



Trinity College Dublin

Coláiste na Tríonóide, Baile Átha Cliath

The University of Dublin

TRINITY COLLEGE DUBLIN ESTATES STRATEGY

November 2018







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FOREWORD FROM BURSAR & DIRECTOR OF STRATEGIC INNOVATION



*Professor Veronica Campbell
Bursar & Director of Strategic Innovation*

The Trinity community is fortunate to study and work in a unique campus setting, primarily located in the heart of the City, but also with distinctive satellite sites. Although the main campus has evolved over the past 426 years, it retains its original Elizabethan ethos of a residential Collegiate campus. Trinity's campus has a rich architectural heritage and its evolution persists with new developments, such as the Trinity Business School and E3 Learning Foundry, allowing Trinity to keep pace with new initiatives and ways of learning.

The campus infrastructure is a core enabler of Trinity's successes in teaching, research and the student experience. The university must therefore strive to keep abreast of campus theory in order that precious physical assets best meet the needs of a competitive institution such as Trinity.

This Estates Strategy has been developed as a framework to guide the development of Trinity's estate in the medium to longer term. The strategy highlights the necessity for efficient use of space and the continuous improvement of existing facilities, whilst also undertaking specific strategic projects.

The Estates Strategy will link to the new Strategic Plan (2019-2024) and will be supported by a document outlining the Guidelines & Principles for the estate.

The formation of this strategy has relied on substantial consultation with colleagues from across the University. The passion and enthusiasm with which the Trinity community embraces the campus came across strongly during this process and I warmly thank everyone who has engaged so constructively in the discussions.



1. INTRODUCTION

- 1.1 This document is an estate strategy that, when approved, will guide the long-term future of Trinity College Dublin. In an ever more competitive and global world, it is critical that the capital available to Trinity is spent wisely and the cost of running the estate is as efficient as possible. It is now necessary to consider an estates strategy that will help the University to thrive and compete by positively influencing the next Strategic Plan (2019-2024), and beyond.
- 1.2 An estates strategy is a series of policies and programmes that will endure over the long term, to guide more specific proposals that may come forward from time to time. It is a framework to guide; it is not a masterplan. It is an approach as to what the University should do where, and how it manages what it has. It should not be fixed or prescriptive, but should be clear on the estate challenges facing the University and how they may be met. This is a new approach in Trinity but one that is becoming more common around the world. It requires hard choices of prioritisation or changes of habit, but these are necessary if the University is to flourish in an international context.
- 1.3 The main College Green campus is generally regarded as one of the most significant groups of education buildings in the world. The size of the site, the campus nature and its proximity to the centre of a capital city is arguably unparalleled. Around 2 million members of the public visit the campus every year. The University is blessed to be the steward of such extraordinary assets. However, they are also historic, expensive to maintain, relatively inflexible and of significant public interest. In recent decades (with some exceptions), buildings of less merit have been completed. This has provided a mix of issues to deal with. This document is not an isolated estate exercise. The objective is to make the University better able to respond and deliver its academic priorities as effectively and efficiently as it can.
- 1.4 As the University moves forward, it is crucial that it can optimise the legacy that it has, concurrently with the need to progress and deal with the expectations of students and staff and technology of today and the future. In order to do this, there needs to be a clear understanding of the relative merits of the current estate, the general trends in global higher education, and the specific academic and other needs of the University. The report first covers these areas and then looks at the key elements that make up the strategy. The final section considers how this can be implemented.

2. THE UNIVERSITY ESTATE





2.1 The Trinity Estate is dominated by College Green but also includes a number of other properties.

These are:

- Properties in the vicinity of the site. Owned or leased
- Embedded sites at the two hospitals sites - St. James Hospital and Tallaght Hospital
- Trinity Technology and Enterprise Campus at Grand Canal Quay (TTEC)
- Santry – sports facilities and book depository
- Iveagh Grounds and Islandbridge – sports facilities
- Trinity Hall Dartry – residential
- Belfast - Irish School of Ecumenics

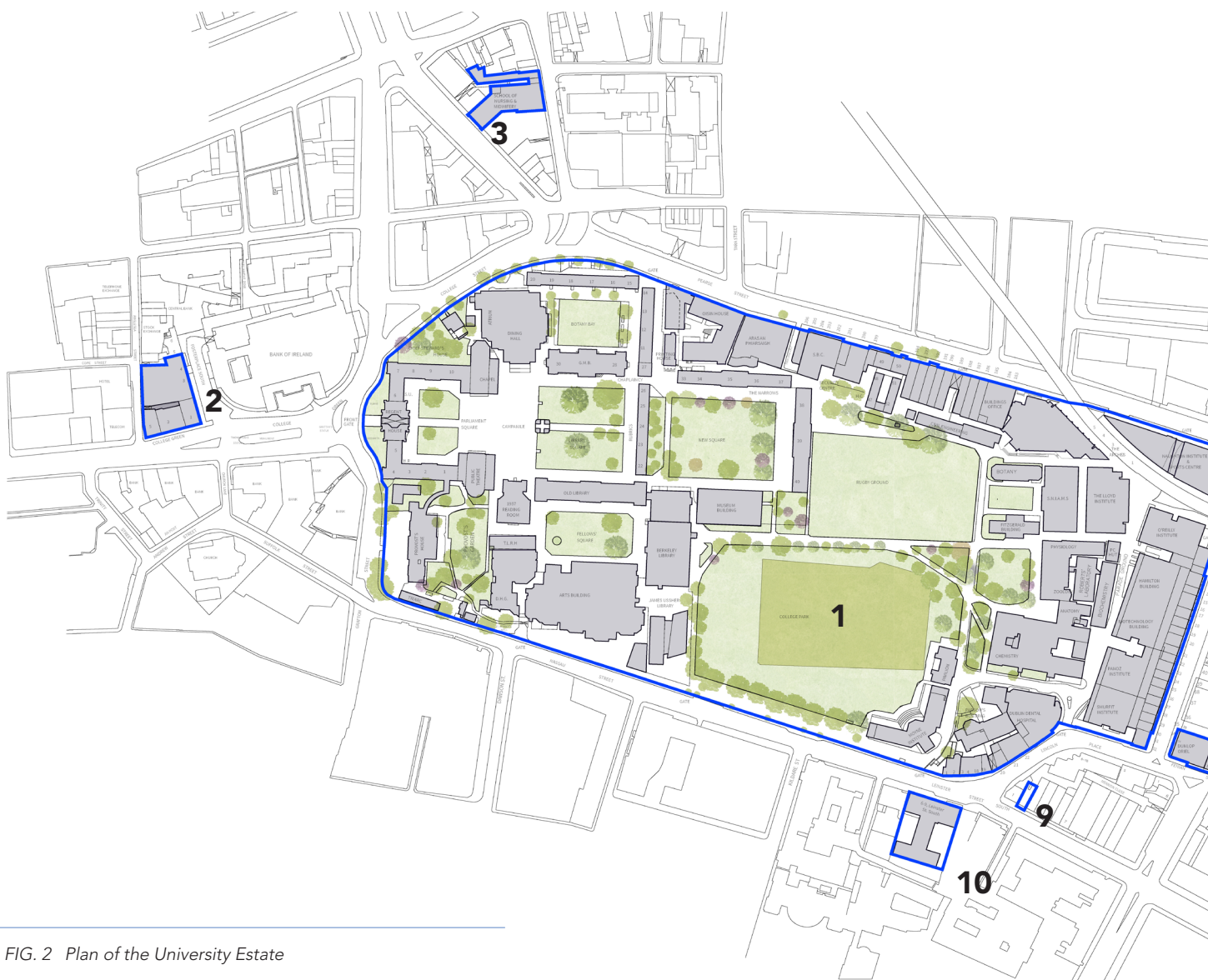
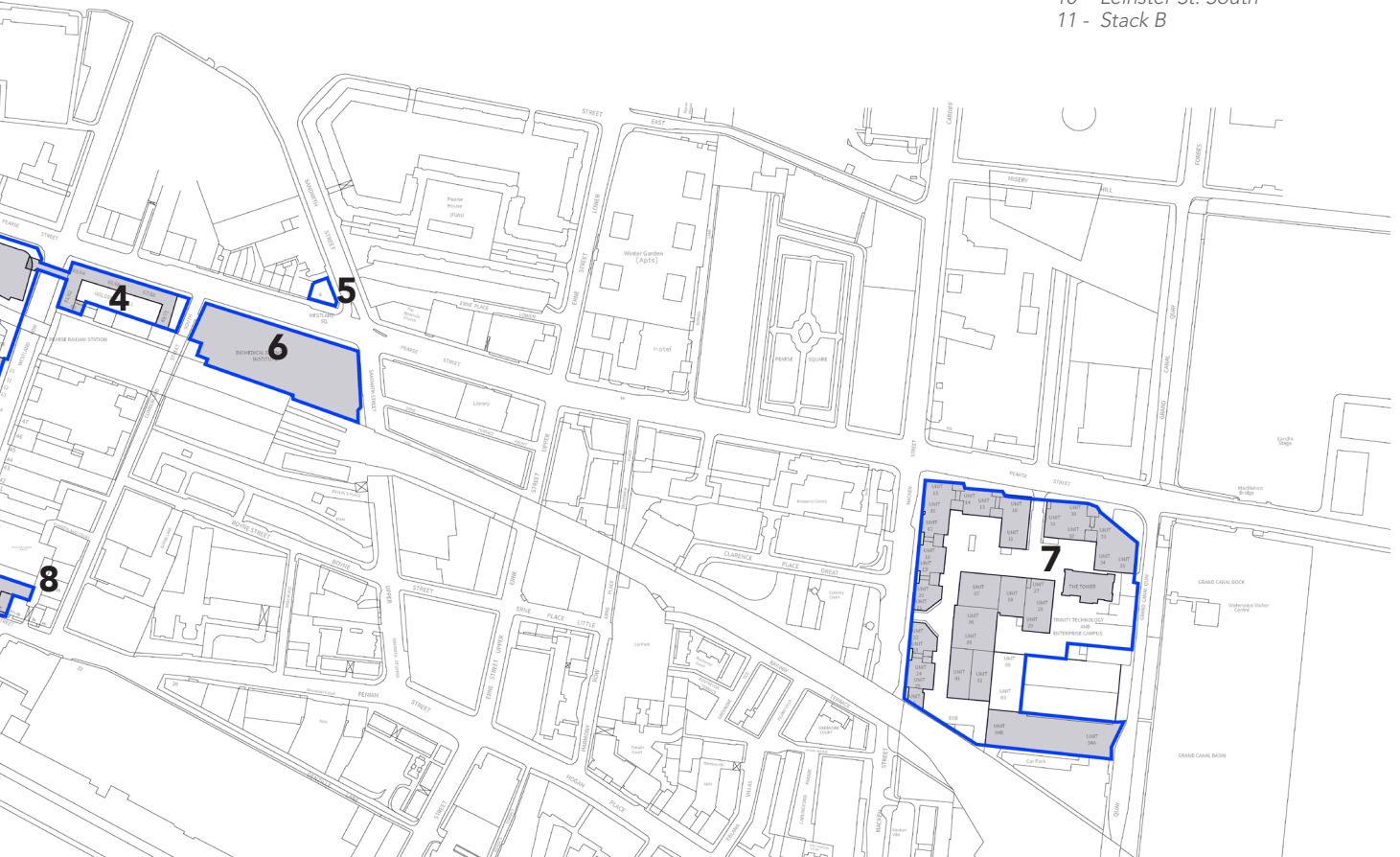


