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NEXT CHAPTER

WORLD CHANGING
CAMPUS

ESTATE STRATEGY
Redevelopment of the Gilmorehill Campus 2014 to 2024
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01. EXECUTIVE SUMMARY
STRATEGIC CONTEXT

The University of Glasgow is a world leading, research intensive University and a part of the Russell Group of Universities. The Estate should reflect the character and ambition of the University and enable staff and students to participate effectively in learning, teaching and research; it should reflect the ambition of the University captured in the Strategic Plan Glasgow 2020: A Global Vision. This plan is being reviewed and shaped for the period 2015-20 and will be presented to Court in June 2015.

Although the Strategic Plan for 2015-20 is still under development a number of key issues and principles are beginning to emerge based on consultation events held since April 2014. The key themes emerging, that can be enhanced and reinforced by appropriate development of the Estate, are:

01. Attracting, developing and retaining excellent staff - high performing staff will expect world class facilities; new builds and major refurbishments should be prioritised towards those subject areas where the University wishes to become or remain world class.

02. Balanced growth in student numbers - different categories of students and different subjects have varying needs in terms of learning & teaching, study and social spaces. They may also require different levels of student support and associated facilities. Development of the Estate must ensure it supports student growth targets while maintaining an excellent student experience.

03. Growing research reputation through interdisciplinary activity - there has been strong growth in research reputation and income. Much of this success is due to the ability to pull teams together that cover a wide range of disciplines, something that is not always currently possible amongst our peers. Spaces that aid interdisciplinary activity should be prioritised in any development of the Estate, particularly spaces that would be used by the world class researchers referenced above (1).

04. Improving service culture – opportunities to improve service would be supported by projects that allow a better and more efficient service culture to be implemented. It is recognised that although estate infrastructure can help improve service, significant improvements will only be realised through a change in culture.

05. Sustainability – the need for the University to be sustainable financially, as part of a wider community and civic organisation and environmentally.

The acquisition of the Western Infirmary site provides a unique opportunity to support the new strategic plan and redefine the University’s main campus, creating an environment that supports the ambition of the University and inspires future generations of students. It is rare for an opportunity to become available which will allow the University to comprehensively review existing facilities and provide a cohesive plan for shaping and redefining facilities.

The campus currently reflects the very piecemeal development of the last 100 years. This Estate Strategy sets a framework through which a more planned approach to redevelopment can be undertaken. This means agreed priorities for development can be taken forward and delivered in the context of an overall vision and urban design scheme for the campus. The first phase of the Estate Strategy will be delivered in the next 10 years; the overall vision could take 10 to 20 years to achieve. The Strategy will be reviewed regularly and adjusted to reflect the University’s Strategy and the University’s financial position.

BACKGROUND

The Gilmorehill campus is the largest of the University’s campuses. In addition there is accommodation at the Garscuche campus, the NHS estate (in particular at the South Glasgow University Hospital) and the Dumfries campus. There are specialist facilities at the field study centre at Loch Lomond, the University farm at Cochno and SUERC. New accommodation is also being developed at the Kelvin Hall.

The Estate Strategy has been developed over an eighteen month period during which time the views of the University community, alumni and the local community have been sought. The Strategy contains a set of principles relating to urban design, space and efficiency. It also provides a framework for the prioritisation and delivery of individual projects. Whilst the delivery plan is focused on the Gilmorehill campus the principles contained in the Strategy will apply across all of the Estate.

VISION

An ambitious estate strategy can only be delivered if it has vision and foresight combined with a practical sense of delivery. The vision for the Estate Strategy is to develop a campus that is “…fit for today and the future, is innovative and courageous in design, and is reflective of the University’s history and of its ambition, inspiring current and future generations.

The Strategy will seek to provide space that supports learning through the provision of creative, distinct, inspirational and diverse teaching and learning environments. In a broad-based university the space must encourage depth and breadth of learning, promote collaboration in research through exchange of ideas, and support a community that is inclusive and welcoming.

The Strategy will also seek to create accommodation that reflects the University’s ambition, through prestigious and courageous design, reflecting the quality of the University’s research and teaching. The strategy will be developed with checks and balances ensuring adaptable, future-proofed buildings that are effective and efficient.

In supporting the civic role of the University the campus must be outward looking and international.”

This vision has been captured and translated into urban design and planning concepts for the Gilmorehill Campus in the Campus Development Framework (CDF). The CDF has been approved by the City Council and is a pivotal planning
The vision is also captured through a set of principles on how the University uses space within its buildings and in particular how space and the design of space can encourage greater exchange of knowledge and cross disciplinary working. It is clearly established that the way space is used changes over time and therefore should be as flexible as possible within a value for money context. More flexible space should be capable of being used more intensively with extended hours of operation in key locations.

In developing space it is recognised that, for it to be fit for purpose, it should reflect the needs of the users. This may mean having space with diverse characteristics including provision of quiet reflective space where people can work on an individual basis in peace but not isolation, and exciting stimulating space where people engage and exchange ideas. All space must be technology enabled.

In support of better quality teaching and learning space and better quality research space, it is proposed to develop hubs or clusters of buildings which bring together specific functions and which support the desire for more cross disciplinary working, as well as ensuring that the correct level of resilience is provided to key buildings. The development of a teaching and learning hub and a research hub directly supports the University’s Strategic Plan.

DEMAND AND PRIORITISING OPPORTUNITIES

As would be expected there is considerable demand for new accommodation. Demand can be split between core requirements of the University and none core requirements. Core requirements focus on teaching and learning, research and accommodation for Colleges and University Services; they are critical to the success of the University. None core demand is for buildings which are not critical but may still help to drive forward the University’s ambition. Whilst the University should invest in the core proposals it may be possible to deliver non-core through a commercial venture. In addition it is essential that there is investment in the infrastructure to support the activities in buildings.

The core demands have been captured through the development of outline business cases. The prioritising and phasing of business cases has been driven by impact and contribution to the University achieving its strategic aims.

Core requirements that have been considered are:

- Creation of a learning and teaching hub which provides modern learning and teaching facilities.
- Development of a research hub which can provide accommodation for current and future leading researchers allowing the University to attract the world class researchers it requires. It could support high data and infrastructure demands.
- Improved accommodation for staff and students by bringing the Colleges and University Services physically closer together, in order to, again, help attract the high quality staff, as well as improve service provision and bring staff located in the city back onto campus.

The campus has the potential to provide up to 210,000 sq.m of new and refurbished accommodation. The current area of buildings on the campus is 282,000 sq. m, it is not envisaged that over the next 20 years the University will need this amount of new and refurbished additional accommodation. There is potential for some of this additional space to be developed which could support commercial activity until it is required by the University or dispose of some of the accommodation to generate capital receipts.

DELIVERING THE STRATEGY

The Estate Strategy is an enabler that supports the University in achieving its Strategic Plan. The Estate Strategy will only be affordable if it provides efficient buildings, supports new ways of working and introduces processes to assist the University in achieving its aims. This is a major change in University way of thinking, and could and should run in parallel with the development of a brief for any new building.

To deliver the Estate Strategy the CDF must be translated into a detailed master plan, an infrastructure delivery plan and be accompanied by a public realm strategy. This should also be accompanied by a detailed landscape and urban improvements plan so that the ambition to improve the setting of the campus is achieved. In delivering the strategy the commitment to engage and listen to the University community and the West End Community continues.

The urgent need for a learning and teaching hub has been set out clearly in an outline business case and this should be the first priority to be delivered under the Strategy. It will address immediate space pressures on campus, make a statement about the importance of the student experience, help the University achieve its aspiration of attracting high quality students and staff, and support the proposal for greater integration of support services.
The vision for the hub is to provide large lecturing facilities and up to 1,250 varied and diverse learning stations, which will be supported by commercial and social space facilities and will have the capacity to host conferences. This first phase of the facility could be open within 4 years (academic year 2018/19) if there is support for the proposal and a valid business case is developed.

The proposals for a research hub, co-locations of Colleges and University Services and the desire to bring staff from city centre locations, will all be developed in more detail. However before these proposals are fully agreed it is necessary to align with the emerging University Strategy. The proposals will be refined and more clearly defined based on the principles established in the Strategy.

Whilst there is a desire to deliver the Estate Strategy at a pace, the success of the Strategy is dependent upon very well defined briefing of the buildings accompanied by the culture change programme. Within this large organisation, the level of change which can be accommodated at any one time must be carefully managed.

The Strategy can only be delivered within a financially sustainable programme; further development of the fund raising potential will be developed over the course of the next 12 months. The opportunity to generate revenue from the Estate will be investigated and developed in greater detail. There is no need to borrow immediately and a funding strategy will be developed.

**SUMMARY**

The University has a unique opportunity to redevelop the existing Gilmorehill campus, maximising the potential to create a long term legacy for future students, staff and the West End community. Redevelopment which is managed in a planned and co-ordinated way and shaped by the Vision and the Campus Development Framework, can ensure that the acquisition of the Western Infirmary will make a difference and will be one factor that enables the University to retain and grow its position as a world leading research institution.
02.

STRATEGIC FRAMEWORK
2A DEVELOPING THE STRATEGY

PURPOSE

The Estate Strategy documents the University's intentions for the development of the Estate. It sets an overall vision and provides a framework within which individual projects can be defined and delivered. The timing for each project will be flexible and dependent upon the financial priorities of the University.

The Estate comprises of the Gilmorehill campus; the Garscube campus; facilities within the Greater Glasgow Health Board estate including the South Glasgow University Hospital; the Dumfries campus; the field station at Loch Lomond; Cochno farm; and Scottish Universities Environmental Research Centre. The general principles within the Strategy will apply across all parts of the Estate though the delivery plan will focus on the Gilmorehill campus. This campus is home to the largest number of staff and students and there are severe space pressures on the campus; the purchase of the Western Infirmary site offers an opportunity to address this.

An effective estate will help the University deliver quality teaching and research. It can encourage collaborative working and provide an environment that will inspire students and staff. It will make a statement about the University, as an outward looking, innovative and welcoming organisation. It will reflect the University as an organisation which provides exceptional and high quality teaching and research in an open collaborative, non-elite way. It can ensure that the infrastructure meets the needs of the student and research community.

The Estate Strategy establishes the general principles regarding the external environment public realm and urban design which can be refined into a detailed master plan. It outlines strategies and principles on the use of space. It identifies the areas of priority for investment which supports the University Strategic Plan.

The Strategy sets the University's vision and ambition in the creation of the campus, buildings and facilities for the next 20 years. It will provide a framework for investment decisions for the next 10 years. It will define a set of benefits, the delivery of which can be measured through a set of key performance indicators. The five year capital plan, the estate strategy delivery plan and a set of major building asset plans will be developed based on the Strategy.

PHILOSOPHY

The philosophy of the Strategy is simple; it recognises that property is a strategic resource, and must be used in such a way that it enables the University to achieve its strategic ambitions.

It is a resource which demands significant investment and therefore must be efficient and effective. It has a longevity which means the investment has to support the University for many years whilst the demands on the Estate will change over time. The Estate must be flexible if it is to support the University in the long term.

This strategy has been developed over a period of 18 months. At each stage in its development, there has been consultation and engagement. This has provided opportunities to test ideas, to look at how other institutions are developing, and challenge how we think and may want to use the Estate. This engagement will continue as a way of ensuring the accommodation supports future changes in teaching, research, recreation and general ways of working and operating. This will help to “future proof” the estate.

The general philosophy behind the Strategy has been to look across the entirety of the University’s Estate, to think about the built environment, public realm and infrastructure, as well as individual buildings, and the cost and ability to deliver. The Estate is an enabler and can only deliver the maximum benefits if accompanied with modernisation of processes and structures. As an enabler of change it can also provide a unique resource for University researchers and be a tool to support teaching and learning.

While the Strategy has been developed through consultation and engagement, a team of experts in master planning, infrastructure and space planning have also been engaged and have helped shape the output. The University’s senior management have guided the investment priorities. Engagement with local and civic communities has informed the shape of the campus development framework.

STRUCTURE OF THE STRATEGY

The Strategy sets out a Vision, a planning framework (the Campus Development Framework), and a clear statement of space principles, policy and metrics. It also articulates the University’s position on carbon and sustainable development.

The Strategy has been developed using a toolkit which has looked at the Gilmorehill campus and the Western Infirmary site, developed a detailed understanding of the site, its ground conditions and its infrastructure. Outline business cases have been developed assessing the investment priorities, and assessments made on the University’s capacity to deliver the change created by major development programmes.

The Strategy must be deliverable and a route map and high level Delivery Plan has been developed. This takes into account the priorities agreed by the University’s senior managers, the Campus Development Framework, space principles, a design guide, Investment Strategy and Procurement Strategy.

2B STRATEGIC CONTEXT

I) INVESTMENT IN HIGHER EDUCATION

The Higher Education sector has recognised that, with increasing global competition, good quality accommodation is important in helping to attract the right staff and students. Higher Education is part of a global market and universities are investing both inside and outside of national boundaries to attract the right students. Leading researchers used to working across boundaries, now have the opportunity to move globally as a way of ensuring that they have the high quality facilities
to support their research. Students have higher expectations aligned with the increasing cost of fees and a willingness only to pay for something that gives the best and greatest opportunities to progress.

The UK HE sector has recognised these market pressures and extracts from HEFCE returns in England 2013/14 showed that at that time £3.861bn of capital expenditure was committed and reported. According to HEFEC the expenditure has been to “increase competitiveness and enhance the student experience”.

A high quality estate is a way of enhancing the competitive edge of a University. A summary of the current projects in the sector is provided in Appendix 1. One of the most commercial investments is at Imperial College London who are redeveloping a 11.5 hectare site at White City. They are constrained by their current location in Kensington and had to establish a satellite campus at White City six miles from their main campus. White City will provide 48,000 sqm of new space, part of which will be a £200m research and translation hub. The development is a joint venture between development partners Voreda, Laing O’Rourke and Santander.

All universities are also investing in the student experience as demonstrated by the stunning new learning hub known as The Forum in the John Henry Brookes Building at Oxford Brookes University.

Student housing has become an attractive investment commodity and the majority of recent schemes in this sector have been private sector led. The preference for investment in this sector may change as the private residential market improves and the market must be monitored.

There is no single method for funding investment in the sector. Some universities have placed bonds, whilst others such as Imperial College London, Swansea University and the University of Edinburgh have gone into partnership with private sector investors through property lead structures. The funding arrangements reflect market conditions and the financial position of the individual institute.

II) THE UNIVERSITY’S STRATEGIC AMBITION

The context for the Estate Strategy is the University’s Strategic Plan, Glasgow 2020. This was adopted in 2010 and has been successful in shaping the University’s ambition over the last 5 years.

