate contract procedures
- Ensure compliance with all relevant statutory provisions and University rules and Financial Procedures
- Ensure that all project plans are maintained and up-to-date
- Set work plans for project team members and support staff
- Monitor progress against plans
- Prepare project and exception reports for senior management
- Recommend that corrective action be taken, when needed
- Manage the project team on a day-to-day basis
- Ensure that the expertise and experience of all Estates staff is taken into account, particularly in the early project planning stages
- Prepare progress reports for joint review by the Senior Estates Manager and the Head of Estates Development on a two week cycle. The scope of such reports is set out in Part 2, Project Management Procedures

The Senior Estates Manager undertakes a supervisory role. Key additional responsibilities also include:

- To manage project teams and the service they provide within agreed budgets, ensuring quality, programme control and value for money standards
- To advise on the selection and commissioning of consultants maintaining an up-to-date approved list of consultants, ensuring that an appropriate project team is appointed which will meet agreed programmes, cost targets and design requirements
- To monitor performance and provide technical assessment of the project consultants
- To advise on the selection and appointment of contractors, monitoring performance and undertaking technical assessment of same
- To implement post-contract reviews

3.6 External Consultants

These may include Architects, Engineers, Quantity Surveyors and Planning Supervisors.

- Duties for each consultant are defined in the Contract Agreement and associated Schedule of Service

All consultants report to the Estates Project Manager through the Lead Consultant, who is normally the Architect. The Architect also normally acts as the Contract Administrator.

Cost management, including prediction of the projected final cost, is a key responsibility of the Quantity Surveyor.

3.7 Contractors

These may include Building, Electrical and Mechanical contractors. Duties are as defined in the Contract conditions, drawings and specification.

The Building Contractor normally acts as the 'main contractor' and reports to the Contract Administrator/Lead Consultant. A key responsibility is the management and co-ordination of all sub-contractors.

The Architect normally acts as the Contract Administrator.

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