FIG. 2 Plan of the University Estate



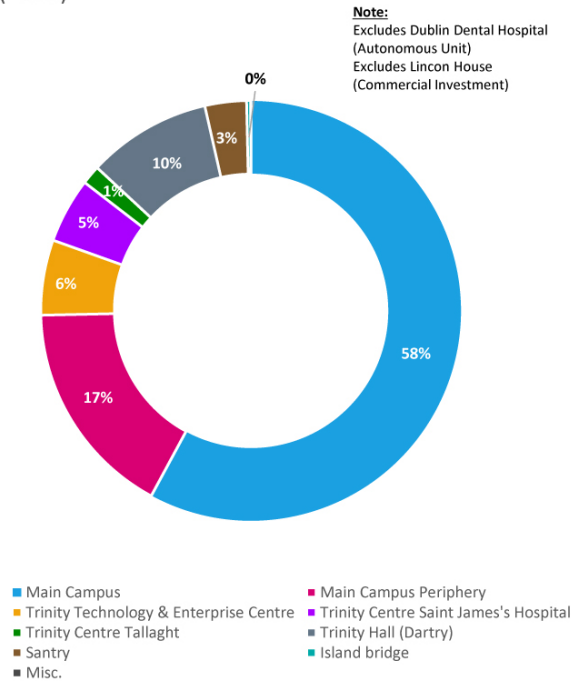
- 1 - College Green Campus
- 2 - Foster Place
- 3 - 24 D'Olier St.
- 4 - Goldsmith Hall
- 5 - 8 Westland Square
- 6 - TBSI
- 7 - TTEC
- 8 - Dunlop Oriel House
- 9 - 2 Clare Street
- 10 - Leinster St. South
- 11 - Stack B



The split of facilities across all uses is set out below
- College Level

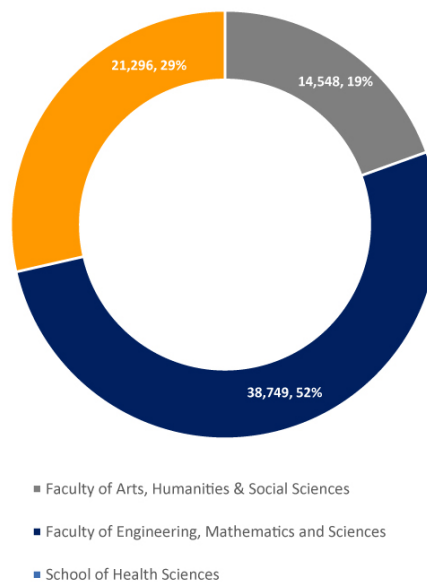
- Trinity College Dublin currently have in excess of 313,000 Sq.m of built accommodation across main sites in Dublin
- The largest of these sites is the main College Green Site and its immediate periphery which occupy 16.7 hectares of land in the heart of Dublin City occupying in excess of 234,000 Sq.m.
- A significant site of 2.2 hectares in the Trinity Technology & Enterprise Centre currently provides almost 6% of the built accommodation at Trinity, however this site remains largely underdeveloped.
- Trinity also has significant built accommodation in Trinity Hall (4.3 hectares), Santry (13.8 hectares), The Trinity Centre at Saint James's Hospital, and the Trinity Centre in Tallaght Hospital

Breakdown of College Properties (2016)



- Trinity's academic areas are broken into 3 Faculty's:
 - Faculty of Arts Humanities & Social Sciences, consisting of 12 Schools
 - Faculty of Engineering, Mathematics & Sciences consisting of 8 Schools
 - Faculty of Health Sciences consisting of 4 Schools¹
- The largest of these Academic Faculty's is the Faculty of Engineering, Mathematics & Sciences which provides almost 39,000 Sq.m of Net useable areas across 39 buildings
- The Faculty of Health Sciences occupy the next largest quantum of space, occupying over 21,000 Sq.m of net useable space across 20 buildings.
- The Faculty with the smallest land holding is the Faculty of Arts Humanities & Social Sciences which have just under 15,000 Sq.m of net useable area across 22 buildings.

Net Area Breakdown by Academic Faculty (Sq.m)



¹ Dental School not included in area numbers.

- 2.2 It is common for historic, research-active universities to have sites remote or separate from the main campus, that are required for specialist activities. The main University core is proximate and dense which is a positive feature. The other sites are also reasonably close by in the context of a capital city.
- 2.3 In the case of College Green, this report does not intend to recite the history and special nature of its principal buildings. However, it is difficult to identify a more special group at any University buildings in the world, of this scale and proximity to the heart of a capital city. This is a significant and material point in the estate strategy. Given this unique history there are issues of cost of maintenance and flexibility. Any strategy must respond to the future needs of the University and the emerging trends of the sector in general; however, any assessment must start from the assets the University presently holds. These are usually evaluated in terms of condition, utilisation and functionality or suitability.

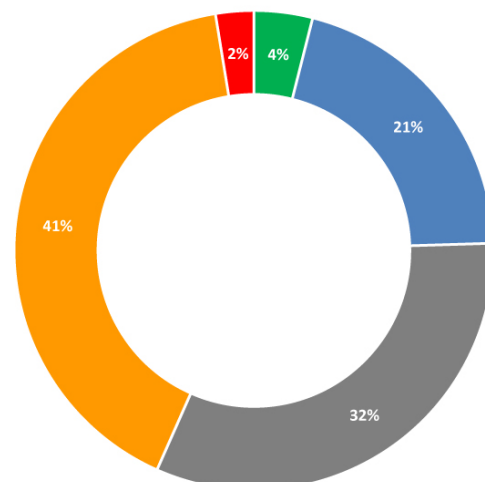
2.4 CONDITION

In terms of overall condition, this is a difficult area for Trinity. The estate is very urban and therefore expensive to maintain. Moreover, extreme financial pressures on the University in recent times naturally mean that the amount of money available for maintenance has been constrained under pressure to deal with a deficit. Condition assessments are also variable and difficult to compare across different institutions. The following charts explain the condition across Trinity and also by faculty. The context for other areas that are non-academic is similar. These assessments were collated in 2016 by Estates & Facilities.

- Academic Areas

- Trinity records building condition in accordance with the following assessment.
 - Category A: As New
 - Category B: Good condition – operationally safe with only minor defects.
 - Category C: Operationally safe, but major repair or replacement needed in the short to medium term (say within a period of 5 years)
 - Category C*: Operationally safe, but major repair or replacement needed in the short to medium term to be dealt with via capital programme of improvements
 - Category D: Replacement required – building is in such poor condition that it would be more economical to replace it rather than upgrade, adapt and/or refurbish.
- A breakdown of the recorded condition of net academic areas are recorded to the right

Net Academic Area – Condition Assessment



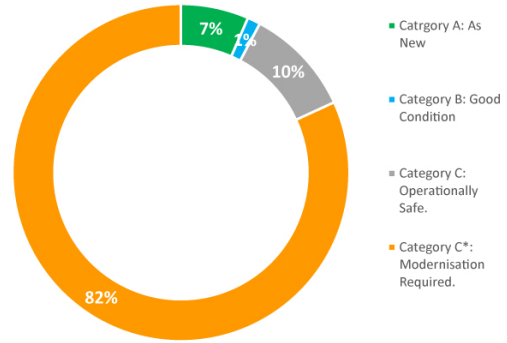
- Category A: As New
- Category B: Good Condition
- Category C: Operationally Safe.
- Category C*: Modernisation Required.
- Category D: Replacement Required

FIG. 3 to 5 previous page and above Graphs illustrating occupancy and the condition assessment of the current estates

Faculty of Arts, Humanities & Social Sciences.

A high level breakdown of the condition of properties within the Faculty of Health Arts Humanities & Social Sciences is highlighted.

Over 80% of the space are in need of modernisation, and out of this accommodation, the Arts Building accounts for over 40%



% Breakdown of Faculty of Arts Humanities & Social Sciences by Condition and School

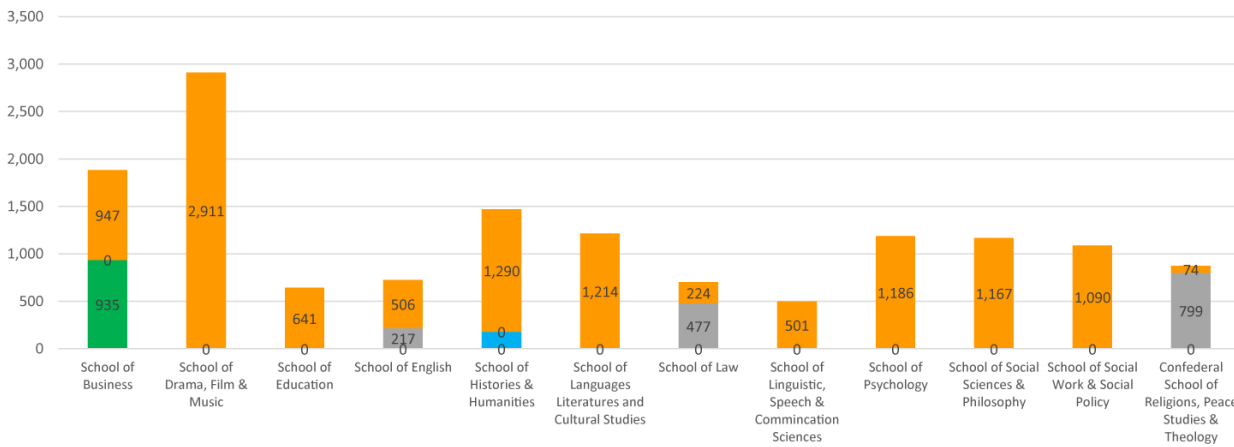


FIG. 6 to 8 this page and next. Graphs illustrating the condition assessment of the properties according to individual faculties