The vision of the University is to enhance its position as one of the world’s great, broad-based, research intensive universities. The Plan is being reviewed during 2015; early consideration of the Plan indicates that the Estate Strategy will support the University’s Strategy in the five areas:

Attracting, developing and retaining staff - The University will excel in key activities and not accept mediocrity. A culture of excellence means the University should always be aspiring to being better. This can be achieved through developing existing staff, retaining existing high performing staff and attracting new world-class experts. These staff will need world class facilities. To achieve this within a financially sustainable envelope the University must be selective in the areas in which it specialises and focus investment on these targeted areas. Investment will be in both people and capital resources, and the Estate Strategy must prioritise new builds and major refurbishments towards those subject areas identified as becoming or remaining world class. The review of the University Strategy will inform the areas for focus.

Growing student numbers - The University has significantly increased its student intake and the range of programmes offered since 2010 with resultant growth of 40% in PGT numbers and over 100% growth in international student numbers. At the same time Glasgow has maintained student satisfaction scores and the 2014 NSS gave the highest overall satisfaction scores ever, placing the University second in Scotland and the Russell Group. This is however coming under pressure as space becomes a premium on the Gilmorehill campus. The numbers of PGT, PGR and international student numbers are unregulated and therefore an area of growth for the University. PGR students also help grow research reputation and provide a pool of candidates for future post-doctoral research positions. It is notable that the majority of the universities above Glasgow in the global league tables have higher PGR to staff ratios than Glasgow. The University must provide suitable accommodation for these students.

Growing research reputation - Growth in the University’s research reputation derives from having the best possible academic staff. The restructuring of the University created four Colleges and introduced new Research Institutes. Since restructuring there has been strong growth in the University’s research reputation and income. The research order book for 2014 is larger than at any other time, more staff are published in outlets that have high prestige and large grants are being successfully won. Much of this success is due to the ability to pull teams together that cover a wide range of disciplines, something that is not always possible amongst our peers. Some of the interdisciplinary activity has succeeded even though physical interaction between the individual disciplines has not been straightforward. It is recognised by the most active researchers that creating spaces that allow academics from individual disciplines to meet and work together, as well as engage with industrial partners, will lead to new research ideas and grow research reputation.

Improving service culture - The redevelopment of the campus provides opportunities to change both culture and process. There is a sense across the University that policies and processes often hinder more than they help. It is also felt that the way in which these processes are supported can be inefficient, with some staff being given multiple roles across various processes and based in multiple locations. This leads to sporadic interaction with supporting IT systems, leading to frustration, impacting on service culture and accuracy of data input. Before buildings are briefed and built the University must debate the right approach for service provision comparing a more central approach versus a more dispersed model and how cognate units could work better if they are located closer together.
Sustainability – the need for the University to be sustainable financially, as part of a wider community and civic organisation and environmentally

2C THE ESTATE VISION

In the context of the HE sector and the ambitious strategic plan for the University it is clear that the Estate Strategy must be ambitious, far reaching, realistic, deliverable and affordable. It is essential that a clear vision is established for the Strategy, a vision that brings both the ambition and the practical sense of deliverability together:

The vision for the University Estate is to provide campuses that is fit for today and the future, is innovative and courageous in design, and are reflective of the University’s history as well as its ambition, inspiring to current and future generations.

In delivering this vision, the Strategy should seek to...

...provide space that supports learning through the provision of creative, distinct, inspirational and diverse teaching and learning environments. In a broad-based university the space must encourage depth and breadth of learning, promote collaboration in research through exchange of ideas, and support a community that is inclusive and welcoming.

The Strategy will also seek to...

...create accommodation that reflects the University’s ambition, through prestigious and courageous design, reflecting the quality of the University’s research and teaching. The Strategy will be developed with checks and balances ensuring adaptable, future-proofed buildings that are effective and efficient.

In supporting the civic role of the University the campus must be...

...outward looking and international.
03. THE UNIVERSITY ESTATE
The University has a diverse estate; the role of the Estate is to support the work of staff and students and to enable the University to achieve its strategic ambition.

**A) AN OVERVIEW**

**DESCRIPTION OF THE ESTATE**

The Estate occupies 430 hectares of land and 400,000 sq. m of buildings, located at:

- Gilmorehill campus
- Garscube campus
- Dumfries campus
- Multiple sites in the Greater Glasgow and Clyde Health Board estate including the Glasgow Royal Infirmary, South Glasgow University Hospital, and the Dental Hospital
- Rowardennan field station at Loch Lomond
- Cochno Farm
- Scottish Universities Environmental Research Centre (SUERC)

A detailed description of the Estate is provided in Appendix 2.

In summary, the Gilmorehill campus is the largest campus and provides accommodation for 23,000 students and 6,000 staff. Most of the central services functions are provided on this campus and it is the campus which most people associate with the University and the iconic Gilbert Scott Building.

The Garscube campus is the location of the Vet School, this School also has accommodation at Cochno where the University runs a small 286 hectare farm. The Beatson Institution, the Centre for Translational Medicine and the Centre for Virus Research are also located at Garscube. The University works closely with Scottish Enterprise who are responsible for the adjacent West of Scotland Science Park. In the last 5 years £32.7m have been invested in this campus.

Providing accommodation for both staff and students at locations within the Greater Glasgow and Clyde Health Board sites is strategically important for both organisations. The largest presence is at the South Glasgow University Hospital where the new clinical research centre and a new teaching and learning centre has been built. The Imaging Centre of Excellence will be developed during 2015/16.

Dumfries campus is the location of the School of Interdisciplinary Studies and provides a small but strategic addition to the College of Social Sciences.

SUERC is a small but highly specialist research centre and is part of the College of Science and Engineering.

**TENURE OF THE ESTATE**

The University leases five properties, details of which are provided in Appendix 3. Most of the recently acquired leasehold properties have been taken on short term leases to provide interim accommodation whilst the campus is redeveloped. Kelvin Hall is the exception where a long term lease has been granted, this will ensure that the full benefits of working with Glasgow Life and National Library of Scotland can be delivered.

**CONDITION OF THE ESTATE**

In 2013 the University approved a Maintenance Strategy which focused on the maintenance of the business-critical buildings in advance of the development of the Estate Strategy.

The condition of the Estate is measured through a quinquennial survey, which categorises the buildings into four groups:

- **CATEGORY A** as new condition
- **CATEGORY B** sound, operationally safe and exhibiting only minor deterioration
- **CATEGORY C** operational, but major repair or replacement needed in the short to medium-term
- **CATEGORY D** inoperable, or serious risk of major failure or breakdown

In 2014 when the Estate was reviewed it was confirmed that 64% of the estate was classified as A&B. This compared to 71% across the whole of the Russell Group. Based on 2014 inspections, it is estimated that £84.5m of backlog maintenance is required to bring all of the existing Estate, including residential, up to condition A or B. This excludes the buildings on the Western Infirmary site, these are all assumed to be in Category C. In 2013 it was estimated that there was £65m backlog maintenance on the site.

The condition of the Estate will be improved through provision of new fit-for-purpose accommodation, and where economic to do so, refurbishment of older properties. Where properties are beyond economic life they should be either sold or demolished.
3B THE GILMOREHILL CAMPUS

The Gilmorehill campus provides 283,000 sqm or 72% of the total floor area of the Estate. There are 145 buildings on the campus which sit within 25 hectares of land. In total 23,000 students are based on the campus, and 6,000 staff. The existing space has been analysed and matched against current and future needs in respect to space types, planning, spatial analysis and College profile.

SPACE TYPES - analysis of space types shows how space is distributed across different activities.

- **10%** Teach+Learn 28,800sqm
- **11%** T+L Resources 32,000sqm
- **7%** Research Support 20,200sqm
- **6%** Research Labs 18,100sqm
- **18%** Staff Workspace 49,800sqm
- **10%** Amenities 27,800sqm
- **3%** Stores 8,200sqm
- **21%** Circulation 58,300sqm
- **11%** Balance 31,100sqm
- **10%** Other 8,700sqm

PLANNING - there are 145 buildings on the campus, of which 53% are listed. 20% of the Gilmorehill space or 16 properties are A-listed. The University has a responsibility as guardian of such a significant group of buildings. Appendix 4 shows how the listed buildings are distributed across the campus.

- **47%** Not Listed 133,500sqm 50 Buildings
- **20%** A Listed 56,200sqm 16 Buildings
- **28%** B Listed 79,000sqm 44 Buildings
- **5%** C Listed 14,300sqm 35 Buildings

SPATIAL ANALYSIS AND CAMPUS GRAIN – the Estate has a predominately fine-grain character. This poses serious challenges when one of the University’s ambitions is to provide open, permeable and flexible space which encourages informal interaction and collaboration. The analysis of the Estate shows that only 8 buildings (44% of the campus) are greater than 7,000 sqm, whilst 120 buildings (28%) are less than 3,000 sqm.

- **13%** <1,000sqm 37,800sqm 98 Buildings
- **15%** 1,000-3,000sqm 43,000sqm 22 Buildings
- **28%** 3,000-7,000sqm 79,000sqm 17 Buildings
- **27%** 10,000-16,000sqm 75,000sqm 6 Buildings
- **17%** >20,000sqm 48,000sqm 2 Buildings
COLLEGE PROFILE – the current occupation pattern of the Colleges does not reflect the aims of structural changes that took place in 2010. The College structure was created to facilitate collaboration, multidisciplinary and joint working, and improve communication to stimulate creativity. It was also seen as an opportunity to enhance the efficiency and effectiveness of academic units and improve administrative support and efficiencies. It was intended to facilitate improved research performance and also enhance the postgraduate student environment, with support strategies to improve student success and build upon the high quality student experience.

The current occupation patterns results in Colleges across multiple buildings and whilst there are some examples of clustering of Colleges noticeably the three MVLS buildings located between University Avenue and University Place the other Colleges and several of the Research Institutes are very dispersed.

SPATIAL CONFIGURATION OF COLLEGES

3C THE WESTERN INFIRMARY SITE

The Western Infirmary site is 14.5 acres. The topography of the site shows a change in height of 8m from north to south with the site sloping down from University Avenue to Dumbarton Road.

The Western Infirmary was developed over many years with the first building being built in 1874 and the last major development in 1974. The last major building, known as the Phase 1 Building, dominates the overlook of the Dumbarton Road, being 8 storeys and providing 20,000 sqm of space.

The underlying bedrock of the site is limestone coal mining with two geological fault lines running east west mid way through the site, overlying the bedrock in glacial till of varying depth. Most significantly is the amount of made ground; this varies in depth across the site and where there is historic quarrying activities it can be up to 23m. The fill is a mix of ash, blaze, hardcore rubble and clay. Consequently, the strength and settlement characteristic could vary significantly. The Phase 1 Building is built in this area, the result is that the foundations of this building are piled and substantial. A detailed review of the designs has indicated that these foundations could be reused.

The current infrastructure is similar to the University campus with a steam main and HV ring providing heat and power. The new CHP system will have capacity to support 60,000 sqm of new build on the site. The existing power centre is old and will be replaced although short term there may be a need to keep heat and power to some of the existing buildings if used for decant. The Western has its own substation and capacity should be sufficient, though it may need to be replaced as it is located in the Phase 1 Building. Capacity for gas, mains water and telecom would all be renewed as part of the detailed infrastructure master plan.

The current drainage arrangement is a combined system feeding the Partick pumping station. This will not be acceptable going forward. Capacity of the pumping station is fully used and the Water Authority is looking to relocate/redevelop. A SUDS (Sustainable Urban Drainage System) is likely to be required for the campus. This will see the surface water drained separately to foul water. It is expected that this will be one of the first areas of infrastructure to be implemented.
04. SPACE AS AN ENABLER TO SUCCESS
The Estate is a strategic resource and, if used effectively, it can be a key enabler to success for any organisation. The environment can reflect the character of the organisation, make colleagues and students feel valued and inspired, encourage creativity, and enable effective ways of working, including partnership and collaboration. Space can be used effectively to stimulate and accelerate change and co-location can encourage collaboration. Space can only be used effectively if the interaction between people, place and process being carried out in the space is clearly understood. A set of principles has been agreed for how space can be used.

4A EFFECTIVE SPACE

**Accommodation that inspires** - Great space can help inspire people to do remarkable things; if the University is to attract world leading staff it needs first class accommodation. The Estate Strategy can align strategic ambition with great, affordable space. Inspirational space in a university environment should be knowledge-rich, encourage consultation and collaboration, be open and give visibility to the activities going on inside. To create memorable and inspirational space it must incorporate open shared spaces with best views which incorporate the use of the historic elements of the Gilmorehill campus. The space should reinforce civic identity and pride, and create memorable knowledge-rich experiences.

**Accommodation that suits** - The campus should provide diverse and varied settings, including space that stimulates and facilitates programs of lively and diverse events, space that provides access to a wide range of resources and encourages collaborative working, as well as space which enables quiet reflection and independent learning. Space should link teaching and learning activities to research and in turn link research to industry and innovation. Staff work space should support all staff and amenity space should be open to all.

**A coherent campus** - The campus at Gilmorehill is 25 hectares and at Garscube is 55 hectares. For effective use of the campus there should be a clear hierarchy of routes through the campus with pedestrians having priority. The routes should be obvious and easy to follow, linking key activities or public open spaces and supported with high quality public realm. Co-location of functions and Colleges will help provide cohesion to the layout of the campus.

**Accommodation that supports new ways of working** - In order to be a key enabler of change, space should be thoughtfully and efficiently designed. In developing space the University must debate and agree new ways of working which will support the University in the future. This should incorporate new ideas for teaching and learning as well as research and support services. New space and new ways of working can retain School and research identity as well as aligning users with specific projects. It must also ensure that learning, research and social activities are visible throughout the campus to enhance knowledge exchange within and across disciplines. Pivotal to new ways of working is to build on the success that the University is already achieving in collaborative research.

**Space that can change and adapt** - As a strategic and high cost resource, it is essential that the space is used effectively which means it must be functional and flexible. Flexibility will be determined by timeframes: short term i.e. day to day and semester to semester, and longer term, both year-by-year and generation-upon-generation. Such flexibility will ensure that the space can easily and cost effectively be adapted to meet new demands. The use of robust spatial strategies, such as activity-based hubs will support this. Such flexibility will only be achieved if the level of infrastructure and resilience can flex with the building. In a world where access to information takes place anytime and anywhere, the Gilmorehill campus must provide technology enabled building supporting a student experiences of a knowledge-rich environment.

4B AN EFFICIENT CAMPUS

Space is a strategic commodity. As space is a finite resource which demands a high level of investment, it must be used efficiently to ensure that a satisfactory level of return on investment is achieved.

**Connectivity** - The University is based on multiple sites in Scotland and has a growing global presence including in Singapore and China. Quick and effective connectivity between the multiple locations will be essential, in particular using technology and mobile. Where physical travel is required it is not intended to prescribe under an estates strategy one form of transport as flexibility and cost efficient measures should be applied to individual circumstances. Staff and students must have facilities across all campuses to work effectively when away from their home base; touch-down and flexible learning and social space should be designed to support this. Mobile technology will be critical and ability to access IT essential.