2.5 Historically, universities tended to have buildings of variable quality. This is the function of low maintenance and grant-based capital programming. However, in recent times, due to increasing fees across the world, and the quest to compete in rankings these two themes have emerged. Increasing debt across institutions has led to bigger capital programmes, which reduce the incidence of poor quality buildings. The consequence is that over the last 20 years, the overall condition of university estates

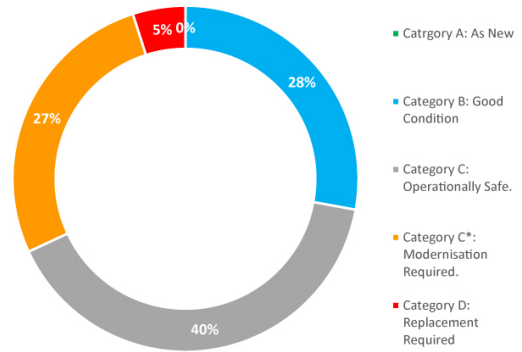
has improved. It is typical to find 80% of buildings at Universities now in good or excellent condition. Trinity on these figures only has 25%. There will be improvements from the Business School and other projects. As part of any implementation, the condition assessments need careful review.

2.6 It is clear however, that improvement of overall condition should be a focus for an estates strategy.

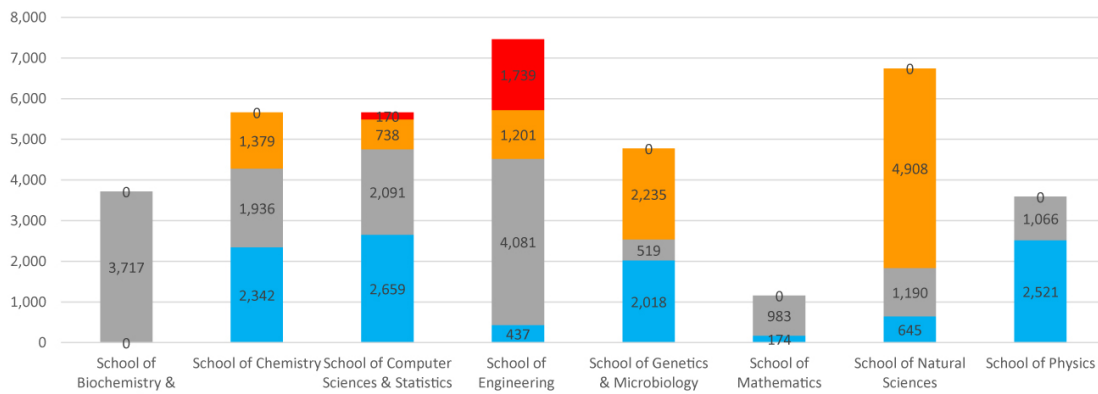
Faculty Engineering, Mathematics & Sciences

A high level breakdown of the condition of properties within the Faculty of Engineering Mathematics and Science is provided below.

A large proportion of the Category C and D Spaces have the potential to be addressed through the proposed E3 project.



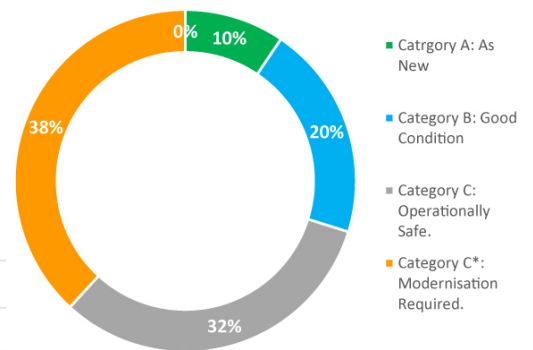
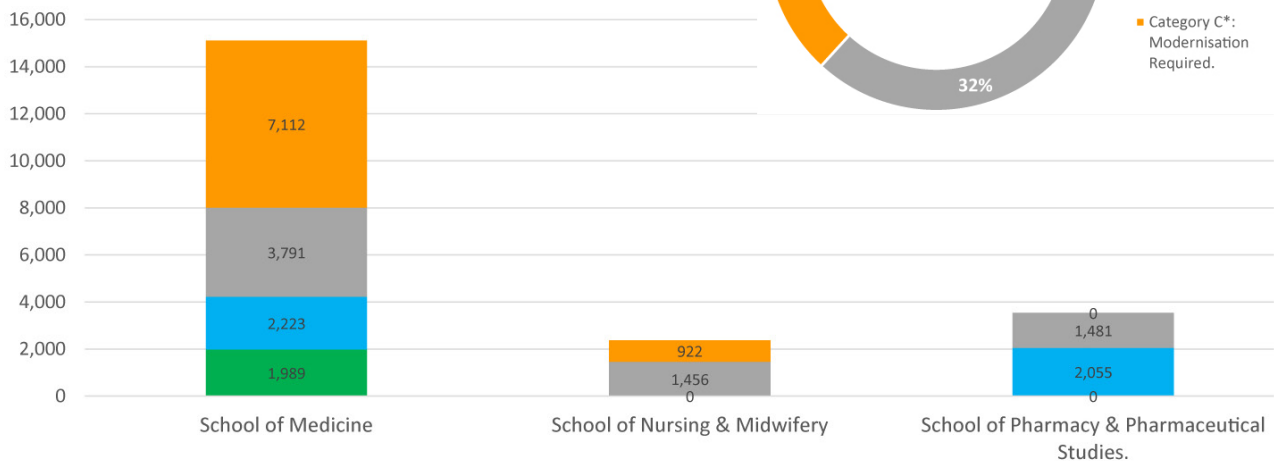
% Breakdown of Faculty of Engineering, Mathematics and Sciences by Condition and School



Faculty Health Sciences

A high level breakdown of the condition of properties within the Faculty of Health Sciences is provided below.

% Breakdown of Faculty of Health Sciences by Condition and School



2.7 UTILISATION

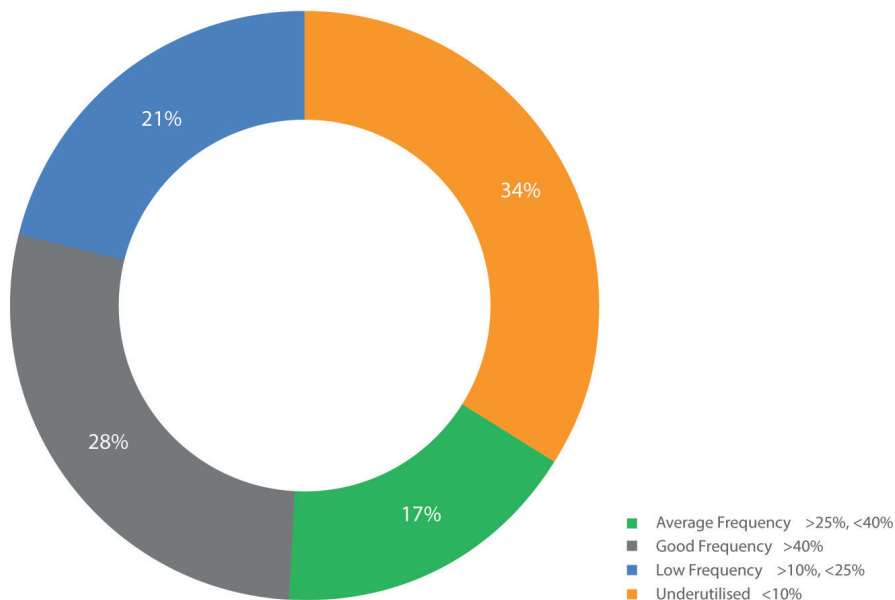
The second issue discussed is utilisation – an assessment of how frequently and how efficiently are certain key spaces used. This is an area that is driven by flexibility. If a space is designed for class sizes that have changed over time, or a pedagogy which is out-dated, then utilisation metrics drop. Where there is a very historic estate, which is hard to change, this problem is often compounded.

2.8 It is unusual for a University to have very good data on this area and those that do, are more likely to have a one-dimensional teaching load rather than a more complex, historic, research university such as Trinity.

2.9 The more complex and diverse the course structure, the less efficient the utilisation. The position is complex because of the cost of assessing use. This can be undertaken by sensors which are not yet reliable. Some universities have Wi-Fi sensors that can produce data, however, these are at variable degrees of quality. The more traditional method entails looking at bookings and class sizes, but this is very unreliable as well, as block bookings occur, which are not amended as term progresses. This tends to overstate utilisation.

This is further complicated by splits in many institutions, between centrally bookable spaces and those controlled by faculty or department. The numbers for Trinity are as follows:

- Frequency of room booking



*Data about group size is not always available in CMIS, so Occupancy is not reliable. Data related to Frequency is more accurate.

FIG. 9 Graph demonstrating utilisation rates of the Estate

2.10 Prior to looking further TCD has already taken steps to improve the position by requiring all

teaching spaces to be centrally bookable. This will be further assisted by central timetabling.

2.11 As mentioned above, the utilisation figures based on room bookings are not reliable and it is difficult to gauge to which degree they are overestimated. This inaccuracy is in part due to bookings not being used, or size of groups in relation to room capacity. Actual data from clicker count analysis of room occupancy is more relevant. This is accurate, as it was part of the assessment process for the E3 business case, which is an illustration of the increasing level of analysis of the estate that Trinity is undertaking. The results obtained were stark and variable in terms of utilisation of teaching rooms, which ranged from an average utilisation of < 10% to 46%. It is noteworthy that at present there are 15,453 seats across lecture theatres, classrooms

and teaching labs; and additional 3,138 formal and informal spaces across the Library system for a full time student body of ~18,000 students - illustrating the potential for greater efficiency.

2.12 The table below is from a published document produced by the University of Cambridge to advise the academic community how it was performing in terms of utilisation. It is probable that Trinity falls below the Russell Group average.

2.13 The conclusion is that there is significant scope for improvements, to make Trinity more efficient and create a better experience for students and staff.

- Comparison of utilisation rates for teaching space 2014-15 across Universities

[published in the University of Cambridge Development Strategy]

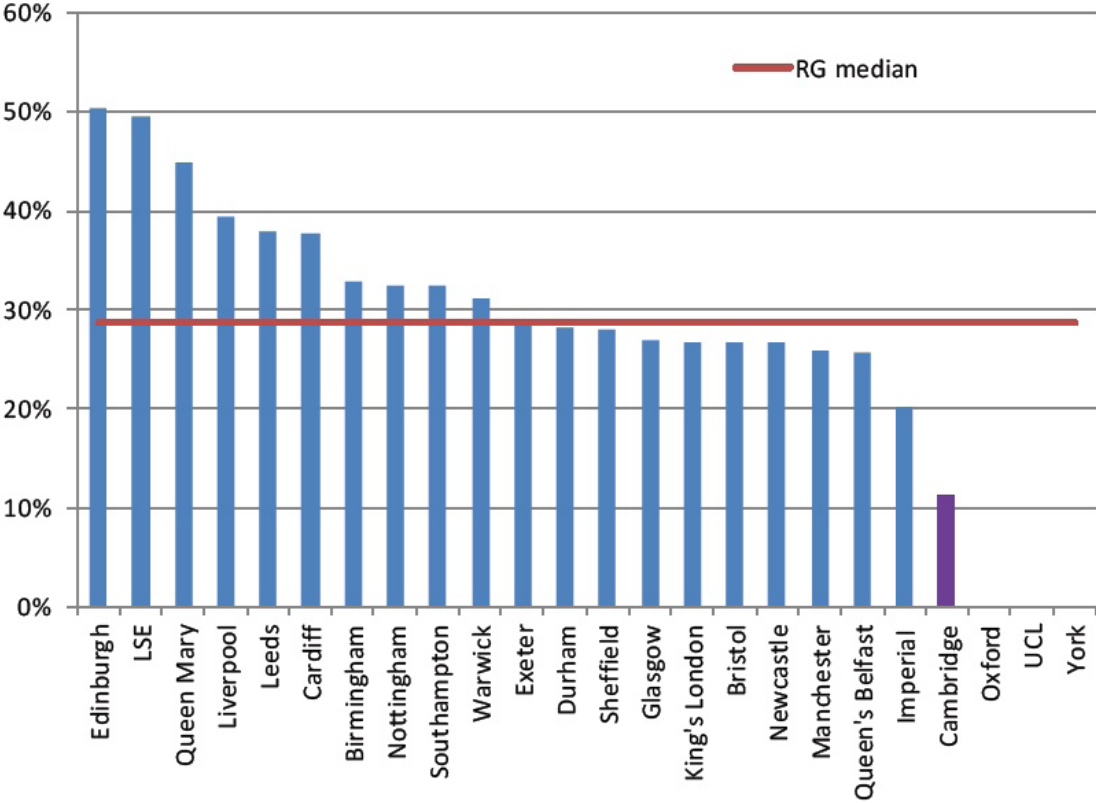


FIG. 10 Graph comparing utilisation rates of main UK Universities in 2014-15; the University of Cambridge is highlighted.

2.14 SUITABILITY

The assessment of suitability by the University is based on the following criteria:

- Whether a school occupies multiple sites
- What proportion of the floorspace is accessible
- Does the space meet the functional needs of the school?
- Does the space occupied by the school have adequate social spaces?

2.15 The suitability analysis does not take account of condition but it is relevant in looking at the comparable suitability between Schools. Suitability scores can therefore be misleading as the space may be suitable but in very poor condition. In theory, the completion of the new Business School should have a suitability score of 100%, as well as optimal condition score, when finished.

2.16 The issues of condition, utilisation and flexibility illustrate the challenges faced by Trinity, however, much good work is in hand.

- **Space Standards** - lack of suitability, when assessed according to optimal space standards is a result of the inflexibility of a historic estate.

Comparison of Irish, UK and Australian Standards with typical TCD spaces

SPACE STANDARDS (m ² /person)				TRINITY EXAMPLES	
AREA TYPE	HEA (IRELAND)	SMG (UK)	TEFMA (AUSTRALIA)	LLOYD INSTITUTE	MUSEUM BUILDING
Teaching & Learning					
LECTURE THEATRE	0.9 - 1	1	1.5 - 1.7	1.1	0.9 - 1.8
SEMINAR ROOM	1.72 - 2.5	2.25	2	1.4	1.5
STUDIO / MAKING SPACE	-	4	2.8	-	2.2
COMPUTER LAB	-	2.75	2.3	3.2 (in PC hut)	5 -10
TEACHING LAB	4.6 - 5	4	5	3 - 3.2	4.2
Workplace					
SENIOR ACADEMIC OFFICE	13.5 - 18.5	15	18 - 20	17-25	20-30
ACADEMIC OFFICE (INDIVIDUAL)	9 - 15	9	8 - 10	12	13-18
SHARED OFFICE (OPEN PLAN)	6.75	7.5	8 - 10	-	
RESEARCH STUDENTS (OPEN PLAN)	7.5	4.5	8	3 - 4	1.8-3.5

FIG. 11 Table comparing space standards typically used by UK, Irish and Australian Universities versus the current provision within Trinity. The figures are in sqm/person. There is evidence of large individual offices but a low level of space per student.

- Suitability Score by School and Faculty

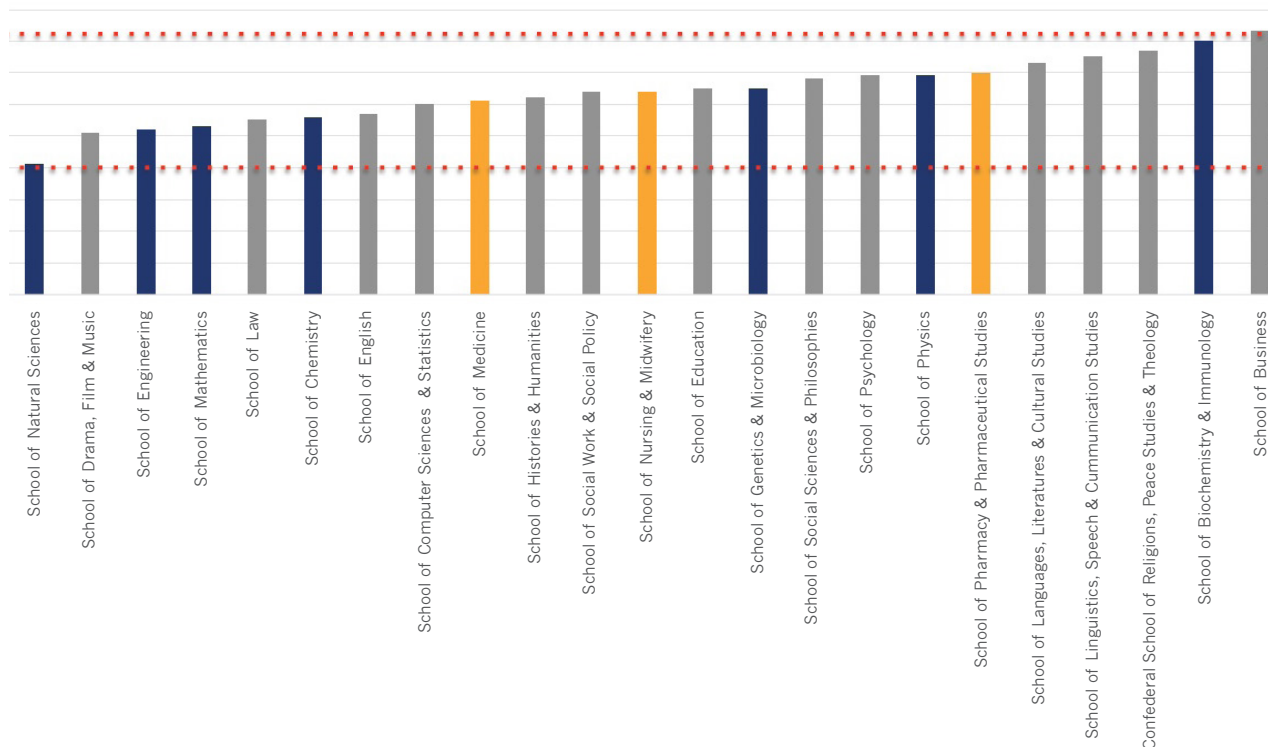


FIG. 12 Graph illustrating the suitability assessment conducted for Trinity, split by the various faculties.

2.17 CAPITAL PROGRAMME

A further aspect to consider when looking at the nature of the current estate is what the impact of the current capital programme will be when complete. The main elements that are relevant are the Business School and E3. Both will provide a significant uplift in excellent condition accommodation and will release residual space on the core campus that will be available or can be refurbished to support academic growth. Both are positive and much needed developments. However, they do not alter the strategic needs of the University in terms of the condition and utilisation of the existing estate.

2.18 In summary, a number of issues have resulted in the current estate being below a standard that is sustainable in the long term for the University. It has suffered from a lack of renewal, the historic nature does not allow flexibility to align space with changing pedagogy, and suitability needs to improve. The current projects will help but if the University is to be more competitive over the longer term, there needs to be a paradigm shift in the approach to managing and investing in the estate. This is acknowledged and is why this strategy is being prepared.

2.19 FINANCE ISSUES

The final issue to consider is the cost of the current estate and the potential to fund any further development. The current metrics are:

Cost Centre	External Income	E&F Staff Costs	Utilities	Insurance	Maintenance	Other	Grand Total
Grand Total	(377,771)	13,051,165	6,763,747	1,232,890	1,167,018	7,406,034	29,243,082

2.20 This forms a benchmark against which to measure the potential impact of any strategy. The aim as set out later is to accommodate growth within the existing footprint at a lower cost. This should be achievable. It is also appropriate to deal with the issue of sustainability. This is a difficult with a fixed and historic estate. However, if there is a focus on fewer more dense sites and a programme of renewal the overall cost and sustainability of the University should improve. For the Trinity Estate the issue of utility to staff and students, sustainability and cost are all aligned. The current extent of the capital committed is as below:

Large Capital Projects

- Trinity Business School €80m
- Printing House Square €62m
- Arts Building refresh €4m
- E3 Learning Foundry - the new building and associated project in other buildings to total €84m

2.21 Therefore, the potential for capital funding, including alignment with the philanthropic campaign, will relate to the University's current level of gearing of 25% and existing loans of c €200m for the E3 Learning Foundry, Trinity Business School and Printing House Square.