**Efficient buildings** - Efficient use of space is a product of the amount of space per person and the frequency of use. Both indicators need to be considered if efficiency is to improve. There are four measures that focus on space utilisation and these can be benchmarked against the HE sector and Russell Group. Appendices 5 and 6 provide more detailed analysis of the University’s ranking within the Russell Group however in summary Glasgow aligns with the Russell Group on student space ratios but is above average for space for staff and below average on utilisation of teaching space.

<table>
<thead>
<tr>
<th>RATIO</th>
<th>(Data from HESA 20xx returns)</th>
<th>University of Glasgow</th>
<th>Russell Group</th>
<th>Total HE Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net internal space area per student</td>
<td>11.0</td>
<td>11.1</td>
<td>7.1</td>
<td></td>
</tr>
<tr>
<td>Net internal space per member of staff</td>
<td>51.0</td>
<td>43.1</td>
<td>44.0</td>
<td></td>
</tr>
<tr>
<td>Utilisation of teaching space</td>
<td>25.0%</td>
<td>26.8%</td>
<td>27.2%</td>
<td></td>
</tr>
<tr>
<td>Income generated per sq. m</td>
<td>1,850</td>
<td>1,878</td>
<td>1,778</td>
<td></td>
</tr>
</tbody>
</table>
The efficiency measures do not reflect quality of space and therefore are only part of the picture of how well the Estate supports the University, however it is clear that in comparison with both Russell Group and the wider HE sector that there is opportunity to use space more efficiently. In addition the University is working to space standards established over 20 years ago and which, compared to other sectors, are now out of date and should be fully reviewed. Efficiency should not compromise user satisfaction and the National Student Survey and other student surveys clearly demonstrate that students are becoming less satisfied with the amount of study space available to them, especially at peak times throughout the year.

Resilient buildings - Research space demands can vary from infrastructure-intense clean rooms to informal office space. Research space can be capital intensive and increasingly reliant on access to significant quantity of data. Investment in back up facilities for power and data can be costly. Clustering facilities would mean a more targeted approach to investment in resilient infrastructure.

Space for collaboration - Efficient space supports collaboration is clearly an underlying principle across all use of space. Bringing functional based space together can be an efficient solution and ensure increased utilisation.

Fit for purpose research facilities - Currently money is invested in converting space which is not ideal for research, this is costly and takes too long to deliver the accommodation required by the leading researchers.

- **Hubs and Clusters** - Developing the campus based on functional or college based hubs or clusters can support efficient use of space.
- **Teaching and learning hub** would support new ways of teaching and learning, encourage collaboration, increase utilisation and encourage the building to be used for extending hours.
- **Research hub or cluster** would help attracting world leading researchers and encourage collaboration. It would ensure an efficient and targeted approach to the provision of high quality infrastructure.
- **Service centre hubs** - would encourage an efficient one stop service centred culture
- **College hubs or clusters** - would support the objectives established when the college structure was introduced.

### 4C DEFINING GREAT SPACE

The space principles document defines great space in terms of its functional, social, aesthetic and environmental characteristics. These can be overlaid onto the four principle space types: research space, teaching and learning space, staff work-space, and amenity or social space. A detailed summary of great space is provided in Appendix 7. In summary great space allows the user to deliver on their objects in an easy, functional, cost effective way and inspires and stimulates thinking and engagement whilst supporting the aims of the University.

### 4D REQUIREMENTS AND DEMANDS

The redevelopment of the campus is a unique opportunity, and it is essential that all opportunities and demands are captured. In this section the potential demands for the use of space are considered. It will not be possible to deliver all of the demands and the proposals will be prioritised based on the series of outline business cases which have been developed.

**Teaching & Learning facilities** - Over the last 2 years the University has had to convert the Hunter Halls and the Bute Hall into teaching space to provide a 400 seat and a 600 seat lecturing facility. Both are flat floored lecture facilities which need to be used for other purposes including ceremonial activities, exams and graduations. The use of learning space, predominantly in the library, continues to grow with the number of students using the library growing by a further 13% in 2013/14. The projected growth in student numbers over the next 5 years is at least 1,400 with possible further growth beyond that number. Based on the space model ratio of 11 sqm per student the University would need at the very least an additional 15,400 sqm of space to accommodate the projected growth. Current utilisation figures for teaching space show a 25% usage of teaching space. One reason for this being lower than desired is because of teaching facilities being dispersed and not matching demand. There is an identified need for new modern teaching and learning space.

**Research facilities** - As a leading Russell Group University the provision of high quality research accommodation is essential. There is insufficient to meet current demand and often the University needs to convert space which is not fit for purpose into state of the art accommodation. This retrofitting of older buildings is not cost effective and does not support the University’s ambition to attract world leading research teams.

**Data** - The research base of the University is placing increasing demand on the need for resilient data provision and there is a growing interest in some form of data centre to support academic research. In addition, as the University expands and student and staff management becomes more reliant on data based systems, there is an increasing need for a safe and resilient data storage and system.

**College co-locations** - Section 3 clearly demonstrates that Colleges are currently spread disparately across the campus. The intention at the time of establishing the Colleges was to bring together Schools which had commonality, could establish opportunity for cross disciplinary working and establish increased efficiencies through new structures and processes. The current layout of the campus does not support this. As many of the buildings are old with inefficient layouts, the current space demands are higher than set out in the space standards. This is further hampered by the condition of some of the buildings.

**Service Centre** - As well as the Colleges being in disparate accommodation, University Services are located in 120 different buildings. In January 2015, 220 University Services staff will move off campus to Tay House Charing Cross. This will release
space to support the University’s growth in the research order book. University Services need to develop an integrated customer focused service ethos. The move of four services into Tay House will provide an opportunity to test new more integrated ways of working. Student support services have been co-located in the Fraser Building and whilst it is recognised that there are lessons to be learnt from this it does demonstrated that bringing groups of services together into one location can help improve the service provided. Co-location of other University Services would help support this approach.

**Residential** - The University currently provides 3,800 beds for students. Of these beds approximately 1,000 provided are owned and managed by the University. The remainder are provided by GSV, a joint venture company between the University and Sanctuary Housing Association. In January 2013 the University agreed a strategy which recognised the growth in private sector provision and considered that the University should retain the current number of beds in its portfolio and flex any additional numbers on an annual basis using the private sector. Since the strategy was established an additional 300-500 beds have been provided through private sector providers, with a further 2,000+ beds currently under construction. With accurate forecasting of student numbers the current mixed economy of University and private sector provision should match demands.

The current growth projections for the University assumes at least 1,400 additional students by 2017/18, primarily PGT, PGR and many of whom are international students. The demands this places on the residential accommodation should be monitored. There would be future opportunities to provide additional accommodation on campus if it was felt appropriate at any time. At present it is not a priority.

In addition to conventional student accommodation it has been recognised that there is a need to provide studio style accommodation for visiting researcher and lecturers who may be with the University for a short period of time but need reasonable quality accommodation, some of which should be suitable for families.

**Sports and Recreation** - The University is currently investing in sports provision through the extension of the Stevenson sports facilities. The importance that sports plays in the life of the University and the well-being of students and staff is recognised. During the life of this strategy it is proposed that the demands for sports facilities should be regularly reviewed.

**Commercial and community opportunities** - With the growth in student and staff numbers opportunity for additional commercial facilities can be considered. Social space supported by good quality catering and other commercial facilities will support the desire of the University to create space which encourages staff and students to meet and exchange ideas. The aspiration of the Estate Strategy is to open up the campus to the community; this could support the growth of commercial and community services. The provision of a conference facility could be considered if it formed part of a wider proposal.

**Hotel** – With the development of a conference facility and an increasing growth in academic tourism there could be an opportunity to develop hotel facilities. The effective development of such a facility could overlap with the demand for studio type accommodation for visiting academics and researchers.

**Car Parking** - As part of the Campus Development Framework there is a clear statement on the intention of the University to give priority to pedestrians on the campus. It is also recognised that there is a need for car parking adjacent to the campus. The Campus Development Framework identifies three potential sites for multi storey car parks. These are proposed on the Thurso Street site, Lilybank Gardens and Church Street. The first two are directly controlled by the University.

**4E  SUSTAINABLE RESOURCE**

A consistent message received throughout the consultation process was the importance of a sustainable campus to staff and students. If the University is to ensure that the Estate is an enabler to the success of the University it must embed sustainability in its approach to development and acknowledge, in the returns on investment, the long term returns of a sustainable environment.

**Carbon Reduction** - The University has delivered significant reductions in the carbon footprint of the Estate, though compared to other universities who are seeking to be carbon neutral there is more to be done. The CHP proposals, which will provide a district heating system at Gilmorehill, support this approach. In moving forward the University will work with the City Council, Sustainable Glasgow, SALIX and other carbon reduction organisations to develop proposals to continue to reduce the carbon produced by the University. The University’s Carbon Management Plan has set a target of reducing the University’s carbon production by 20% by 2015. The plan will need to be reviewed during 2015/16. The reviewed plan will inform the Estate Strategy.

**Bio-Diversity** - The University has developed a bio-diversity policy which will support its approach to the creation of great space between buildings. This includes the opportunity to develop distinct habitats across the campus which will support diverse wildlife.

**4F  THE CAMPUS AS A TEACHING AND RESEARCH RESOURCE**

The University should use the redevelopment of the campus as a teaching and research resource. It has recognised the opportunity in the energy and carbon activities however there are also research opportunities developing as the site investigations in the Western Infirmary develop. One idea which is forming is the idea of the Smart Campus which would incorporate new technologies and build on the concept of “Smart City” developed by the City Council. This could actively engage with current research projects and the University’s
innovation centres. There is significant opportunity to be world leading as a demonstrator of best practice in the construction industry.

4G FINANCIAL RESOURCE

Property is a capital intensive resource; all investment must ensure a clearly identified set of benefits and a clear level of return. The return must support the ambitions of the University and may be measured as a quantative return such as financial, or a more qualitative measure such as reputation improvement.

Capacity and investment opportunities - The Gilmorehill campus is 282,745 sqm. Under the Campus Development Framework it would be possible to increase the Estate by 210,000 sqm or 74%. Future capacity requirements will need to be tested once the University Strategy is finalised. It is not anticipated that the University would require all of the potential new and refurbished accommodation. Opportunities to use the spare capacity in the campus to generate an income should be investigated and reviewed on a regular basis.

Disposal opportunities - The properties no longer required can be either disposed of or demolished in advance of redevelopment of public realm enhancement. It is essential that the University retains flexibility in making decisions on timing and type of disposal. As part the capital plan review, there should be an annual review of disposal opportunities. In considering how to dispose of properties two factors will be taken into account: firstly whether disposal would impact on the integrity of the campus and secondly whether there is a requirement for either capital receipt or regular income. When the University is clear on the needs from any disposal, types of disposal can be considered, these would include freehold disposal, sale and leaseback, long leasehold, short leasehold, joint venture investment disposals.

Commercial opportunities - As well as delivering a return from disposals it may possible to derive more income from the Estate through developing commercial opportunities. These could include conference facilities, car parking, retail and catering. Developing and operating such facilities is not core activity for the University and options for different operating models assessed.
05. GILMOREHILL DEVELOPMENT
5A SHAPING THE GILMOREHILL CAMPUS

The redevelopment of the Gilmorehill campus will incorporate the newly acquired Western Infirmary site. The framework for the redevelopment has been shaped by the Campus Development Framework.

THE CAMPUS DEVELOPMENT FRAMEWORK

The Campus Development Framework was developed over eighteen months during which there was extensive consultation with the University’s community, the City and the West End community. It incorporated the principles established in the University’s 2012 Estate Conservation Strategy.

The Campus Development Framework is an approved document for planning purposes having been approved by the City Council on the 26th June 2014.

The Campus Development Framework makes a clear statement on the opportunity to open up the campus with clear links across the West End. It has focused on a set of objectives which seek to:

- enhance the setting and safety of the campus, with clear social focus points;
- define entrances and gateways into the campus;
- provide clear, open connectivity within and to the University and with Kelvingrove Park;
- embed activities and uses that promote a sense of openness and safety;
- secure current and future building character and heritage;
- create flexible spaces that respond to identified and changing needs; and
- ensure a sustainable future embracing a clear green agenda.

A detailed description of the Campus Development Framework is provided in Appendix 8. In delivering the CDF it is proposed to:

Create a new entrance off Dumbarton Road - This will support the principle of opening up the campus, linking the University to the developing cultural quarter of the City. It will introduce a clear route along the edge of the Kelvin Park between Dumbarton Road and the Gilbert Scott Building. It will provide an opportunity to build new public open space.

Design the development on the Western Infirmary to open it up to the West End - The Western Infirmary site sits within an urban landscape which has a strong street pattern based on an urban grid. Removing existing walls and buildings which block pedestrian routes along Church Street and extending this street pattern into the Western site, will open the campus up to the West End and Byres Road. University Place will be enhanced and become a pedestrian route, linking into University Avenue. Open space can be developed based on this pattern and establish modern quads which reflect the idea of open quads established 150 years earlier in the Gilbert Scott Buildings.

Improvements to University Avenue - In seeking to make the campus cohesive it is essential that University Avenue is improved. It is a major route through the campus and should be both safe and attractive to use. The University will work with the City Council, Highway Authorities and local community to develop proposals in which the Avenue gives greater priority to pedestrian movement and enhances the aesthetic of the Avenue.

Enhancement of the Main Entrance area - The Gilbert Scott Building is an iconic building significant to the University and the City. It is currently surrounded by surface car parking. The area between the Gilbert Scott Building, the Main Entrance, the Round Reading Room, the Fraser Building and the Library should be an important arrival point and public space enjoyed by all. There is currently no cohesion in the public realm or sense of entrance or place. This should be reviewed and a
public realm scheme developed to ensure this becomes a focal public space.

**Improving pedestrian movement and reduced vehicle movement** - Throughout the consultation undertaken it was clear that there is support for pedestrians to have precedent on routes through the campus. In linking the new entrances and the open spaces this will be an overriding principle. A comprehensive public realm strategy will be developed as part of the master planning of the campus. The CDF looks to reduce and, where possible, remove vehicles from the centre of the campus. The CDF has identified locations for new car parks.

**Creation of new public open space** - The development of new public space and improvements to existing public space will be pivotal to the public realm strategy. As noted above, new public space could be provided at the entrance from Dumbarton Road, on the Western Infirmary site and around the main entrance.

**Development of buildings of a size and shape to support collaborative working and co-location** - The CDF establishes massing and height of new buildings which reflect adjacent buildings. As a principle, where an existing building may be demolished there will be a desire to ensure that a similar mass of space is provided in its place. This is important to ensure buildings are developed which have a size and floor plate to encourage collaborative working.