2.22 The level of future borrowing for capital projects will be sought in the context of –

- size of the balance sheet net assets
- impact of future debt on gearing ratio (Russell Group Universities c 25% - 30%)
- adherence to the HEA Borrowing Framework

- robust business cases in terms of capacity to funding interest/capital repayment/generate surplus
- compliance with Government Capital Expenditure Guidelines
- impact of existing and future bank loan covenants
- ability to construct off Balance Sheet financial structures for student accommodation

2.23 All these factors are relevant to the consideration of a strategy. The report now turns to look at future needs.



GEORGE SALMON
PROVOST
1888-1904

3. UNIVERSITY NEEDS

3.1 The prior section considered the current Estate. This section looks at what the estate needs to deliver for the university to thrive. This is usually split into the pure academic elements, support functions and then the other areas that need to be balanced to represent a full and competitive student, staff and research experience.

3.2 In terms of overall growth, this will be hard won. Trinity is a highly ranked, research active, residential university. If maintenance and improvement of its ranking is important to the University, then seeking to achieve significant student growth is counter-productive. In general, the larger the student body the bigger the estate and the lower the ranking. An unrelated point is that the larger the estate, the harder it is to manage and align with teaching and research needs. Trends in education are much more dynamic and move much more quickly than an estate can change. Compactness and flexibility are therefore the two most positive aspects of good estate planning.

3.3 The future growth of the University has been subject to recent review by the Planning Group (meeting of 14th June 2018). At present, the current staff and student body is as below.

3.4 The total number of students in 2017/18 is 18,081. This is split as follows:

PGR 9%
PGT 19%
UG 72%
Total academic staff = 894

3.5 The Planning Group has considered growth on a six-year basis to 2023/24 and this is forecast to

be an increase of 3,449 students which will result in a total student body of 21,530. This increase does not constitute an agreed final position by the University – rather, it is an aggregated figure from initial projections.

3.6 For Estate Planning purposes these initial projections are helpful and it can be assumed that there is likely to be a commensurate rise in staff and research activity.

3.7 60% of the growth in student numbers comes from the approved development plans of the Trinity Business School and Schools of Engineering, Computer Science & Statistics, and Natural Sciences, for which there is a planned capital programme, which would leave 1,400 additional students to be associated with the remainder of Schools.

3.8 These are the numerical assessments. There are also specific suggestions from the Faculties that have emerged from the discussions, as set out below:

3.9 **Arts, Humanities & Social Sciences**

- a new home for Law to support anticipated growth that is currently under evaluation
- small and modest growth in other schools
- some better synergies if Social Sciences and Philosophy could be moved to the core campus
- Creative Arts requires a long-term solution that might be best met at TTEC in the vicinity of the Lir Theatre

3.10 **Engineering, Mathematics & Science**

- E3 Learning Foundry and associated refurbishment of existing buildings is the main focus of faculty growth which is in hand
- consideration needs to be given to medium term plans for Schools of Mathematics, Chemistry and Physics, which may need investment if these schools are to optimise their academic aspirations
- there are a number of schools who would benefit from a review of the current nature of Westland Row/Hamilton building
- Consider improvements to Goldsmith Hall facility

3.11 Health Sciences

- the implications of the Trinity St James's Cancer Institute at St James's Hospital
- Pharmacy will also benefit from a Westland Row review
- there will need to be a long-term solution for Nursing, however, teaching needs may be resolved in the short-term

3.12 These are the high-level issues which, together with the potential growth, must be considered along with the other needs or requirements of the University. These are set below and are not in order of priority.

3.13 ADMINISTRATIVE STAFF

There are currently 266 central administrative staff split over approximately 20 locations.

What is clear is that the many of the groups are very disaggregated, particularly in the Corporate Services Division, and in inefficient facilities. A number of these staff do not need to be located on the core campus. If they are consolidated into a more straightforward open plan space they could be much more efficient and effective. By way of example, if all these were consolidated it would require 3000-3500 sqm of space.

- 3.14 There are also short-term inexpensive solutions to improve the disaggregation.

3.15 LIBRARIES

Trinity has a group of exceptional libraries. Not only are they exceptional but they are well connected in the centre of the campus. The Old Library is extraordinarily significant. Whilst there are plans for improving the visitor experience there is also an academic need for renewal which to some extent is stymied by the storage problem highlighted below.

Any new project will include conservation works and a new research collections study centre. This is a core need of any library strategy. The Berkeley is another architectural gem but restricted in its flexibility due to the original design. The Ussher is modern and generally fit for purpose whilst the Lecky is well located and flexible but is very tired and shabby. The significant changes in teaching, learning and research are very well known and the library space needs to accelerate the redesign of its internal spaces. The main need is for a reduction in the volume of collections held on the main campus to improve the quality and quantity of reader spaces along with general updating. However, any updating can only take place if the 'on-site' collections can be reduced alongside re-organisation of what remains.

- 3.16 Any consideration of moving collections brings into play the Santry depository. This is a problem as the depository is a 1970s scheme that is end of life, and not fit for purpose. The collections are being kept in conditions that are not appropriate for an institution with the reputation of Trinity and the statutory responsibility for legal deposit material. In addition, it is full and given the legal deposit status of Trinity, all the additional materials that are being acquired are being sent to commercial storage. This is costing Trinity hundreds of thousands of Euros per annum. It is critical for the collections and the finances of Trinity that there is a depository solution. It also provides scope to re-imagine the library system. There is a further complication in that in the 1970s, and as part of a funding deal, Trinity ceded some of the title of the depository to Dublin City Council and the National Library for Ireland. It should be possible to resolve the problems connected with this, but it is a complication. Work is needed in this area to achieve the correct objectives. This project has significant self-financing elements to it.

3.17 RESIDENTIAL

This is a critical element as will be described later. The nature, breadth and quality of residential is

important. The Trinity residential experience can be summarised in three ways:

- the College Green experience
- a remote but organised scheme such as Dartry; and
- third party provided, but Trinity controlled accommodation, closer to the centre of Dublin

3.18 Printing House Square is now under construction on the main campus which adds a new dimension to the on-campus residential offer in 2019. There will now be new and old on the central campus. At Dartry, there is the potential for expansion of a direct University offer which is being explored. In addition to this, the University has been active in the central Dublin market through third party providers but those agreements are finite and due to end in 2020 and 2022.

3.19 Trinity currently provides accommodation for 14% of the student population and this will increase to 15.6% in 2019 when the Printing House Square scheme is delivered. If the University is unable to renew existing nomination agreements or develop new schemes, then its provision of student accommodation could fall to below 11% if the University's full growth aspirations are achieved. It is positive that opportunities exist to develop

additional accommodation at Dartry and TTEC. UCD's announcement of their recent scheme will take their percentage of accommodation to 30% of a larger student body.

3.20 As well as student accommodation, the recruitment of excellent staff requires provision of appropriate accommodation to enable new recruits to become familiar with Dublin and university life. The University currently has 52 units of staff accommodation. The Rubrics provides limited staff residential accommodation and the building is in need of refurbishment. A reorganisation of the existing units in the Rubrics and the Chief Stewards House in a manner that is sensitive to conservation requirements, would yield additional staff accommodation.

3.21 STUDENT EXPERIENCE

There is increasing evidence that time on campus has a positive impact on academic outcomes. The chart below illustrates the relationship for a 9,000 undergraduate cohort looking at time spent on campus and the end quality of degree.

- 2017 Science UG cohort. There is a clear correlation between time on campus and result.

[published in the University of Melbourne's Campus Analytics Study - March 2018]



FIG. 13 Graph correlating the time University of Melbourne's undergraduates spent on campus to their academic results

3.22 This is one piece of evidence that confirms the importance of on-campus experience. The consequence of a historic estate and a shortage of capital for investment in the recent past has been a failure to move with the breadth and quality of social experience and social learning spaces that have become more common in the sector. This must be addressed through any renewal. This is for teaching facilities and also bookable spaces that students are able to control.

3.23 The second issue is the impact of the student spaces levy. This relates to learning and social spaces. This is a new levy, approved by student referendum, and the benefit is at an early stage. The issue with such a levy is that it is susceptible to the short time in office for the student representatives when there should really be a 10-year plan for investment from the levy in so far as it relates to capital programmes. This needs to be developed so that the full benefit can be delivered on a programmatic basis.

3.24 SPORT

Trinity's sports estate comprises the following spaces and facilities.

Core campus

- College Park (predominantly cricket, running track)
- College Park Rugby pitch
- Botany Bay tennis courts
- TCD sports centre on Pearse Street

Off campus

- Santry Sports facilities
- Islandbridge (boat house)
- Iveagh Grounds – the newly purchased former Guinness sports and social club

3.25 Overview

Generally, there is enough space for competitive sports provision at Trinity. It is the lack of training pitches that are problematic. Training provision is hampered by a lack of floodlights, something that the acquisition of the Iveagh Grounds goes some way towards alleviating. Trinity has in recent years instituted a more formalised and equitable system for all clubs to access the facilities they require. A number of clubs, in particular rugby and football, are however still dependent on renting external facilities, which impacts drastically on their budgets. Likewise, there is the general problem of Santry's distance from the centre of campus, which means a lot of clubs are forced to spend their budgets on minivans to get them to the site.

3.26 College and Islandbridge

The rugby pitch is considered immovable because of its history. All First XV and various other games (decided on a case-by-case basis) are played here. Its position at the centre of the campus means that there is little scope for improving or expanding the surrounding facilities. The cricket and soccer pitches are comparatively poor facilities for first XIs and have no floodlights. There is a feeling that if the soccer club was given a dedicated high-quality pitch elsewhere then their teams would be happy to relocate. The cricket team has an arrangement with Cricket Ireland to maintain and improve the pitch. The Boat Club have a boat house of sufficient standard not to be an immediate priority. There is a longer-term aim to provide more boat storage space for this facility, which in turn would allow the gym equipment to be moved onto the ground floor (where a number of the boats are currently kept) and reduce the club's dependence on temporary outdoor storage. This would also have the benefit of freeing up the first floor for commercial use, such as wedding receptions and birthday parties, in what is undoubtedly a desirable setting for events.

3.27 Iveagh Grounds

The Iveagh Grounds are an exciting opportunity for the University, particularly because the site has floodlights, which are desperately needed for week-night training in autumn/winter. The facilities themselves are in very poor condition, but the grounds are enclosed, close to the College and have an established social hub with changing rooms. There is also the benefit of a long history that invests the site with a sense of place that Santry lacks.