### 5B THE EXTERNAL ENVIRONMENT

The external landscape shapes the experience of every student and member of staff. The Gilmorehill campus is unique in the quality of landscaping and provides a real opportunity for all who use the campus to benefit from that uniqueness. It provides people with space to breathe and think. It can provide quiet havens and unique stop points.

The landscaping has developed over the last 150 years, but the current predominance of cars across the campus is a distraction from the quality of environment. Within the Development Framework, the transport section advocates the need for pedestrians and cyclists to take priority. There is the potential to provide car parking which is less intrusive and more sensitive to the quality of the external environment. This will be captured under the public realm strategy.

### 5C HUBS AND CLUSTERING OF BUILDINGS

For space to act as an enabler for an organisation it must be used efficiently and effectively. Clustering functions or Colleges together could create inspirational buildings which support efficient ways of working and encourage collaboration and cross divisional working.

The Gilmorehill development will be shaped around five types of hubs:

**Teaching and learning hubs** - multi-use space that will provide modern, flexible teaching and learning facilities, enhance the student experience and support the University’s move to multi-styled teaching. It will provide flexible high quality teaching space and space to support group working, clubs and societies and multiple environments for individual learning. Potential for conference and other commercial facilities could be developed in this location.

**Research hubs** - flexible space, specifically focused on research, inspiring students to become researchers and ensuring space is available for new research projects. Access to data and infrastructure is essential. A research hub could potentially house a data centre/server centre if the University has a requirement to do so. Collaboration space is essential incorporating easy access for group working space, supported by good quality social space. This space should also be a centre for engagement with industry with potential to locate incubator and innovation space in this location. There is an opportunity to develop space to display the research opportunities at the University, and to engage industry and students in the excitement of the research. Open outward looking space would encourage and inspire students and researchers.

**Service Centre** - there is a desire to develop an integrated service culture across University Services. Co-location of some services into a hub could support this proposal.

**Social hubs** - social space for an improved experience for staff and students, which provides space for sharing ideas and collaborative discussions. The University is a community where students, academics and support staff, meet and mix. Social hubs could be either free standing or be part of other clusters/ hubs.

**College hubs** – the restructure of the University in 2010 was significant in the development of the University. These benefits could be enhanced further with co-location of all or parts of the Colleges.
06. DELIVERING THE STRATEGY
The Estate Strategy provides a framework for the development of the campus. The Strategy will be delivered over a ten to twenty year period, depending upon the capital available and the ability for the organisation to manage change, whilst maintaining the student experience and delivery of the current high research order book. The Strategy does not set out prescribed dates where by all new projects will be delivered, however it does set a route map for how decisions will be made in respect to prioritising investment. This map will be reviewed on an annual basis as part of the budgeting and business planning. All new developments will look to achieve the vision for the Estate to comply with the objectives of the Campus Development Framework and look to deliver "great space" as defined by the space principles. All new developments will support the University Strategy and must achieve the target efficiencies, set KPIs and measures of success.

6A CULTURE AND PROCESS

The delivery of the Estate Strategy will provide better accommodation and improve the overall environment. To ensure that the Strategy is affordable and achieves the full benefits of working in new space it will be essential that culture and processes are reviewed. Where possible, this should be done as part of the briefing process to ensure that the building is sized correctly. Process developments should be implemented before moving into new facilities not after.

6B STRUCTURE

The outputs from the Strategy will be the delivery of series of new efficient and effective buildings. To ensure that they are delivered in line with the overall vision and objectives of the Strategy and maximise the returns these projects will form part of a wider programme. The overall programme will ensure that the infrastructure, public realm and design principles are managed and delivered. It will also allow a set of targets and KPIs to be set for the overall programme as well as individual projects.

6C PHASING OF PROJECTS

Through consultation and testing with senior managers in the University a clear list of requirements has been established all of which would support the growth of the University and align with the Strategic Plan. These include new teaching facilities, new research facilities, improved College accommodation, improved accommodation for service staff and bringing staff located in city centre offices back onto campus.

It is clear that there are many opportunities to improve the facilities of the University. Delivering on all the opportunities in too short a time frame would create a huge level of disruption both organisationally and physically. Such a level of disruption rather than supporting growth in the University could slow it down. Projects must be phased.

The projects should be phased or prioritised on the basis of which projects make the greatest contribution to the University’s Strategic Plan. A group of ambitious outline business plans have been developed and presented and from this the phasing of the projects considered.

The list of projects considered is given below. More detailed descriptions can be found in Appendix 9.

The projects were:

- new Learning and Teaching Hub
- new Research Hub
- co-location of College of Arts
- co-location of College of Social Sciences
- co-location of Institute Health and Wellbeing
- relocation of parts of College of Science and Engineering
- development of a data centre
- development of an Alliance for Chronic Diseases
- development of an infrastructure proposal to support the other projects

All projects have ambition and support the University’s Strategic Plan however there are interdependencies between the various proposals and decision making would need to be phased. The College co-location business cases would change depending upon the detailed briefing of the Learning and Teaching Hub. The final order of phasing and focus of the Research Hub should reflect the outcomes of the REF. The overall phasing would also need to be checked against the emerging University Strategic Plan.

A clear priority is the provision of additional learning and teaching facilities. This proposal is critical to support the projected growth in student numbers. A new Learning and Teaching Hub could be located on the Boyd Orr car park and therefore does not have the same level of interdependencies as the other business cases. This project could be delivered in advance of transfer and clearance of the Western Infirmary site. More detail of the vision for this project is provided at Appendix 10. It is proposed to develop this concept to a full business case and this would be the first project delivered under the Estate Strategy.

The development of the phasing for the other projects will emerge following further review of each proposal. The phasing of each project will be reviewed annually in line with the Strategic Plan and budgeting process.

6D KPIS AND TARGETS

By considering the Strategy as an overarching programme a group of KPIs can be established. From these a set of individual KPIs will be agreed for each project.

Proposed measures are:

A. User satisfaction – using the ‘Leesman Indices’ it is possible to measure user satisfaction in their working environment and users change in satisfaction when moved to new premises. More detail can be found at www.leesmansindices.com
B. To continue to measure carbon reduction - The current target is 20% reduction by 2015, this will be reviewed and updated 2015-16.

C. To improve the condition of the estate – a stretched target of numbers of building in classification A&B should be agreed.

D. Income per sqm – this is a current HESA measure and would support both clarity in project business cases and allow comparison with the sector. Delivery against this target is not solely within the remit of the building; it would ensure shared commitment with the occupiers to deliver on the full benefits identified in the individual business cases.

E. Student and staff ratios per sqm – again a HESA measure so would allow benchmarking project based targets for space ratio to be captured.

F. Utilisation – as the second efficiency measure it is essential that overall utilisation of the campus is measured.

6E GOVERNANCE

The Estate Strategy is significant and complex, it will require multiple moves and it is clear from the earlier part of this report it will only be successful if the interdependencies of culture change and process improvement accompany the development of new buildings and relocation of staff.

There is currently a robust governance for estates matters. All estates matters are reported to Court through the remit of the Estates Committee whose terms of reference are to oversee the strategic development of the Estate. The Convenor of the Estates Committee is a lay member of Court and reports to all Court meetings on matter arising from the business of the Estates Committee. Some SMG members also sit on the Estates Committee, other members of SMG are invited to attend Estates Committee if there are matters of particular relevance for discussion.

The financial management of all estate matters are governed by the financial regulations with approval to spend requiring authority from the Capital Committee, Estates Committee, Finance Committee and ultimately Court depending upon the level of spend.

At the current critical time in the Estate Strategy a special Court Working Group has been set up to support the development of the Strategy. This has been particularly valuable for creating a forum where proposals can be debated and tested.

The delivery of the Strategy will be as a programme monitored through the programme office within Estates and Buildings. A new internal governance process is being developed within the department which will be used to internally manage the delivery of Estate projects. This will include gate reviews at critical stages ensuring full sign off on the project brief, stage developments of proposals and regular financial reporting.

Regular updates both to the Estates Committee and therefore Court will be made with regards to the programme including post completion reviews and outcomes which capture the full benefits of the overall programme and individual projects. At a project level each major project will benefit from the establishment of a Project Board with a member of SMG acting as Convenor and Project Sponsor on the project. Training of senior managers to act as Convenors and Project Sponsors is proposed.

The current arrangements ensure that there is robust governance however the estate strategy is sizable and to ensure that the full benefits are delivered dependent upon cultural development programme. It is proposed to discuss with senior managers and lay members of the estate committee the benefits of a senior programme board.

6F PROCUREMENT STRATEGY

The University has generally adopted a traditional approach to the procurement of construction contracts using (JCT/SBCC) Standard Contract with Quantities. Whilst this approach may have served the University’s needs in the past, it is deemed to no longer respond to market conditions or to represent best value for money in all circumstances. To deliver the Estate Strategy there is a need for a more progressive approach to procurement. A procurement strategy must

“develop a flexible procurement alliance which will facilitate the controlled delivery of the Estates Strategy representing world class best practice in terms of university campus design and delivery and realising the Glasgow 2020 vision, representing best value for money, in strict compliance with Public Contracts (Scotland) Regulations”

The procurement strategy must include controlled delivery of the Estate Strategy, offer best value money and cost certainty. There is a need for equitable risk transfer and allocation in a way that still attracts world-leading designers and master planners. It must represent market leading best practice and harness constructor expertise. The is currently uncertainty on programme so any procurement strategy must be flexible and able to adapt to changing requirements and demands in terms of the scale, nature and timing of projects, academic and research priorities, changing micro and macro market conditions. It must be efficient in terms of time, cost & effort and offer consistency of approach. Any proposal must of course be fully compliant not just on CDM & Health & Safety requirements but with Public Contracts (Scotland) Regulations.

It is proposed to allocate both the design and construction activities into suitable lots or packages to offer the most cost effective, efficient and flexible offer and attract the most appropriate organisations to participate. At a programme level the package would providing for master planning development and infrastructure design and delivery, landscaping design and delivery. This provides a structure and framework for separate design and delivery of individual buildings. A detailed report and recommendation will be developed.

At programme level it is proposed to appoint a master plan team to develop the detail that will under pin the Development Framework. This will involve two intrinsically linked and interdependent work-streams, that of Urban Design
Consultant acting as lead consultants for the initial Master plan development and gaining of consents, and an Infrastructure Design Consultant, a multi-disciplinary engineering consultancy who will undertake the detailed design development and delivery of the infrastructure proposals. These are strategic appointments and the University will partner with these teams for at least five years but with the ability to extend this arrangement.

In order to achieve consistency of delivery and quality across the programme and to provide the flexibility to react to changing requirements, it is recommended that a single programme-wide Strategic Delivery Partner is appointed. This approach has been highly effective on numerous major programmes. This role involves a long-term relationship with the University, potentially extending over several years. It is essential that suitably mature and visionary organisations that understand and appreciate the objectives of the service and benefits of long-term relationships are attracted. It is anticipated that this would be major contracting organisations. To foster long-term mature collaborative relationships, the form of contract selected must reflect and facilitate these options including NEC3 will be considered.

At project level there is no single model which best-fits all of the anticipated construction projects to be developed on the Gilmorehill Campus. Each project will be individually appraised to identify the most appropriate procurement route. The consultancy and contractor frameworks have been established to support the smaller packages of work, their suitability for the major capital projects will be reviewed and if necessary new consultant and contractor frameworks developed for the major capital projects.

6G ASSET STRATEGY

The risk of developing a strategy for a campus the size of the Gilmorehill is that all the focus and effort is given to the development of a small number of new buildings with other significant buildings being blighted through lack of investment. The framework provided by the Estate Strategy and the insight into the business priorities has provided insight into how each building on the campus will be used in the short, medium and long term. Based on this information an asset plan will be built for each building looking at the level of investment needed in the time periods of short, medium and long.

The base structure for the asset plans is developed and these will feed into a single asset strategy, the structure of which is also in an agreed form. It is anticipated that this will take 18 months to complete and will then be the main source of information to inform the annual review of the capital plan and all budget discussions.

6H FUNDING AND COMMERCIAL OPPORTUNITIES

The development will be funded from existing reserves, fundraising, disposals and borrowing, short and longer term. To support this, it will be necessary to grow net income and operate more efficiently with resources being more focused and targeted.

Commercial opportunities will be one source of income growth, essential to underpin the affordability of the Strategy. With new borrowing costs it will be essential that there is a regular income to support this. Income growth from core activities of teaching and research will be essential. In addition, there is an opportunity to consider growth in income from commercial opportunities. At present commercial opportunities focus on spin out business from research. A strategy will be developed to investigate 1) commercial opportunities by growing service provision e.g. catering, retail, conferences; 2) income generated from property development where the University has medium term spare capacity.

6I ENGAGEMENT AND COMMUNICATION

An essential component of the development of the Estate strategy has been a commitment to extensive engagement with the current University community, alumni, and West End community and industry and sector partners. This has been invaluable in shaping the strategy. It is essential that this approach continues and a detailed plan will be developed and engagement, which allows the University to hear diverse views, will be central to the delivery plan.
The acquisition of the Western Infirmary site has provided an opportunity for the University to reshape the Gilmorehill campus and create a true legacy for the University and the West End. The start of the reshaping of the University estate has come at a time when student numbers are growing, student experience improving as demonstrated by the NSS league tables and the research order book has never been so high. With all this growth and development comes challenges and the current campus is under severe pressure for suitable space with some staff being re located to offices off campus. It is therefore essential that the University addresses the pressures on the estate. The estates strategy provides a framework by which the campus can be redeveloped and space pressures addressed in a structured way rather than piecemeal. This way the maximum benefits can be delivered.

The estate strategy has been developed over an 18 months period. It is aligned with the current University Strategic Plan and has been shaped through engagement with staff student’s alumni and the West End community. This has resulted in the development of proposal that reflects both the strategic ambition of the University and the desires of those who use the campus.

The next stage in development of the strategy is to finalise the phasing of projects, this can only be done in conjunction with the review of the University Strategy. At the sametime the masterplan and detailed infrastructure planning can proceed and the proposals for the Teaching and Learning Hub developed.
OVERVIEW

Capital expenditure is increasing to record totals across the HE sector. In 2013-14, capital expenditure across English universities will hit a high of £3,861m – a 46% increase on 2012-13. This paper examines Russell Group (RG) institutions’ recent and upcoming capital investments in their estate, and seeks to highlight emerging trends in their areas of focus.

The examples identified in this paper have been drawn from a variety of publicly accessible online sources including the universities’ Estates division webpages, alumni fundraising information, annual reports, financial statements and news archives. While clear trends can be identified from these limited sources, it should not be assumed that this report represents a complete picture of Russell Group institutions’ estates investments.

EXECUTIVE SUMMARY

There are over a dozen trends and common areas of estates investment for RG institutions, which can be further categorised into 4 top level domains. These are summarised in the table below (predominant trends are italicised):

<table>
<thead>
<tr>
<th>Research infrastructure</th>
<th>Bioscience / biomedical facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Engineering facilities</td>
</tr>
<tr>
<td></td>
<td>Purpose-built research institutes / facilities</td>
</tr>
<tr>
<td></td>
<td>Interdisciplinary research space</td>
</tr>
<tr>
<td>Teaching infrastructure</td>
<td>Business / Management Schools</td>
</tr>
<tr>
<td></td>
<td>Library facilities</td>
</tr>
<tr>
<td></td>
<td>Generic undergraduate teaching space</td>
</tr>
<tr>
<td></td>
<td>Generic PGT teaching / study space</td>
</tr>
<tr>
<td>Enhancing the student experience</td>
<td>Accommodation</td>
</tr>
<tr>
<td></td>
<td>Sports facilities</td>
</tr>
<tr>
<td></td>
<td>Student unions / Student Services ‘Hub’</td>
</tr>
</tbody>
</table>

Further discussion of these trends and key examples from across the Russell Group are given in the following sections.

RESEARCH INFRASTRUCTURE

BIOSCIENCE / BIOMEDICAL FACILITIES

*Key example: Life Sciences Building – Bristol*¹

By far the biggest trend in RG institutions’ estates investments is large spends on new purpose-built facilities for bioscience and biomedical research. There is clear evidence of at least 75% of the RG having recently built or intending to build at least one major dedicated facility, with larger universities building multiple units. While many of these facilities are smaller research-only units, the majority also include a teaching provision.

The prevalence of biomedical facilities is unsurprising given the high value of research awards and the necessity of specialist laboratories to undertake cutting edge research in this area. It is clear from these developments that bioscience will remain a highly competitive environment for securing grants over the coming strategic period and that world-class facilities may not provide the competitive edge they once did.

ENGINEERING FACILITIES

*Key example: Engineering and Science Graduate Centre – Nottingham*²

Similarly, there have been a number of investments in Engineering facilities where universities have existing strengths in this area. These tend towards substantial investments of £50m+: for example, the University of Manchester is building an Engineering campus to collocate its four disciplines at a cost of £200m.

Collocation of disciplines is a key theme of the Engineering builds; for example, Imperial is spending £50m to relocate Aeronautics into its Mechanical Engineering building. While research is the clear focus of these developments in many cases, most of the facilities in the pipeline also include a sizeable teaching facility and study space.

The scale of investment in Engineering is unsurprising given the heavily specialised facilities required. The focus on collocation of disciplines hints at the increased importance that will be placed upon interdisciplinary engineering research capacity over the coming strategic period.

¹ [http://www.bristol.ac.uk/biology/newbuilding/](http://www.bristol.ac.uk/biology/newbuilding/)
² [http://www.nottingham.ac.uk/graduateschool/graduatecentres/engineeringandscience/index.aspx](http://www.nottingham.ac.uk/graduateschool/graduatecentres/engineeringandscience/index.aspx)
PURPOSE- BUILT RESEARCH INSTITUTES

Key example: International Institute for Nanocomposite Manufacturing – Warwick

While the development of specialist facilities for research clusters is not a notable trend in itself, it is clear that a significant amount of capital spend is being used to construct such facilities: everything from new builds for Fundamental Physics (Durham) to Big Data (Imperial).

The Warwick facility noted above is an interesting example because it has been specifically designed with future expansion in mind: the entire facility is based around standard Portakabin modules.

INTERDISCIPLINARY RESEARCH SPACE

Key example: Scientific Research Facility - Liverpool

There is clear evidence that estates investments are starting to reflect the sector’s aspirations for interdisciplinary research. In general, new facilities explicitly marked for interdisciplinary research are almost all focused around clusters analogous to our College groupings, e.g. facilities to bring together different areas of Engineering or Science.

Liverpool’s recent investments in interdisciplinary research are particularly interesting as the facilities appear to have been built with fairly generic aims in mind; there is one new facility for ‘science’ and a second for ‘physical science’, but the buildings have been developed to be flexible and responsive to future need within these disciplinary parameters. This line of development has also been pursued at Manchester; their AV Hill Building was intended for high level research, but the project was completed with a shell top floor to allow for rapid adaption in the future.

In redeveloping our estate we should consider the potential to build future research spaces with expansion in mind in order to facilitate agile responses to demand, particularly interdisciplinary / collaborative needs.

TEACHING INFRASTRUCTURE

BUSINESS / MANAGEMENT SCHOOLS

Key example: Business School - Manchester

Around half of all RG institutions have a recent or coming Business School related development. Tellingly, almost all of these projects are intended to increase the available space for their Business School, suggesting similar issues with rapid business provision growth on their campus.

Manchester’s £51m Business School project is particularly notable for its ambition; the new site will not only create new space for the School, but also expand their provision with an Executive Education Centre, facilitated by an accompanying hotel development at the site.

LIBRARY FACILITIES

Key example: New University Library - Birmingham

Similarly, half of the RG institutions have a recent or upcoming development to upgrade their library facilities. In many cases these refurbishments are being carried out to increase the amount of study space as this is a KPI used in the formulation of league tables – Leeds in particular cites this as a key driver behind their 5,550 sqm new build.

Birmingham offers an interesting example of this trend as they have opted for an entirely new build rather than a refurbishment; at least part of the reason behind this appears to be a focus on building a space suitable for the changing purpose of libraries as the sector shifts from print-based repositories to digital study hubs. In addition, the new library is also an example of the thematic trend towards opening up universities to the wider community – it will include a ‘cultural gateway’ to showcase its cultural assets to the public.

GENERIC UNDERGRADUATE TEACHING SPACE

Key example: Teaching Building – York

While the majority of capital investment in teaching space continues to be for specific disciplinary spaces (e.g. physics teaching labs) there is evidence that the Russell Group is beginning to explore large generic undergraduate teaching spaces as well. King’s, Liverpool, Manchester, Warwick and York have all committed to plans to build substantial generic teaching buildings, including lecture theatres, seminar rooms, workshops and breakout spaces.

One of the key advantages of a generic space is the potential for a high rate of space utilisation, particularly with regards to large scale lecture theatres: this ensures a maximum return on investment. We may wish to consider whether a large scale generic teaching building is a good use of the space afforded to us by the Western site acquisition.

GENERIC PGT TEACHING / STUDY SPACE

Key example: Graduate Centre - Queen Mary, University of London

Similarly, a number of RG institutions are developing generic teaching and study spaces for the postgraduate market. The QMUL development is the most ambitious of these in the pipeline – the new Graduate Centre will provide 24 hour access to PG students and will include a 200 seat lecture theatre, seminar rooms, a student enterprise hub and a ground floor café. The new build will create 7,700 sq m of academic and teaching space.

3 http://www2.warwick.ac.uk/fac/scl/wmg/about/capitalprojects/inmm
4 https://news.liv.ac.uk/2011/05/23/university-to-invest-in-research-and-student-experience
5 http://www.estates.manchester.ac.uk/services/capitalprojectsunit/futureprojects/mba/
6 http://www.birmingham.ac.uk/alumni/giving/circlesofinfluence/libraryNew.aspx
While it is questionable whether the needs of undergraduates and PGT students are as different as these developments often imply, it is evident even from our experiences that dedicated PG facilities are considered welcome and desirable by PG students (e.g. level 4 of the library). Investment in further dedicated estate for PG students may well be necessary to support the achievement of ambitious PG growth targets across the University.

ENHANCING THE STUDENT EXPERIENCE

ACCOMMODATION

Key example: Talybont Gate - Cardiff

Building student accommodation capacity remains a key priority for universities against a backdrop of continued growth across the sector; at least half of the Russell Group have recently built or are building new accommodation. There is a noticeable shift towards building higher quality accommodation, offering larger rooms and en-suite facilities; this is likely due to the desirability of this higher specification accommodation amongst the desirable international and postgraduate markets.

Indeed, some universities are going even further to cater to internationals and postgraduates – Queens University Belfast’s Willow Walk Elms Village (opened Sept 2012) was created with the stated purpose of providing large family apartment style accommodation suitable for these key student groups.

While private accommodation providers such as Unite are serving the city well, we should not underestimate the ability of premium student accommodation to attract international and postgraduate students – particularly if we are able to grow our capacity to more closely align with demand.

SPORTS FACILITIES

Key example: Sports Centre - Birmingham

At least a third of the Russell Group have invested or are investing in upgraded or new sports facilities. Much as with accommodation, it is likely that investments in sports facilities are typically done with an eye to driving international and postgraduate student growth; we know that at Glasgow for example around 70-80% of our international students join the University gym.

While Glasgow’s sports facilities are currently being extended, it is already expected that further capacity will be required. New facilities such as Birmingham’s have the potential to develop good practice in sports facility development that we can learn from should we proceed with further expansion of sport on campus.

STUDENT UNIONS / STUDENT SERVICES ‘HUB’

Key example: Saw Swee Hock Student Centre - LSE

A quarter of the Russell Group have recently invested or are investing in improvements to their student union facilities. Almost all of these have taken the opportunity to rationalise the student experience provision by combining the student union space with a student services ‘Hub’ and dining hall in the style of Glasgow’s Fraser Building.

Perhaps the most interesting aspect of these developments is the clear shift in purpose for the union spaces from purely social to an increasing emphasis on social learning; Newcastle’s recent 2011 refurbishment for example introduced new computer clusters and study pods.

While Glasgow’s unique student body setup is unlikely to result in further consolidation of student services, there are some lessons to be learnt for any future investments in the Queen Margaret and Glasgow University Unions; much as with accommodation and sports facilities, there is increasing emphasis on including more international and postgraduate student-friendly facilities in refurbishment such as cafés and attached sports facilities, and de-emphasising the club culture of the past. We should ensure that any future investments in the estate of our unions are similarly made with the needs of international students in mind.

STRATEGIC DEVELOPMENT OF THE ESTATE

EFFICIENCY AND ENVIRONMENTALLY FRIENDLY CONSTRUCTION

Key example: Centre for Sustainable Chemistry - Nottingham

Alongside trends in investment areas, there are a number of thematic trends running through recent Russell Group estates investments. By far the most universal is an increasing focus on the environmental impact of estates projects, with briefs keen to emphasise the use of sustainable materials and ambitions and ambitions to obtain ‘excellent’ or ‘outstanding’ BREEAM accreditation.12

The University of Nottingham’s Centre for Sustainable Chemistry is a particularly ambitious example of this trend towards sustainable development – once complete, it will be the first ever carbon neutral laboratory in the UK.

The Campus Development Framework’s consultation process identified the green agenda as one of 7 key themes that will inform future developments on the Western Site. It may be useful to consider what best practice can be identified within the sector in the coming year.

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8 http://www.cardiff.ac.uk/for/prospective/accommodation/undergraduates/residences/talybont-gate.html
9 http://www.birmingham.ac.uk/alumni/giving/sportscentre.aspx
10 http://www.lse.ac.uk/intranet/students/campusLondonLife/sawSweeHockStudentCentre/Home.aspx
11 http://www.nottingham.ac.uk/estates/developments/csc.aspx
12 http://www.breeam.org/
COLLOCATION

**Key example: 'The Durham Project' - Durham**

Much as at Glasgow, RG institutions are seeking to collocate complementary disciplines and services wherever possible to open up efficiencies and interdisciplinary collaboration. While the majority of collocation is focused on the benefits for research, there are also a number of examples where this being done with support functions as well.

The Durham Project is an interesting example of collocation as the key aim of the project is to bring together activities in a more coherent fashion; The Palantine Centre will bring together all of the student facing services for example, and the Mountjoy Building will bring together the Finance and Estates divisions in a single location.

We should consider the opportunities that the Western site can provide to collocate complementary back of house functions in the future – particularly in locations where there is increasing pressure on space such as the Gilbert Scott Building.

COMMUNITY ENGAGEMENT / OPENING UP CAMPUS

**Key example: New University Library / Barber Institute of Fine Arts / Lapworth Museum of Geology - Birmingham**

Another key theme underlying Glasgow’s Campus Development Framework is the idea of local engagement, opening up our spaces to the public and becoming a key social space within the community through greater connectivity with Kelvingrove Park. There is evidence of similar moves by our Russell Group peers, particularly with regards to opening up collections of cultural significance.

Nearly all of Birmingham’s current fundraising projects are heavily focused on the idea of community engagement: the New University Library will include a ‘cultural gateway’ to showcase cultural assets; the old library will be knocked down to create a ‘green heart’ of trees running through the campus; and both the Barber Institute of Fine Arts and the Lapworth Museum of Geology are being redevelopment with a particular focus on visitor facilities such as cafés and learning technologies.

The principles underlying open campuses and community engagement will be particularly important to consider as we seek to redevelop the Western site – particularly given our existing strength in this area through the Hunterian and the upcoming opportunity to further capitalise on this through the Kelvin Hall redevelopment.

CONCLUSIONS

- Investing in world class facilities is increasingly about running to stand still – the scale of investment across the board by our Russell Group peers makes the realisation of any significant advantages based upon estate alone unlikely.
- We should consider the potential to future-proof any new facilities by building spaces to generic specifications wherever possible and including void space for expansion where budgets allow.
- The expansion of our estate through the Western acquisition will enable us build new facilities without the immediate pressures inherent in redeveloping old sites. We should capitalise on this advantage and think more strategically about different ways of enabling research and teaching in future, e.g. generic configurable builds, flexible teaching space etc.
- Other Russell Group institutions have made substantial investments in upgrading and augmenting facilities conducive to a quality student experience – particularly in the areas of library space, accommodation, sport and student unions. Maintaining parity with our peers will be essential if we are to continue to sustain growth in the key international and postgraduate markets.
- A number of thematic development focuses are apparent within Russell Group members’ estates investment – efficiency and environmental impact, collocation of services and disciplines, and community access and engagement. We should consider the implications of these thematic concerns for any development on the new Western site.

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13 [https://www.dur.ac.uk/durham.project/](https://www.dur.ac.uk/durham.project/)
14 [http://www.birmingham.ac.uk/alumni/giving/Ourprojects.aspx](http://www.birmingham.ac.uk/alumni/giving/Ourprojects.aspx)
APPENDIX

02.