3.28 A feasibility study is currently underway which will put in place an overarching masterplan for the site, to be implanted in phases and as funding allows. It will address the quality and range of outdoor pitch provision for a variety of sports including GAA, hockey, and rugby.

3.29 Santry

Santry has recently undergone two phases of redevelopment:

- Phase 1a: Installation of tarmac car park, international level floodlit all-weather hockey pitch and three five-a-side football cages, which are exclusively for commercial rental.
- Phase 2a: Installation of sand-based floodlit GAA pitch.

3.30 The acquisition of the Iveagh Grounds has put a moratorium on further phases (upgrading soccer and rugby pitches), although there is still a lot of under-developed space. The crucial issue here is the lack of floodlights on the two soccer pitches, the back rugby pitch and the training area to the side of the changing rooms. If the Iveagh Grounds are transformed into a training-focused facility, then this becomes less problematic but – if fully upgraded and with the addition of floodlights – Santry could provide a permanent home for first XI soccer alongside further training facilities for rugby. It is already permanent home to hockey and GAA so there is a good opportunity to make this the base for competitive games.



FIG. 14 Aerial view of Iveagh Grounds and related properties



3.31 COMMERCIAL ACTIVITY

In recent times, the University has been very successful in capitalising on the assets that exist and seeking to exploit them in a way that is compatible with the academic objectives of the University. The commercial income generated is now significant and makes a major contribution to academic activities, such as new posts and studentships.

- 3.32 A major driver of commercial income is the Book of Kells exhibition and associated shop. A holistic scheme for the Old Library is currently being developed by Heneghan Peng architects that will encompass a new exhibition, relocation of the shop, a research collections reading room and conservation works to the building. This project is currently in a scoping phase and will be dependent on substantial external funding.
- 3.33 The second element is the non-academic use of assets. The recent income has occurred with limited investment in the core estate. If there is more renewal or increase in assets in the core, the scope for more income will improve. Improved processes around room bookings are required to ensure that all estate assets are used in an optimal manner for commercial use when not in academic use.
- 3.34 The addition of the new accommodation at Printing House Square and any re-organisation of teaching spaces are significant and could play a major role in the financial sustainability of Trinity by providing an improved offer to commercial activity.

3.35 TTEC (Trinity at Grand Canal Quay)

The final element that needs to be considered is the opportunity afforded to the University by the potential development of TTEC.

3.36 The scope for development at TTEC is to exploit the latent land value which Trinity has through the long leasehold, and to use that to achieve some development whilst limiting capital expenditure. Uses that might be beneficial to Trinity as part of this scheme include the following:^z

- the E3 Research Institute;
- development of a broader creative arts project including the Lir;
- an efficient administration hub, releasing land at College Green for academic purposes;
- student accommodation;
- and a significant opportunity for industry-academic collaboration.

3.37 The site has the potential to deliver 90,000-120,000sqm of new space¹, a proportion of which will be available to the University and the remainder to the commercial sector.

3.38 This is a complex and long-term project. In addition to the direct elements that may relate to University activity, the aim of this project - for the University and the Irish government - is to stimulate the most significant innovation district in Ireland. This is a major opportunity for Trinity in addition to producing significant capacity for growth for the University.



1. Depending on planning granted by Dublin City Council

FIG. 15 Proposed Draft Masterplan for the TTEC area.





4. FUTURE OF THE UNIVERSITY CAMPUS

4.1 INTERNATIONAL CONTEXT

Trinity is ranked in the top 105 in the world and aims to be higher. In order to perform successfully at this level, the University will need to compete with the global elite to attract and retain internationally mobile students, faculty and funding.

- 4.2 The best universities in the world have deep pockets and will invest heavily to maintain their competitive edge. Competition amongst world-class research universities is fierce. Simon Marginson, Director of the Centre for Global Higher Education at University College London, argues that universities compete with each other based on the 'positional goods' they can offer to prospective students, families, employers and graduates. The positional goods in question relate to the fact that some student places or staff positions offer far better status and lifetime opportunities than others. Hoping to attract more or better staff and students, most universities aim to maximise their value as producers of positional goods, using a variety of methods to do so.

4.3 RESEARCH EXCELLENCE

The primary positional good valued in the higher education competitive system is research quality; the strength of research output is a central component of all major international benchmarking systems. This is because the quality of research tends to act as a barometer for various other positional goods offered at universities – staff quality, facilities, working environment, funding – as well as being an asset in its own right. It also helps that it can be measured more easily than other university outputs. Put simply, research capacity, output and quality define global competition in higher education.

4.4 WORLD-CLASS FACULTY

Excellent universities need excellent staff. Top-quality faculty benefit a university by generating world-

class research. At the very best universities, a high concentration of talented individuals should work across many academic disciplines, collaborate with other leading researchers domestically, and also with leading counterparts around the world. World-class faculty are also important in attracting the very best students, earning research funding from various awarding bodies, improving the quality of teaching and contributing to a globally relevant academic agenda.

4.5 EXCEPTIONAL STUDENTS

As international competition between universities has intensified, institutions have come under increasing pressure to attract and retain the very best students. For universities, the most talented students from home and overseas are vital to create the stimulating intellectual environment that characterises leading institutions.

4.6 QUALITY OF TEACHING

Although a focus on academic research is central to world-class status, such knowledge-generation feeds through to the quality of teaching experienced by students. The research-led learning experience contributes to the quality of teaching and enhances student experience. In terms of a university's overall standing, teaching standards tend not to be valued as highly as quality of research, however, for the students the quality of teaching is equally, if not more important.

4.7 FINANCIAL STABILITY

World-class universities are financially stable and tend to command sizable budgets and significant endowments. It is not unusual for universities in the USA, Asia or Europe to have capital programmes valued in billions of dollars. Many of these institutions will have student bodies that are small, meaning that resources are not spread widely and can be concentrated to support excellence.

4.8 Elite institutions tend to derive their funding from several sources: government money for spending or research, contract research from public and private sources, and earnings from endowments, gifts and tuition fees. In recent years Irish universities have suffered significant declines in public funding, and so have had to turn to other sources. Trinity has been proactive in commercial revenue and philanthropy, both of which have made a major contribution to recent estates projects, including as the medium voltage upgrade, Arts Building refresh, the new Trinity Business School and the E3 Learning Foundry.

4.9 QUALITY OF CAMPUS ENVIRONMENT

World-class campus facilities play a pivotal role in a university's ability to attract and retain the most talented individuals from around the world. Since the founding of the world's first universities 900 years ago, the idea of the university has been inextricably associated with the idea of place. At a lucky few universities, an excellent campus environment has been created organically over time – many of the best universities have long histories and mix their heritage buildings and architecture with contemporary facilities in a coherent and comfortable way. For most however, such an environment is formed through a thorough, thoughtful and rigorously applied campus planning process. It is no coincidence that most good universities are also great places – the two go hand in hand.

4.10 It is demonstrable that universities with certain physical qualities and characteristics are more successful – by virtue of their specific campus environment – than others.

4.11 A 2015 study by Amir Hajrasouliha titled 'The Morphology of the Well-Designed Campus'¹ sought to evaluate the role of the built environment

at a university campus, relevant to freshman retention rates and six-year graduation rates. The purpose was to provide an empirical, rather than anecdotal, measure of the impact certain elements of the built environment at university campuses have on the success of an institution. The study applied seven morphological measures to university campuses: land-use organisation, compactness, connectivity, configuration, campus living, greenness, and context. Through structural equation modelling, Hajrasouliha found significant association between urbanism (measured by compactness, connectivity and context), greenness, and campus living. He concluded that there is a correlation between the morphology of the university campus and students' satisfaction. Urbanism, on-campus living and greenness have significant positive association with freshman retention rates and the six-year graduation rate.

4.12 Representing a new approach to campus analysis, Hajrasouliha's work places new emphasis on the value of an urban location to a university. Denser development interspersed with green space was recommended as the ideal planning approach for university campuses.

4.13 COMPETITIVE ENVIRONMENT

In the global competitive environment, efficient delivery of education becomes more necessary. Rural or remote universities are the least efficient as they often do not have the scale to support services that are financially sustainable, diverse, and beneficial to the university community. Suburban universities are more competitive in this respect, but they still suffer a similar problem and therefore seek to increase density. Urban universities will be the most efficient, in particular those that are research active – these functions will generate demand and critical mass for additional services. The challenge of the urban system is the need to provide affordable residential accommodation in places where the cost of living is high. Urban, research-active universities with a good residential

1. Hajrasouliha, A. (2015). 'The Morphology of the "Well-Designed Campus": Campus Design for a Sustainable and Livable Learning Environment', PhD thesis, University of Utah

accommodation offer will therefore be the most competitive.

- 4.14 As a means of competition, the physical campus will only become more important over time. Amongst the best universities world-wide, effective estate strategic planning will be necessary to establish a university's physical brand. At the world's best universities, a leading academic can expect sufficient funding, access to whatever equipment she or he may need, and adequate space to accommodate a team of researchers. In this elite context, the university's physical brand is the distinguishing factor. It is also significant that Trinity has a spirit of public service, within which the campus plays a major role.

4.15 TRENDS

Trinity is a world-class, residential, research-active university. This group is very resilient over the long term and continues to outperform other universities according to the metrics used globally.

- 4.16 Predictions abound that technology or market pressures will fundamentally redefine how universities will operate. It is far more likely that universities will continue as they always have done, to foster communities of scholars who study and research, teach and learn together. How campus users eat, sleep, play sports, debate and socialise all remain relatively constant, albeit the mode in which these activities take place may evolve with time. Key principles to support these functions should not be abandoned in favour of short-lived trends.
- 4.17 It is important to think about campus planning over the long term; strong institutions are built on consistency and careful planning. The timeless aspects of the campus environment should not be abandoned, although it is clear in the challenging and evolving global environment that universities must be open to change. Universities are investing unprecedented amounts in their campuses, both to build flagship new buildings and to fund

redevelopment, refurbishment and large-scale planning efforts. The following trends are indicative of the ways in which universities are developing their estates to meet contemporary needs in a competitive and efficient manner.

4.18 HUB BUILDINGS AND STUDENT PRECINCTS

The concept is at the forefront of the trend for student-centric development. The concept of the 'hub' building, a one-stop shop where students can study, meet friends, eat and drink and access administrative support, is becoming more common around the world. The hub typology is the product of the convergence of two of the most prominent themes within the higher education landscape: the shift in learning paradigms and students' growing expectations of their campus experience. By uniting the core principles of the student experience – teaching, learning, social, pastoral – hubs are perceived as a key means of answering market demands.