CAMPUS-BY-CAMPUS

SUMMARY

Gilmorehill Campus - Gilmorehill campus provides 283,000 sq. m or 72% of the total floor area of the Estate. There are 145 buildings which sit in 60 acres of land. The Western Infirmary will increase the size of the campus by nearly 25%. The estimated capacity of these buildings is circa 30,000 people with the library alone attracting 12,000 visitors a day.
**Garscube Campus** - Garscube campus is 4 miles north from the Gilmorehill campus and provides 55,500 sq. m of accommodation over 55 hectares. It is the main site for: the Vet School, including the Small Animal Hospital; the Beatson Institute for Cancer Research; the Virology Research Centre; and other supporting research buildings. In addition, the only catered hall of residence is provided at the campus and this is also the location for some of the University’s sports fields. There has been major investment in the Garscube campus between 2008 and 2014. Scottish Enterprise own the adjacent West of Scotland Science Park and the University is committed to working in partnership with Scottish Enterprise to develop a master-plan for the whole area.
Dumfries – the School of Interdisciplinary Studies (part of the College of Social Sciences) occupies 2,253 sqm of leased accommodation on the Dumfries campus. There are 263 students and 36 staff at Dumfries.
Greater Glasgow and Clyde Health Board Estate – the partnership with the Greater Glasgow Health Board is strategically important and critical for medical teaching and research. The University currently occupies 4,400 sqm at the Glasgow Royal Infirmary, 3,600 sqm at the Dental School, and 1,378 sqm at Gartnavel. Historically, it has occupied space within the Western Infirmary and Yorkhill Hospitals, but these locations will close in 2015 with the move to 2,500 sqm of teaching and learning accommodation at the new South Glasgow Hospital. In addition, by 2016, a new clinical research and imaging facility will open at South Glasgow. There has been major investment in the hospital estate, by the NHS and the University, between 2010 and 2016.

Rowardennan Field Station - Between 2010 and 2014 major investment in the Rowardennan field study centre has seen the creation of a new research facility and associated student accommodation.
**Cochno Farm** - Cochno farm covers 268 hectares and provides research and teaching facilities for the School of Veterinary Medicine. The accommodation is fit for purpose for the current activities. Cochno House, which forms part of the estate, is currently unfit for occupation.
Scottish Universities Environmental Research Centre -
Finally, the University occupies 2,900 sqm of accommodation at
SUERC, located at the Scottish Enterprise Technology Park in
East Kilbride.
## APPENDIX

### 03.

### LEASEHOLD PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Occupier</th>
<th>Size</th>
<th>Expiry date</th>
<th>Break date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Existing leases</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Herald Building Renfrew Street</td>
<td>MRC Public Health Unit</td>
<td>1,690 sq m</td>
<td>2024</td>
<td>2019</td>
</tr>
<tr>
<td>Innovo Building</td>
<td>Censis Innovation Centre</td>
<td>415 sq m</td>
<td>2024</td>
<td>2019</td>
</tr>
<tr>
<td>George Street</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>West of Scotland Campus Dumfries</td>
<td>School of Interdisciplinary Studies</td>
<td>2,253 sq m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tay House, Charing Cross</td>
<td>University Services</td>
<td>2,000 sq m</td>
<td>2014</td>
<td>2019</td>
</tr>
<tr>
<td>Kelvin Hall</td>
<td>Hunterian Museum and College of Arts in partnership with Glasgow Life and National Library of Scotland</td>
<td>3,000 sq m</td>
<td>2044</td>
<td></td>
</tr>
<tr>
<td><strong>Leases under negotiation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olympia Building, Clyde Gateway</td>
<td>College of Social Sciences in partnership with the Glasgow Centre for Population Health</td>
<td>1,400 sq m</td>
<td>2025</td>
<td>2020</td>
</tr>
</tbody>
</table>
APPENDIX

04.

PLAN OF LISTED BUILDINGS
## APPENDIX 05.

### SPACE STANDARDS

**Russell Group, 2012/13**

<table>
<thead>
<tr>
<th>INSTITUTION</th>
<th>NIA per Student</th>
<th>NIA per Staff</th>
<th>Teaching Utilisation</th>
<th>Income £/sq m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Queen’s University Belfast</td>
<td>11.41</td>
<td>62.37</td>
<td>0.272</td>
<td>1,357.16</td>
</tr>
<tr>
<td>The University of Birmingham</td>
<td>11.10</td>
<td>46.29</td>
<td>0.254</td>
<td>1,637.92</td>
</tr>
<tr>
<td>The University of Bristol</td>
<td>13.88</td>
<td>47.31</td>
<td>0.239</td>
<td>1,801.67</td>
</tr>
<tr>
<td>The University of Cambridge</td>
<td>22.21</td>
<td>44.70</td>
<td>0.209</td>
<td>3,588.91</td>
</tr>
<tr>
<td>Cardiff University</td>
<td>9.92</td>
<td>42.48</td>
<td>0.424</td>
<td>1,778.23</td>
</tr>
<tr>
<td>University of Durham</td>
<td>8.79</td>
<td>42.79</td>
<td>0.249</td>
<td>1,885.91</td>
</tr>
<tr>
<td>The University of Edinburgh</td>
<td>15.66</td>
<td>51.58</td>
<td>0.420</td>
<td>1,625.24</td>
</tr>
<tr>
<td>The University of Exeter</td>
<td>7.60</td>
<td>38.46</td>
<td>0.263</td>
<td>2,029.37</td>
</tr>
<tr>
<td>The University of Glasgow</td>
<td>11.00</td>
<td>50.97</td>
<td>0.250</td>
<td>1,850.37</td>
</tr>
<tr>
<td>Imperial College</td>
<td>18.51</td>
<td>39.53</td>
<td></td>
<td>2,747.13</td>
</tr>
<tr>
<td>King’s College London</td>
<td>9.03</td>
<td>32.76</td>
<td>0.152</td>
<td>2,884.48</td>
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<td>The University of Leeds</td>
<td>10.51</td>
<td>45.63</td>
<td>0.373</td>
<td>1,798.19</td>
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<td>The University of Liverpool</td>
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<td>40.27</td>
<td>0.205</td>
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<tr>
<td>LSE</td>
<td>7.61</td>
<td>30.70</td>
<td>0.387</td>
<td>2,967.88</td>
</tr>
<tr>
<td>The University of Manchester</td>
<td>11.76</td>
<td>43.50</td>
<td>0.211</td>
<td>1,894.80</td>
</tr>
<tr>
<td>The University of Newcastle-</td>
<td>11.28</td>
<td>40.61</td>
<td>0.298</td>
<td>1,781.33</td>
</tr>
<tr>
<td>The University of Nottingham</td>
<td>11.14</td>
<td>52.36</td>
<td>0.426</td>
<td>1,587.82</td>
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<tr>
<td>The University of Oxford</td>
<td>19.24</td>
<td>34.08</td>
<td></td>
<td>2,768.55</td>
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<tr>
<td>Queen Mary University</td>
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<td>31.79</td>
<td>0.449</td>
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<td>The University of Sheffield</td>
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<td>48.27</td>
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<td>The University of Southampton</td>
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<td>University College London</td>
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<td>29.24</td>
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<td>3,379.08</td>
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<tr>
<td>The University of Warwick</td>
<td>12.92</td>
<td>52.78</td>
<td>0.259</td>
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<tr>
<td>The University of York</td>
<td>9.66</td>
<td>43.55</td>
<td></td>
<td>1,815.15</td>
</tr>
</tbody>
</table>
## NET INTERNAL SPACE PER STUDENT

In considering the net internal area per student we take cognisance of the total figure and can then look at detail across Colleges and student type.

### TEACHING & RESEARCH AREAS PER STUDENT FTE BY COLLEGE & SCHOOL

<table>
<thead>
<tr>
<th>College</th>
<th>School/Organisational Unit</th>
<th>UG FTEs</th>
<th>PGT FTEs</th>
<th>PGR FTEs</th>
<th>Total FTEs</th>
<th>Total Student Teaching &amp; Research Areas (excl. Staff &amp; Social Areas) sqm</th>
<th>Actual Area Used per Student FTE (Average) sqm</th>
<th>Recommended Reference Area (Norm) per Student FTE (Average) sqm</th>
</tr>
</thead>
<tbody>
<tr>
<td>College of Arts</td>
<td>School of Critical Studies</td>
<td>1,018.70</td>
<td>64.29</td>
<td>106.21</td>
<td>1,189.20</td>
<td>567.04</td>
<td>0.48</td>
<td>2.41</td>
</tr>
<tr>
<td></td>
<td>School of Culture &amp; Creative Arts</td>
<td>584.64</td>
<td>141.81</td>
<td>68.08</td>
<td>794.53</td>
<td>2,058.20</td>
<td>2.29</td>
<td>3.68</td>
</tr>
<tr>
<td></td>
<td>School of Humanities</td>
<td>1,174.92</td>
<td>98.78</td>
<td>65.36</td>
<td>1,339.08</td>
<td>1,594.01</td>
<td>1.19</td>
<td>3.25</td>
</tr>
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<td></td>
<td>School of Modern Languages</td>
<td>767.65</td>
<td>21.15</td>
<td>21.43</td>
<td>810.25</td>
<td>653.08</td>
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<td></td>
<td></td>
<td>3,545.95</td>
<td>326.01</td>
<td>261.10</td>
<td>4,133.04</td>
<td>4,872.24</td>
<td>1.18</td>
<td>3.03</td>
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<tr>
<td>College of MVLS</td>
<td>School of Life Sciences</td>
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<td>85.29</td>
<td>18.45</td>
<td>1,855.40</td>
<td>4,963.74</td>
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<td></td>
<td>School of Medicine</td>
<td>1,321.41</td>
<td>90.38</td>
<td>50.15</td>
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<td>3,412.59</td>
<td>2.33</td>
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<tr>
<td></td>
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<td>444.00</td>
<td>10.82</td>
<td>18.25</td>
<td>473.07</td>
<td>2,786.88</td>
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<tr>
<td></td>
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<td>14.54</td>
<td>15.43</td>
<td>715.53</td>
<td>6,820.52</td>
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<td>16.60</td>
</tr>
<tr>
<td></td>
<td>Research Institutes</td>
<td>3.22</td>
<td>157.45</td>
<td>444.42</td>
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<td>18,129.04</td>
<td>29.96</td>
<td>8.35</td>
</tr>
<tr>
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<td></td>
<td>4,205.84</td>
<td>358.48</td>
<td>547.60</td>
<td>5,111.02</td>
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<td>7.07</td>
<td>11.83</td>
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<td>16.82</td>
<td>82.25</td>
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<td>4,395.95</td>
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<td>2,775.74</td>
<td>4.35</td>
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<tr>
<td></td>
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<td>90.30</td>
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<td>484.59</td>
<td>2,238.63</td>
<td>4.63</td>
<td>7.08</td>
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<tr>
<td></td>
<td>School of Engineering</td>
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<td>114.55</td>
<td>147.37</td>
<td>1,551.04</td>
<td>10,807.91</td>
<td>6.97</td>
<td>9.36</td>
</tr>
<tr>
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<td>School of Maths &amp; Stats</td>
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<td>16.55</td>
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<td>730.46</td>
<td>1,592.11</td>
<td>2.18</td>
<td>7.84</td>
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<tr>
<td></td>
<td></td>
<td>4,631.19</td>
<td>378.62</td>
<td>497.23</td>
<td>5,487.04</td>
<td>29,179.95</td>
<td>5.32</td>
<td>8.16</td>
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<tr>
<td>College of Social Sciences</td>
<td>Business School</td>
<td>1,477.81</td>
<td>1,661.77</td>
<td>96.37</td>
<td>3,235.95</td>
<td>1,496.17</td>
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<td>525.23</td>
<td>54.22</td>
<td>2,214.15</td>
<td>1,062.79</td>
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<td>4.04</td>
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<tr>
<td></td>
<td>School of Law</td>
<td>918.30</td>
<td>174.56</td>
<td>53.85</td>
<td>1,146.83</td>
<td>418.19</td>
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<td>School of Social &amp; Political Scis.</td>
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<td>312.04</td>
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<td>1,573.75</td>
<td>1,422.81</td>
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<td>2.44</td>
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<tr>
<td></td>
<td></td>
<td>5,190.25</td>
<td>2,673.72</td>
<td>306.71</td>
<td>8,170.68</td>
<td>4,900.27</td>
<td>0.60</td>
<td>2.88</td>
</tr>
<tr>
<td></td>
<td>Sub-total</td>
<td>17,553.21</td>
<td>3,736.83</td>
<td>21,290.04</td>
<td>32,961.78</td>
<td>75,064.87</td>
<td>3.28</td>
<td>6.43</td>
</tr>
<tr>
<td></td>
<td>Centrally Timetabled Teaching (excl. Halls)</td>
<td>17,553.21</td>
<td>3,736.83</td>
<td>21,290.04</td>
<td>32,961.78</td>
<td>88,651.05</td>
<td>3.02</td>
<td>6.43</td>
</tr>
</tbody>
</table>

A summary of the findings on from this analysis is that:

01. There is an overall shortage of space at the University. With projected growth in the PGR and PGT areas this will be exacerbated. Based on predicted growth in the business plan the total area required for students by 2017 will be 15,400 sqm.

02. There is a noticeable difference in space provision across the Colleges and Research Institutes, which will impact the student experience.
Approved space standards set out the following:

<table>
<thead>
<tr>
<th>Staff type</th>
<th>Space standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior Management Group/ Directors</td>
<td>15m²</td>
</tr>
<tr>
<td>Heads of Schools/College Secretaries/ Deputy Directors / Assistant Heads</td>
<td>10m²</td>
</tr>
<tr>
<td>Research Staff</td>
<td>6.75m²</td>
</tr>
<tr>
<td>Professional and Administrative Staff</td>
<td>6-10m²</td>
</tr>
</tbody>
</table>

Applying this across the Colleges provides the following picture of where there is under-provision or over-provision of space. Where there is over-provision, this is a direct reflection of the current characteristics of the Estate, where room sizes in properties, not originally designed for teaching or office use, are adrift from the standard space allocation.

### SPACE REFERENCE AREA COMPARISON MODEL BY COLLEGE & SCHOOL

<table>
<thead>
<tr>
<th>College</th>
<th>School/Organisational Unit</th>
<th>UG</th>
<th>PGT</th>
<th>PGR</th>
<th>Total Ref. Area</th>
<th>Exist. Space</th>
<th>Difference Incl. %</th>
<th>Over/Under</th>
</tr>
</thead>
<tbody>
<tr>
<td>College of Arts</td>
<td></td>
<td>3,545.93</td>
<td>326.01</td>
<td>261.10</td>
<td>4,133.04</td>
<td>10,716.46</td>
<td>2,304.07 (22)</td>
<td></td>
</tr>
<tr>
<td>School of Life Sciences</td>
<td></td>
<td>1,751.66</td>
<td>85.29</td>
<td>18.45</td>
<td>1,855.40</td>
<td>15,119.57</td>
<td>(6,326.79) (42)</td>
<td></td>
</tr>
<tr>
<td>School of Medicine</td>
<td></td>
<td>1,321.41</td>
<td>90.38</td>
<td>50.15</td>
<td>1,461.94</td>
<td>8,121.90</td>
<td>1,353.03 (17)</td>
<td></td>
</tr>
<tr>
<td>School of Dentistry</td>
<td></td>
<td>444.00</td>
<td>10.82</td>
<td>18.25</td>
<td>473.07</td>
<td>5,080.60</td>
<td>2,547.26 (50)</td>
<td></td>
</tr>
<tr>
<td>School of Vet Medicine</td>
<td></td>
<td>685.56</td>
<td>14.54</td>
<td>544.42</td>
<td>605.09</td>
<td>27,292.47</td>
<td>2,413.70 (9)</td>
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</tr>
<tr>
<td>Research Institutes</td>
<td></td>
<td>3,22</td>
<td>157.45</td>
<td>444.42</td>
<td>605.09</td>
<td>27,292.47</td>
<td>2,413.70 (9)</td>
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</tr>
<tr>
<td>College of Science &amp; Engineering</td>
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<td>85.78</td>
<td>256.53</td>
<td>1,934.41</td>
<td>20,479.60</td>
<td>2,348.61 (11)</td>
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</tr>
<tr>
<td>School of Computing Science</td>
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<td>340.01</td>
<td>95.79</td>
<td>48.79</td>
<td>484.59</td>
<td>3,625.31</td>
<td>261.04 (7)</td>
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</tr>
<tr>
<td>School of Engineering</td>
<td></td>
<td>739.49</td>
<td>16.55</td>
<td>36.50</td>
<td>786.54</td>
<td>2,375.51</td>
<td>546.51 (28)</td>
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</tr>
<tr>
<td>School of Physic &amp; Mathematics</td>
<td></td>
<td>606.42</td>
<td>60.00</td>
<td>94.40</td>
<td>760.82</td>
<td>2,080.56</td>
<td>254.92 (9)</td>
<td></td>
</tr>
<tr>
<td>College of Social Sciences</td>
<td></td>
<td>4,611.19</td>
<td>316.62</td>
<td>497.23</td>
<td>5,404.71</td>
<td>40,171.41</td>
<td>2,413.70 (9)</td>
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<tr>
<td>College of Medicine</td>
<td></td>
<td>1,477.81</td>
<td>1,661.77</td>
<td>96.37</td>
<td>3,235.95</td>
<td>5,699.80</td>
<td>1,255.83 (22)</td>
<td></td>
</tr>
<tr>
<td>School of Education</td>
<td></td>
<td>1,634.70</td>
<td>525.23</td>
<td>54.22</td>
<td>2,214.15</td>
<td>8,971.87</td>
<td>6,919.45 (23)</td>
<td></td>
</tr>
<tr>
<td>School of Law</td>
<td></td>
<td>918.30</td>
<td>174.68</td>
<td>53.85</td>
<td>1,146.83</td>
<td>2,251.65</td>
<td>85.07 (4)</td>
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</tr>
<tr>
<td>School of Social &amp; Political Sciences</td>
<td></td>
<td>1,159.44</td>
<td>312.04</td>
<td>102.27</td>
<td>1,573.75</td>
<td>3,515.62</td>
<td>585.58 (17)</td>
<td></td>
</tr>
<tr>
<td>Business School</td>
<td></td>
<td>5,190.25</td>
<td>2,673.72</td>
<td>306.71</td>
<td>8,170.68</td>
<td>20,438.93</td>
<td>17,631.18 (14)</td>
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</tr>
<tr>
<td>School of Economics</td>
<td></td>
<td>1,477.81</td>
<td>1,661.77</td>
<td>96.37</td>
<td>3,235.95</td>
<td>5,699.80</td>
<td>1,255.83 (22)</td>
<td></td>
</tr>
<tr>
<td>School of Management</td>
<td></td>
<td>1,634.70</td>
<td>525.23</td>
<td>54.22</td>
<td>2,214.15</td>
<td>8,971.87</td>
<td>6,919.45 (23)</td>
<td></td>
</tr>
<tr>
<td>School of Law</td>
<td></td>
<td>918.30</td>
<td>174.68</td>
<td>53.85</td>
<td>1,146.83</td>
<td>2,251.65</td>
<td>85.07 (4)</td>
<td></td>
</tr>
<tr>
<td>School of Social &amp; Political Sciences</td>
<td></td>
<td>1,159.44</td>
<td>312.04</td>
<td>102.27</td>
<td>1,573.75</td>
<td>3,515.62</td>
<td>585.58 (17)</td>
<td></td>
</tr>
<tr>
<td>Total Assessed Colleges/Organisational Units</td>
<td></td>
<td>17,553.21</td>
<td>3,736.83</td>
<td>1,611.74</td>
<td>22,901.78</td>
<td>140,141.91</td>
<td>143,039.97 (14)</td>
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<tr>
<td>Sub-total</td>
<td></td>
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<td>3,736.83</td>
<td>1,611.74</td>
<td>22,901.78</td>
<td>140,141.91</td>
<td>143,039.97 (14)</td>
<td></td>
</tr>
<tr>
<td>Lecture Theatres (University-wide centrally &amp; locally managed)</td>
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<td>17,553.21</td>
<td>3,736.83</td>
<td>1,611.74</td>
<td>22,901.78</td>
<td>140,141.91</td>
<td>143,039.97 (14)</td>
<td></td>
</tr>
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<td>Academic Total</td>
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<td>3,736.83</td>
<td>1,611.74</td>
<td>22,901.78</td>
<td>140,141.91</td>
<td>143,039.97 (14)</td>
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</tr>
<tr>
<td>Central Administration (University Services)</td>
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<td>39,765.52</td>
<td>39,765.52</td>
<td>107,222.22</td>
<td>90,141.91</td>
<td>94,401.91 (4)</td>
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<tr>
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<td>39,765.52</td>
<td>39,765.52</td>
<td>107,222.22</td>
<td>90,141.91</td>
<td>94,401.91 (4)</td>
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<td>293,334.31</td>
<td>108,251.35</td>
<td>620,971.35</td>
<td>516,581.91</td>
<td>516,581.91</td>
<td>(11)</td>
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</tbody>
</table>

### UNIVERSITY OF GLASGOW ESTATE STRATEGY 2014 - 2024
SPACE PRINCIPLES – DEVELOPING GREAT SPACE

The space principle document defines great space in terms of its functional, social, aesthetic and environmental characteristics. These can be overlaid onto the four principle space types: research space, teaching and learning space, staff work space, and amenity or social space.

<table>
<thead>
<tr>
<th>Space</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functional</td>
<td>Accessible, flexible and easy to use.</td>
</tr>
<tr>
<td></td>
<td>Allows users to work efficiently and effectively.</td>
</tr>
<tr>
<td></td>
<td>Minimizes barriers to interaction.</td>
</tr>
<tr>
<td></td>
<td>Recognizes that one size does not fit all, so provides a combination of different settings to meet different needs.</td>
</tr>
<tr>
<td>Social</td>
<td>Builds community.</td>
</tr>
<tr>
<td></td>
<td>Welcoming, comfortable and relaxing.</td>
</tr>
<tr>
<td></td>
<td>Promotes interaction and encourages laughter.</td>
</tr>
<tr>
<td></td>
<td>Facilitates both planned and serendipitous meetings.</td>
</tr>
<tr>
<td></td>
<td>Facilities communication and networking.</td>
</tr>
<tr>
<td></td>
<td>Encourages and welcomes visitors.</td>
</tr>
<tr>
<td>Aesthetic</td>
<td>Inspires and motivates.</td>
</tr>
<tr>
<td></td>
<td>Is light and airy, spacious and uncluttered.</td>
</tr>
<tr>
<td></td>
<td>Is inviting, attractive, comfortable.</td>
</tr>
<tr>
<td></td>
<td>People want to be there.</td>
</tr>
<tr>
<td>Environmental</td>
<td>Is conducive to health, well-being and productivity.</td>
</tr>
<tr>
<td></td>
<td>Promotes sustainability through adaptability, flexibility, efficient energy use and waste reduction.</td>
</tr>
<tr>
<td></td>
<td>Is well connected to the outside by views and opportunities to spill outdoors.</td>
</tr>
</tbody>
</table>
For the four space types this would translate into the following specific characteristics for each space type:

<table>
<thead>
<tr>
<th>Space type</th>
<th>Definition</th>
<th>Desired Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research</td>
<td>Spaces that bring individuals and teams together to address big questions in large multi-disciplinary projects over long timescales. Will range from office space to highly specialist laboratory, which must have long term flexibility.</td>
<td>Sufficient infrastructure and resilience including mobile technology.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Visible with opportunity to showcase work.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Opportunities for chance encounters and networking.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co-location of activities which encourage cross-disciplinary interaction.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maximize potential for sharing resources, including extended-hours opening.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Space to accommodate visiting partners and industry.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Space to host regular national and international events to enable greater external collaboration and knowledge-sharing.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Choice in allocated and shared settings across campus.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flexible space allocation models, which enable easy provision for project based space demands which may be for a time-limited period.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The facilities must allow students to have the opportunity to work alongside research-rich environment.</td>
</tr>
<tr>
<td>Teaching and Learning</td>
<td>Spaces that are designed for communication in smaller and larger groups, timetabled and non-timetabled activities, formal and informal learning situations including teaching lab facilities.</td>
<td>Excellent acoustics, natural light, flexible furniture, intuitive a/v, ample power+data, air-quality and temperature.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Offer convenience and choice to students via easily accessible, bookable and drop-in settings for collaborative learning and quiet study.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Support timetabled learning spaces with adjacent settings for lingering and informal learning.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Make timetabled facilities easily available for student use outside of timetabled hours.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Minimize the need to move across all parts of the campus between teaching sessions.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Facilitate students and teachers seamlessly moving from one teaching and learning activity to another by supporting multi-media learning, encouraging user-owned mobile technology, providing self-help and assisted services.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co-locate learning activities with similar space requirements to encourage cross-disciplinary interaction.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maximize opportunities to share resources, provide appropriate levels of support, facilitate extended-hours opening, ensure long-term flexibility.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spaces to support assessment requirements.</td>
</tr>
<tr>
<td>Space type</td>
<td>Definition</td>
<td>Desired Characteristics</td>
</tr>
<tr>
<td>------------------</td>
<td>----------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Staff Workspace</td>
<td>Work space that provides drivers and efficient office accommodation which supports team and individual work. Staff work space is moving from enclosed to open, from predominantly individual settings to a mix of individual and shared settings. The same space principles apply for both academic and administrative staff.</td>
<td>Spaces that respond to the growing emphasis on collaboration, interdisciplinary working and greater flexibility, supported by developments in technology and new working practices that respond to the sustainability agenda. Space that takes ideas from other sectors. Space that responds to diverse user requirements and building types through adopting a range of spatial solutions. Space that supports both individual and collaborative work by ensuring a good balance of individual and group settings, and is suitable for multi-media working, located in quieter and busier environments. Enhance general information/knowledge sharing by creating opportunities for chance encounters and greater informal interaction. Increase general visibility, awareness and connectivity by prioritizing more open environments over individual offices, supported by excellent acoustics. Provide a range of options in addition to staff work space for student: staff interactions, including support/tutorial centres adjacent to staff work space. Provide opportunities to build relationships with external partnerships. Allocate space according to activity rather than status. Conduct annual space reviews to ensure space is being used efficiently.</td>
</tr>
<tr>
<td>Social Space</td>
<td>Mixed use space which has catering and other support facilities including small scale retail and services.</td>
<td>Accessible to all staff, students and visitors. Provides good quality and diverse catering opportunities. Extended opening hours. Mix of bookable and non-bookable. Provides external commercial opportunities. Supports a campus which is open 24/7.</td>
</tr>
</tbody>
</table>
APPENDIX

08.

A SUMMARY OF THE CAMPUS DEVELOPMENT FRAMEWORK

The Framework is set out in 10 elements:

- Vision
- Core components
- Setting and Urban Form
- Landscape and Open Space
- Transport and Movement
- Approach to Historic Assets
- Design Excellence
- Uses and Adaptability
- Infrastructure and Sustainability
- Community Integration

THE VISION

The vision is to recognise, respect and respond to the setting of the campus with the contrasting parkland upper plateau and lower plateau urban setting. In this setting there is a focus on developing a coherent and rich assembly of external spaces defined by distinctive buildings connected at the edges into the fabric of the city. In order to bring the campus together; the vision focuses on establishing clear and memorable civic entrances to the campus with clear axial connections through it. The campus will be enhanced by developing a focused east-to-west pedestrian circulation along University Place and Avenue and a new southern core route linking the southern entrance and the Gilbert Scott south frontage.

URBAN FORM

Careful attention will be devoted to enhancing the approaches to the campus, and the urban views of it and from it. New campus entrances will be clearly defined gateways which will be key orientation and welcome points. Key buildings will be designed to offer attractive, interesting and busy ground floors. The Western Infirmary Site will be developed based on streets and open spaces reflective of the adjoining urban shape, and providing connectivity to the West End community. The massing and scale of new development will allow inspiring buildings at key corners and urban gateways as well as respecting adjacent buildings.

LANDSCAPE & OPEN SPACE

The University is defined by the iconic image of the Gilbert Scott building and tower, and within this building are clearly defined open spaces and landscaped areas, demonstrating the value and importance of quality open space. The Development Framework looks to establish open spaces as key focal points across the campus, including the opportunity for significant new public spaces at the Western site. A network of landscaping and open spaces will be created on campus, each with individual characteristics. These spaces will respond to the hierarchy and relationship with buildings and entrances: they will have a purpose and use, including opportunities for public realm.

TRANSPORT AND MOVEMENT

The campus is in a very accessible location in Glasgow’s West End with a number of walking, cycling, public transport and vehicle routes serving the campus. The Development Framework builds on this, with a desire for there to be travel choices for staff, students and visitors. Increased pedestrianisation of the campus is a priority, and the Development Framework will see a movement hierarchy developed which prioritises pedestrians and cyclists, and creates a campus that is permeable, attractive, welcoming and safe.

INFRASTRUCTURE AND SUSTAINABILITY

The development of a unified campus which integrates the Western Infirmary Site offers a great opportunity to review the existing campus infrastructure and develop a strategy that is sustainable and resilient. To deliver a great student experience and build on the University’s excellent research there must be a robust infrastructure.

HERITAGE USES AND ADAPTABILITY

The University understands the significance of the historic estate, while also recognising that it must be adaptable to future needs. The University’s 2012 Estates Conservation Strategy acts as the guiding document in relation to conservation and change in the historic environment. The Development Framework aligns with this document. Heritage is recognised as a defining feature of the University that must be sustained, while recognising that the historic fabric may be adapted and used in new ways that support the University’s strategic plans. The retention and reuse of the existing buildings on campus will be tested against the delivery of the CDF core vision and principles.