- 4.19 In addition to hubs for the general university population, there is a nascent but significant trend to invest in standalone social learning facilities catering solely to the postgraduate body. In 2015, Queens University Belfast unveiled the Lynn Building, a neo-Gothic former library built in 1868 transformed into a postgraduate school. The project belongs to the University's goal to increase its postgraduate student population from 23 to 30 per cent between 2016 and 2021. The restored building houses silent study areas, group rooms, classrooms and a large breakout space beneath a dramatic vaulted ceiling. In 2017, Queen Mary's University in London followed suit with the opening of its own Graduate Centre, comprising teaching, study and social areas tailored expressly to the working patterns of its postgraduate population. The University has in recent years expanded its postgraduate body, and the new building is anticipated to facilitate the continuation of this growth. This is particularly relevant to PhD students.

4.20 RESIDENTIAL ACCOMMODATION

Universities are investing significant capital in providing more and improved residential accommodation on or close to their core campuses. Investment is strategic, developing models that enhance community life and integration, create institutional appeal for selected target markets, and offer value for money. Living on campus has traditionally been seen to be one of the greatest determinants of student development, and it is documented that students living on campus are more likely to interact with faculty, engage in extracurricular activities, form new social acquaintances and use institutional resources than their peers living off campus, thereby increasing identification with the institution and boosting educational outcomes. Based on a sample of 103 American universities with high research activities, a 10 per cent increase of on-campus housing has been associated with a 2.45 per cent increase in six-year graduation rates.¹ The benefits of investing in student accommodation are tangible and clear.

- 4.21 Providing accommodation to postgraduates and faculty as well as undergraduates is a key driver of many residential schemes. Edinburgh's Holyrood North Residence Hall (2016), for example, provides over 1,100 new rooms, targeted at international postgraduates and mature undergraduates. Elsewhere, the National University of Singapore has built the Kent Vale Residences, a 100,500-square-metre development comprising 400 apartments for faculty and visitors, located next to the main campus.

4.22 INNOVATION AND INDUSTRY ENGAGEMENT

In an effort to recruit students, foster interdisciplinary research, and commercialise research through translation and industry

collaboration, universities are promoting innovation buildings as campus centrepieces.

- 4.23 This bears testimony to the evolving role of twenty-first-century higher education. The benefits of investing in an innovation ecosystem are strategic. Increasingly, employee feedback points to dissatisfaction with graduates' preparation for the workplace, while the ambitions of students themselves are now shifting. More and more start their university career inspired to develop, realise and commercialise new ideas – the value of a tertiary education to their career goals must therefore be self-evident. Furthermore, in an age of declining public funding for research, institutions stand to gain financially from commercialisation and industry partnerships.
- 4.24 Universities are forging deeper connections with commercial entities. One strategy is co-location, embedding researchers, students, industry and business under one roof. Schemes such as the University of Strathclyde's Technology and Innovation Centre (2015, BDP) and the Centro Argos Para la Innovación (2015, Lorzeno Casto), funded by the Colombian construction materials producer Cementos Argos, on the Universidad EAFIT campus in Medellín, combine the resources of academic, industry and businesses in pursuit of knowledge exchange and market solutions.
- 4.25 The University of Melbourne's Carlton Connect Initiative exemplifies this trend. Planned for completion in 2020, Carlton Connect will be an innovation precinct and a place for co-location and collaboration between researchers, companies, government bodies and community members. The 74,000sqm precinct will feature a series of connecting buildings arranged around a central and publicly-accessible open space. In addition to co-working and commercial office space, the precinct will feature a Fab Lab, student accommodation and a 'superfloor' dedicated to collaboration and ideas exchange. This is similar to many aspects of the TTEC concept.

1. Hajrasouliha, A. (2015). 'The Morphology of the "Well-Designed Campus": Campus Design for a Sustainable and Livable Learning Environment', PhD thesis, University of Utah, pg.114

4.26 URBANITY

Today's universities are deliberately seeking closer integration with urban life. At no point has the institutional mission been so outwardly focused as it is today. The motives behind this are not solely civic-minded. Students and staff are increasingly looking for the vibrancy and amenities of urban life, with the consequence that the 'city' has become a driving force in shaping the campus's physical form. Selected universities are densifying and activating suburban or remote campuses by creating large-scale, mixed-use developments as a means to secure the competitive edge. North America is at the vanguard of this trend. In 2002, Simon Fraser University in British Columbia began construction on UniverCity, a residential community plus town centre sited immediately next to its primarily commuter academic core. The University of Calgary followed suit in 2015, by commencing infrastructure for a compact, pedestrian-focused community mixing residential, retail and employment uses to the west of its suburban campus. Furthermore, we are witnessing more and more examples of urban migration – institutions expanding from suburban bases into city-centre locations. Ulster University, for example, is building accommodation in central Belfast to replace its existing suburban facilities.

4.27 EFFICIENCY

In this age of squeezed public funding and uncertainty about the future, universities are faced with doing more with less, and are contemplating future growth by looking within their existing landholdings to meet the needs of its users over the long term.

4.28 HEIs are conducting long-range planning exercises to re-purpose and reorient their campuses in order to adapt to the changing university sector. These exercises involve analysing the existing environment, identifying opportunities for refurbishment and infill construction and formulating implementation strategies. It is no

new phenomenon, but the approach is gathering in momentum and sophistication as universities strive to leverage value out of a campus and ensure it supports institutional objectives through functionality, quality and identity.

4.29 SUMMARY

These themes demonstrate the extent of competition across the sector. At a macro level the universities that will thrive will be urban, green, historic and have a higher than average proportion of controlled student accommodation. Trinity sits at the heart of this model. However, some aspects will need particular consideration are:

- In general the quality of existing facilities
- The extent of student accommodation and staff accommodation
- Inter-disciplinary spaces will allow Trinity to be more diverse and flexible as is currently being considered for E3; and
- Overall physical experience needs to reflect the brand and the ambition of the University



5. ESTATE OBJECTIVES

5.1 This section looks at the purpose of the estate. Views in this are often partial, looking at only one aspect, which might suit an individual or area, rather than a balanced view across the institution as a whole. If any area is neglected over time, be it maintenance, sports facilities or accommodation, at some point it will have an impact on the competitiveness of the University and will have to be fixed. A good estate is balanced to provide all the needs, to the extent available, for all the groups involved in the University. Balance is hard to achieve. A student may see their learning spaces as critical to their educational experience, whilst a researcher may be more concerned about laboratory facilities. Residential accommodation for international students is crucial, but would this seem so relevant if you are not one? These are the issues of balance and prioritisation that an estate strategy is trying to inform.

5.2 In very simplistic terms, Universities have two brands: the academic and the physical. If an academic brand diverts from the appropriate quality, in a short period the issues can be mitigated through reorganisation of the course and the problem is swiftly in the past. For the

estate, a badly conceived building or project will damage the physical brand for generations in the same way that exceptional schemes benefit over the same period. It is, therefore, very important that the decisions about the estate are founded on a solid base, which will endure for the long term. Returning to the objectives, the fundamental purpose of the Estate is that it allows the University to carry on its teaching, research and other activities in the most appropriate way. Although this, when dis-aggregated, can cover a wide range of areas, in its starkest form, it comes down to two core objectives and some subsidiary points:

- Does it allow a student experience that is appropriate for the University and does it attract (and not hinder) potential students? Failure to meet this objective has fundamental implications for the University over the long term.
- Does it provide a research environment, in terms of quality and quantum of space, which ensures the University can retain and attract researchers (with the estate as a positive rather than neutral or negative factor)?

5.3 In the first area, it goes beyond teaching spaces to library space, student accommodation, sport, culture etc. These all impact on the student experience to some extent. For the second area, the objective will tend to be narrower, relating to a research space or lab. These are the overriding and critical aspects. Whilst these tend to be the driving factors, the civic responsibility of the University is also an important component of how the Estate operates.

5.4 In a complex world of the University, described by Le Corbusier as “a city in itself”, there are many overlapping and contradictory requirements. Too much money focused on research will erode student satisfaction and damage the ability of the University to recruit and, thus, be fiscally sustainable. However, to neglect research and have a reduction in research income will damage the reputation of the University and make it less attractive to potential students. This illustrates the complex interrelationships between various uses and the need for a balanced approach.

5.5 Additionally, the College pays high regard to its sustainability and impact on the environment. This is demonstrated by the commitment to membership of the ICSN. If any strategy is to enhance the sustainability there are three areas that will need consideration:

- to ensure new building meets the latest standards that are set;
- through any renewal process, especially with older and historic buildings, to put at the centre (as far as possible) the sustainability opportunities;
- in terms of overall strategy, to reduce footprints and travel distances as much as possible to achieve greater utilisation and density, which will reduce energy consumed.

These remarks however, are with specific regard to the development of a strategy. They should not undermine or replace the day-to-day policies that are being developed on a consistent basis.

5.6 The final point to deal with, before this section is concluded is the issue of efficiency. The greater the density and concentration the better the experience and sustainability. The structure of the campus and the green spaces naturally limit the extent of development. In general, no estate can respond to changing pedagogical trends, growth in FTEs or national policy very quickly. Physical assets are inflexible and rarely change. It is a very inefficient way to operate, with 50 people taught in a 350-seat lecture theatre, because that was the vogue in 1970. Many universities never tackle such issues until it is time for the relevant building to be re-furbished. This is very typical, but it is critical that the estate strategy is more progressive,

in order to better align the estate with changing times in a way that is attractive to students and staff. No longer can any University afford an inefficient physical teaching model, just because it is a challenging task to fix it. Linked to the issue of efficiency is forecasting for future growth. One of the most inefficient things any university can do is fail to understand how it will grow, as, over the long term, all institutions do grow. It is noteworthy that in an Irish context with a young demographic, an estimated 20% increase for demand in full time third level education over the period 2015-2029 has been projected¹. Another important component of any strategy is how to deal with growth across the University, noting that growth may vary between different disciplines due to various factors including market demand and availability of research funding.

5.7 In summary the objectives of an estate strategy are simple:

- To provide good facilities that are attractive to students and staff for all their needs
- do it efficiently; and
- ensure there is a plan to sustain any growth over the long term.

5.8 All aspects of a successful estate strategy can be traced back to these three issues. However, the other crucial factor that is dealt with in the next section is where should these facilities be within the estate.