DESIGN EXCELLENCE

A key theme identified in the public consultation was to secure current and future building character and heritage. The Development Framework seeks to achieve the highest level of design quality in built form and open space design, respecting the historic and embracing the contemporary. Innovation, accessibility and inclusivity will all be integrated into the design of the campus and its buildings. Public art will be located in key public open spaces, as part of an area-wide strategy.
COMMUNITY INTEGRATION
The University is a civic university and is integrated into the West End community, but parts of the campus are not accessible or welcoming to the community. Acquisition of the Western Infirmary site provides a unique opportunity for the University to open the campus to the community. The boundaries between the University and local neighbourhoods should be open and welcoming, and physical connections should be improved wherever possible, including the development of a presence on Byres Road. The University is committed to maintaining the active community engagement that developed during the consultation on the Campus Development Framework, and to working in partnership with the local community.
## Appendix

### 09.

**Business Case Summaries**

<p>| Title                  | Proposal Description                                                                                                                                                                                                 | University Ambition                                                                                                                                                                                                 | Associated benefits                                                                                                                                                                                                 |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <strong>HUBS</strong>               |                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                     |
| Teaching and Learning Hub | Has been design to be developed in either one or two phases. Phase 1 on the existing Boyd'Orr car park would provide two new lecture theatres of 500 and 300 seats which can be combined to provide 800 seats plus 1,250 learning spaces. Phase 2 would also provide an additional 400 seat lecture theatre | To protect existing fee income streams by enhancing the student experience, improve competiveness in the market place and support future growth and fee income.                                                                                                           | Improve movement and flow around the campus. Provide venue for consolidated orientation programme, marketable asset in presenting student experience, increase utility and impact of the Boyd'Orr building, creation conference facility, iconic Gateway to campus |
| Research Hub           | Inter-disciplinary space with incubator space and social and engagement space. Themes incorporated in the proposal are synthetic biology, quantum technology, big data, complex chemistry                                                                                  | It will support the ambition of the University thought promoting inter-disciplinary research, provide space for engagement with researchers, industry and the public, provide incubation space for spin-out and spin-in companies, support recruitment of agenda-setting academic leaders. Through this elevate the universities reputation for engagement with industry and increase income generation from research funders | Grow reputation of the University, widen engagement with stakeholder bodies including Scottish Gov, BIS &amp; Scottish enterprise                                                                                 |
| Service centre Hub - University services relocation | Co-locate 11 of the 17 University Services departments into a single building providing opportunities for increased efficiencies and improved service provision                                                                 | Underlying the growth of the Colleges and the enhanced student experience is an efficient and effective provision of central services                                                                                                                                               | Provides opportunity to review operating models for delivery of services                                                                                                                                              |
| <strong>College Proposals</strong>  |                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                     |
| Arts Co-location       | To co-locate all of CoA in a single building which will encourage research opportunities including greater engagement with industry improving student experience and introducing operational efficiencies. | Encourage research opportunities, improve academic collaboration and improve the student experience                                                                                                                                                                              | Opportunities to redevelop old buildings which are currently not fit for purpose                                                                                                                                       |</p>
<table>
<thead>
<tr>
<th>Social Sciences Co-location</th>
<th>Co-location into Gilbert Scott with a full renovation and extension</th>
<th>Significance to the University of the income stream derived from the College. Opportunity for world leading research and provision of a student experience which can compete at a global level</th>
<th>Opportunity to vacate expensive and not fit for purpose property</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science &amp; Engineering Innovation campus incorporating the subsets of Chemistry, Engineering, Physics and co-location proposal which are a cluster of the schools maximising the opportunity for interfaces across the college.</td>
<td>World leading research which is cross boundary and where the University is already recognised</td>
<td>Cost of refurbishment of the JJB so that it is fit for use as a chemistry building high and new build a less costly option. Fund raising should be possible to support the development</td>
<td>Would release the JWS and Rankine buildings both of which require significant investment</td>
</tr>
<tr>
<td>Chemistry new build and subset of above</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering new build and subset of above</td>
<td></td>
<td></td>
<td>Would release the JWS and Rankine buildings both of which require significant investment</td>
</tr>
<tr>
<td>Physics and Astronomy extension and improvement to Kelvin Building which improves facilities and creates space for a &quot;Big Science&quot; area</td>
<td>Growth in leading areas of research and linking the areas of Quantum Technology, Particle Physics theory and Particle Physics experiment</td>
<td>Address a significant disabled access in the building</td>
<td></td>
</tr>
<tr>
<td>Co-location of GES, M&amp;S, CompSci refurbishment of JJB</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>MVLS - Institute of Health and Wellbeing To co-locate IH&amp;W from 9 disparate sites into one facility with resultant ability to secure larger grants, develop public engagement with seamless working across MVLS and CoSS</td>
<td>The proposal would support cross disciplinary working, with this institute working seamlessly across two colleges; it would help enable the institute to attract larger grants through and improve the student experience</td>
<td>Legal commitment to relocate MRC team from Renfield Street</td>
<td></td>
</tr>
<tr>
<td>MVLS - Alliance for Chronic Disease Expansion of the existing GBRC and GCR facility and investment in a clean animal facility</td>
<td>Extend the molecular and translational capabilities growing the international reputation of the University</td>
<td>Builds on existing capabilities and areas of excellence. Fund raising should be possible to support the development</td>
<td></td>
</tr>
<tr>
<td>Data hub - Data centre Development of a data centre but without any additional office/ teaching/ lab space</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>
APPENDIX

10.

SUMMARY OF TEACHING AND LEARNING PROPOSAL

BACKGROUND

Since 2006, the University has sustained significant growth in student numbers. For example, between the academic sessions 2008-09 and 2012-13 the overall headcount increased from 24,242 to 26,635 (9.9%) with international student numbers rising from 2,070 to 3,332 (61%). In the same period, income from tuition fees and educational contracts rose from £75.6M to £110.9M. Possibly more significantly, fee income as a proportion of the total income of the University increased from 18% to 23.7%. Growth is set to continue with current budget projections adding approximately a further thousand students to the overall on-campus population over the next five years. While this represents a reduction in the overall growth rate, the expectation is that Home/EU numbers will actually reduce during this period with Rest of UK and International student numbers continuing to grow. As a result, the increase in the proportion of total income derived from student fees will be greater than the growth in the total population. By 2017/18 fee income, net of discounts, will reach £146M which will represent nearly 29% of the University’s income.

This growth has, and will continue to, put considerable pressure on the physical estate and on the corresponding ability of the University to deliver an excellent student experience. The shortage of large teaching spaces has caused serious timetabling difficulties and both the Bute and Hunter Halls have been brought into almost continuous use for teaching. At the same time, demand for study space is increasing year on year, driven by both the overall increase in numbers and the increased proportion of international students who make more intensive use of study facilities. The University Library, where most of the existing study space is located, is now experiencing capacity issues.

At the same time, the number of leading global universities that have either invested in, or are considering developing, a major new learning and teaching focused building is significant. In the Russell Group alone universities including Manchester, Liverpool, Warwick, Queens University Belfast, Sheffield and Nottingham have all recently invested in new learning spaces. In part this is being driven by student number growth but there is also recognition of the need to respond to changing student study patterns and behaviours. Unsurprisingly, these facilities also feature strongly in the marketing of the University to prospective students.

This business case proposes the establishment of a new Learning and Teaching Hub that will both increase large teaching capacity and student study space, while streamlining student services. The centrepiece of the Hub will be two large lecture theatres of capacity 500 and 300 that can be configured as one 800-seater auditorium. In addition, the Hub will support 1,250 learning spaces for students in a range of configurations including individual formal and informal study space, bookable group study/teaching spaces and computer/IT suites of various sizes. It will also include an interface point with student services and catering facilities. The development will protect existing fee income streams by enhancing the student experience, so improving competitiveness in the market place, and will create the capacity to secure further growth in fee income up to and beyond 2018. The proposed development is in immediate proximity to both the Boyd Orr and Maths Buildings. While the proposal suggests integration with the Boyd Orr to increase the utility of that building, it highlights the opportunity presented if the Maths building were to be demolished and replaced with a teaching building physically integrated with the Hub.

ADDITIONAL OPPORTUNITIES

- In addition to creating required capacity and supporting increased fee income, the project presents a number of additional opportunities for the University. These include
- Improved consolidation of student flows around campus, removing extreme transit times and timetable fragmentation – a common complaint amongst staff and students is the diverse range of venues within which teaching is accommodated and the required transit times between back-to-back teaching events. The Hub will allow greater spatial consolidation of teaching between “home” areas and the central Hub.
- A venue for consolidated orientation programmes for new students, ensuring that students quickly become part of the university family. This is a critical time for enhancing student retention by building student engagement and a sense of belonging as effectively as possible.
- A marketable asset in presenting the student experience and the vision for the new campus to potential applicants
- Increased utility and impact of the Boyd Orr Building – the Boyd Orr building is currently perceived as one of the University’s less attractive buildings by both staff and students. Nevertheless, it is by far the largest in terms of teaching capacity and, as such, is central to the student and staff experience. By integrating the Hub with the Boyd Orr Building, the perception and utility of the Boyd Orr will be vastly improved.
- The creation of a high quality conference venue on campus – the L&T Hub/Boyd Orr complex will represent an integrated suite of nine lecture spaces and a wide range of breakout/flat-floored meeting rooms, a large atrium space and catering facilities. With the largest room seating up to 800, the complex will have all of the attributes necessary to host conferences of significant scale.
- An iconic gateway into the campus from Byres Road – regardless of the future of University Avenue within a
remodelled campus, the L&T Hub/Boyd Orr complex will, together with the Wolfson Medical Building, provide one of the key entry points into the campus from the West End. The opportunity exists to maximise the impact of this gateway through design.

LOCATION
The proposition here is to develop the Teaching and Learning Hub building primarily on the Boyd Orr car park site but to integrate the building with Boyd Orr. This is an ideal location as it occupies a central position within the expanded campus and so will be readily accessible to students from all parts of the campus. This location will also lie on a natural pathway through the campus from the University library/Fraser Building area towards the Western Infirmary site.

EVIDENCE OF DEMAND
In terms of formal teaching space, data from the current academic year show that there are 18 classes of 450+ with a further 34 classes with between 300 and 450 students. Many of these classes have had to be split or video-linked and, as a consequence, occupy more than one teaching space for a single teaching event. Predictions from Planning and Business Intelligence suggest that the number of classes in the 250+ bracket will grow further in the coming year.

To accommodate this, and following the conversion of the Hunter Halls for teaching two years ago, the Bute Hall has been brought into play as a teaching venue. Neither of these spaces is ideal for teaching and their loss as general utility spaces has created additional problems in relation to hosting events on campus and scheduling class tests.

The University commissioned a space modelling study by consultants Mosaic that showed that while there is scope to drive greater efficiencies in the use of existing space, there is not enough capacity in terms of larger teaching spaces to sustain additional growth. The new Learning and Teaching Hub will provide two new large teaching spaces of capacity 500 and 300 respectively and this should be sufficient to release the Bute Hall back into general use, to sustain further growth and, in conjunction with the Hunter Halls, to provide a buffer during further reconfiguration of the estate. While the lecture is still the primary mode of interaction with large classes, in recognition of emerging trends in pedagogy, the two new theatres will be designed to facilitate traditional lectures, flipped classroom teaching, group teaching and large class/small group working.

The Library provides the majority of generic study space in the University. The total number of study places available in the Main Library is currently 2,236 which is equivalent to 1 seat per 11 FTE students. Adding the off campus facilities (at Garscube and Dental), together with the Chemistry Branch Library, Adam Smith Library, Archives and the Reading Room, available seating increases to 3,049 reducing the seat to student ratio to 1 seat per 8 FTE students. Although this is equal to the Russell Group median (Glasgow ranks in 11th place of the 22 libraries with available data), occupancy rates in the Main Library are very high, at around 70% compared with a Russell Group average of 38% suggesting that the effective on-campus ratio is actually higher. The pressure on the Main Library is also exacerbated at particular times of year, particularly in the run up to examinations. Even at an overall ratio of 1:8, the University is sitting considerably higher than the 1:6 ratio recommended by the 1976 Atkinson Report1 on capital provision for university libraries, which remains current guidance and was endorsed by a joint funding councils’ library review group in 1993.

To alleviate current pressures and to support future growth, the new Hub will incorporate an additional 1,250 study spaces for students. On the basis of the planned student number growth over the next five years, the addition of the further 1,250 study spaces would put the seat to student ratio at around 1:6 in 2018. At this kind of figure, the University would have some flexibility to grow student numbers further or to release peripheral spaces for disposal or other purposes. In addition the 1,250 study spaces will incorporate a range of configurations that can support both teaching and study. This will include computer suites and bookable (by both staff and students) group study/teaching spaces of various sizes. In the medium term, this will provide a means to absorb some teaching activity displaced by other developments elsewhere on campus and, in the longer term, will provide a permanent facility to support a range of group teaching activities. It is also anticipated that clubs and societies will be able to use some of the spaces in the evenings and at weekends.

SPECIALIST SPACE AND DEDICATED POSTGRADUATE STUDY SPACE
The proposed configuration does not include provision for specialist teaching spaces or laboratories. Given the footprint of the site, there is very limited capacity to support specialist facilities. The opportunity may, however, exist to repurpose some of the Boyd Orr building if there is a relocation of activities from there. This could be considered in a future phase.

At this stage, it is not proposed to dedicate any of the study space in the Hub to any particular group of students. The appropriateness of this approach would be considered fully at the detailed design stage if the project progresses. The designation of existing space in the Library as well as space in the new Hub would form part of the consideration at this stage to ensure that any dedicated space was appropriately sited on campus.

STUDENT FACING SERVICES
The Boyd Orr/Hub complex will be one of the major centres of student activity on campus. It is, therefore logical to locate a Student Services/Library interface point within the Hub. This point would support the operations of the building and provide an access point to various services in conjunction with the Library and the Fraser building. The exact configuration of the service point would be determined during the detailed design phase.
THE MATHEMATICS BUILDING

It is likely that other elements of the campus development plan will result in the disposal of a range of teaching spaces up to and including large lecture theatres. Any teaching space lost in this way will have to be replaced somewhere on the campus; note that this does not assume like-for-like replacement as the current fit of teaching activity to the space profile is sub-optimal. If disposal is considered for the ageing Maths Building, it creates a major opportunity for the University to integrate additional teaching capacity with the L&T Hub. At present, the Maths Building houses eight medium sized lecture theatres (90 – 150 seat) together with tutorial spaces and computer suites. In addition to replacing the existing teaching capacity in the Maths Building, a new-build on this site could replace other teaching capacity lost through disposals elsewhere on campus. If this were to be done it would create a significant concentration of teaching capacity around the Hub which, together with the Library and the Fraser building, could form the core of a student zone at the heart of the extended campus.

RECOMMENDATION

This proposal recommends that a Learning and Teaching Hub is built on the Boyd Orr car park and physically linked to the Boyd Orr Building itself. This development could be done as a stand-alone project or as the first phase of a two-stage development that later incorporates replacement of the Maths Building. However, if other parts of the campus development programme involve the disposal of existing teaching capacity, it is strongly recommended that the Hub/Maths Building development is carried out in a single phase as an integrated project at a very early stage of the campus development programme. This will ensure that adequate teaching capacity is available throughout the campus development period and will protect both the student and staff experience throughout a period of student growth and physical change.
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