1. <https://www.education.ie/en/Publications/Statistics/Statistical-Reports/Projections-of-demand-for-full-time-Third-Level-Education-2015-2029.pdf>



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6. CAMPUS THEORY

6.1 Again, in simple terms, what land should the University hold to fulfil its physical requirements? Fashion changes over time, to the most extreme when the road-accessed commuter campus was seen as the panacea. However, the trend of today that will sustain over the long term is for the very urban. Research¹ has illustrated that the most successful campus typology for achieving the best academic results are those that are:

- urban
- green
- historic; and
- have high proportions of controlled and proximate student accommodation

6.2 Trinity could not be more closely aligned to these criteria. Despite this, it is still relevant to examine the current Trinity assets and look at them in terms of their theoretical location.

6.3 The other issue that tends to drive satisfaction and collaboration is density. It is also of course more efficient and more vibrant for any University to run services in a dense environment. Density of activity, mixing teaching and research, is the logical way to operate over the longer term and is unquestionably also the most efficient.

6.4 However, there will always be the need for some remote activities:

- Some residential at Dartry. However, it is now clear that it is possible in the private market to also deliver more city centre purpose built student accommodation with a significant increase in supply by 2024. This is to reflect increased student numbers in Dublin in general.
- Field sports are commonly remote, although Trinity is favoured with its on-campus pitches and gym. This must be sustained on the core campus as part of a system with Santry, Islandbridge and the emerging Iveagh

Grounds. In terms of campus theory, the sports delivery is well thought through, rational and well executed.

- The same cannot be said for the book depository at Santry, in terms of the quality of the facility. It is appropriate that it is remote and the location is good, but as outlined below work is required.
- Finally, it is accepted that for subjects within the Health Sciences, such as Medicine, Nursing and the Allied Health disciplines, there will be the need for hospital facilities, which are, as with sport, well conceived and effective.

6.5 This then returns the debate to the critical element: where should the University operate in the centre of Dublin? At present it can be characterised by the College Green campus, some properties close by but outside the core element, and the Trinity Biomedical Sciences Institute (TBSI) on Pearse Street running down to the Trinity Technology & Enterprise Campus (TTEC). TTEC is a priority development project for the University and a long-term growth reservoir.

6.6 The University is inefficient in its current use of assets, including in teaching spaces, and a comprehensive teaching space review will provide more clarity and identify opportunities. Recent success in research funding has enabled expansion in laboratory-based disciplines. This has created some space bottlenecks which are difficult to resolve easily. However, modern approaches to flexible laboratory working can facilitate optimal use of specialist spaces, as well as emerging trends in more competent analysis that can reduce the footprint required by wet labs.

6.7 Taking all these points into account, it is likely that, over the long term, the University will be able to meet its needs at College Green and TTEC. If further land is required the strategy should be to acquire between the two sites. The University should seek to dispose of other property around the core campus that does not adhere to these principles. If the University follows this approach,

1. Hajrasouliha, A. (2015). 'The Morphology of the "Well-Designed Campus": Campus Design for a Sustainable and Livable Learning Environment', PhD thesis, University of Utah

it should be divesting and improving quality, not using scarce resources to buy non-strategic sites. Those that it does buy should be careful targets, in order to create a cohesive long term, land bank for the University between what will become the two core urban nodes.

- 6.8 The University needs to align growth with the current capacity in the system with all future needs being carefully considered. However, at a high level it may be appropriate to dispose of Foster Place/ 1-5 College Green and D'Olier Street and focus on the core campus and TTEC. This does not rule out requiring or retaining properties tactically, such as Stack B.



7. PROGRAMMES AND PROJECTS

7.1 An Estate Strategy can set principles, but to implement it there must be specific projects or programmes that endure over a long period. This section splits between the two elements. A programme is the amalgam of a series of smaller projects that are undertaken over a longer period to meet a specific need. They tend to be the subject of monitoring and adjustment as they go along. The programmes also interrelate with other exercises that may be undertaken from time to time.

7.2 These are elements that will inform more significant capital projects and requirements. They often need to precede projects as they can lessen the requirement for more substantial activities.

7.3 ENHANCING THE COLLEGE COMMUNITY

Many institutions have unusual or special characteristics, and a particular feature of Trinity is its collegiate system and strong focus on community across staff and student bodies. As a specific measure of the success of any estates strategy, it is essential that physical contributions define and enhance the exceptional character of the campus. New buildings, as well as broader campus renewal projects, will provide spaces for collaboration, social interaction and connection.

7.4 Aligned to its uniqueness, there is the open nature of the campus. The College is fortunate to have many visitors per annum but this comes with potential security concerns. Trinity must be mindful of these issues whilst still ensuring open access to buildings and an ability for staff and students to enjoy all areas of the College. As part of a strategy, consideration needs to be given to approaches to design, such as the deliberate placement of a café and the re-routing of desire lines, to keep the campus as open and safe as possible.

7.5 TEACHING SPACES REVIEW

The university is undertaking a far-reaching scheme in the Trinity Education Project. At the same time, it is seeking to book more rooms centrally and move towards central visibility of the timetable. All of these are positive aspects for the estate. However, it is known from previous analysis that there is much scope for improvement in the teaching system, in terms of frequency and class size. A room might be used frequently, but if it is a 100-person room occupied by eight people, this is a very inefficient way to operate. This must be the single most important priority project for the Estate Strategy. The crucial issue is to establish utilisation data and then create a system of better rooms, correctly sized and fit for purpose, which will result in some surplus that can be used for other purposes.

7.6 LEARNING SPACES REVIEW

This is also very important, but will be a function of other programmes. It is acknowledged that Trinity does not do well in delivering appropriate social learning spaces at an individual or group level. There is scope for improvement as a result of the E3 Learning Foundry, the Arts Building refresh project and the Westland Row/ Hamilton Review and the Library options, as well as the implications of the teaching spaces review. This is a priority, but should be considered behind the teaching spaces review.

7.7 POST GRADUATE EXPERIENCE

This is becoming more relevant at many Universities at two levels. The first is for PGT where there is an expectation that, due to higher fees, there should be some differentiation of experience to the UG. This should be considered as part of the learning spaces review. It also needs to be aligned with the ambitions of the PG students who may wish to apply elements of the student levy to PG spaces. It also may be considered as part of any library scheme. A second and arguably less urgent but more critical issue is space for PhD students. Unlike UG students the quantum of PhD students has a more measurable impact on ranking, especially THE, and many universities are looking to have specific facilities for PhD students to improve the experience and the attractiveness. A focused approach in this area at School level, or cluster thereof, has significant merit.

7.8 The last three points above are cross cutting approaches that should be implemented as priorities, because they will influence other capital projects. They should be implemented along with a review of the current spaces that could be realised from the capital projects in hand, such as the Trinity Business School and the E3 Learning Foundry.

7.9 RESIDENTIAL STRATEGY

The other point integrated with this element is the residential strategy. The University has already set in chain a whole series of proposals to increase the quality and quantity of accommodation. This includes the current Trinity owned remote sites and third-party options as close to the core campus as possible.

7.10 The two policy positions that follow on are:

- Where appropriate, add residential activity to the historic core over office accommodation, which is not needed on the campus.

- As part of any TTEC development, add a residential element to the scheme. This is not only so it can be University controlled, but also to add to diversity and mix close to College Green.

7.11 There are a second series of issues, which relate to the control of developments other than specific programmes or policies. This is a cascade from the strategic to the specific. It also deals with the concept of the Masterplan. This Estate Strategy is a document that should be reviewed from time to time and directs what should be developed and where. There are other documents that focus on 'how', especially for such a prestigious and significant site. This should be developed in three ways:

7.12 DESIGN GUIDELINES

- These should be created for the College Green campus. Any approach to TTEC should be developed separately, depending on how that site is procured and the nature of the emerging Masterplan. The Design Guidelines seek to control how the College Green site is managed and developed. This is at a series of levels.
- Different character areas for the campus, from historic to more modern green or public
- how the landscape, signage, maintenance, utilities areas, sustainability issues and lighting should be controlled so there is consistency and efficiency
- which areas have potential gain from development over time; and
- what conditions should control such development

7.13 There should be a governance approach to allow for aesthetic optimisation and cost efficiency. Furthermore, there should also be a set of parameters that will form the basis of any design exercise for a refurbishment on new buildings.

7.14 MASTERPLANS

Linked to the concept of design guidelines is the need for a Masterplan pertaining to the College Green site. It is recommended that there is a precinct approach. Masterplans for TTEC and the East End are underway. The nature of growth faced by the University and the potential availability of capital suggests that the University should be more focused on programmes, efficient and targeted changes, and a capacity building exercise for significant new projects. It may be that more specific plans such as the West End or Pearse Street frontage schemes might be developed within the parameters of any design guidelines.

7.15 CONSERVATION PLAN

This also sits below the design guidelines. A conservation plan is a more detailed document, which assesses the significance of the conservation assets. It then looks to assess individual policies as to how those assets should be managed and how any development that impacts these assets be controlled. Related only to part of the site, it operates at a more detailed level to design guidelines. It is also often aligned and forms the basis of a dialogue with statutory authorities. It will help identify the potential opportunities for any renewal plan

7.16 PROJECTS

The three approaches form a new approach for Trinity, in terms of managing its assets. The next element is specific projects, which form part of the strategy. These need to go through the normal capital governance process and be subject to business case analysis. They are in no order of priority; rather they emerge from the analysis of the potential needs.

1. A new scheme for School of Law to reflect growth in student and staff numbers. This is likely to require a new capital project on the main campus. Law would vacate House 39 which could then revert to a residential accommodation block.
2. Completion of public realm to Business School and relocation of Simon Perry activities.
3. A long-term solution for School of Nursing & Midwifery, to be considered after improvements to the University's teaching space booking and timetabling arrangements. There may be options for this at TTEC with a concomitant disposal of the property on D'Olier St.
4. Continued monitoring of improvements that may be required at remote hospital sites, including the potential for a Trinity St James's Cancer Institute at St James's Hospital.
5. Develop a scheme and continue to explore funding opportunities for options for the Old Library, including related conservation issues, exhibition space, visitor facilities and a research collections study centre.
6. Develop a scheme for a replacement of the Santry depository, to allow for some further decant of appropriate materials¹ from the existing library system. This could provide capacity for growth in AHSS by making additional space available in the Lecky and, pending a feasibility study, the basement area of the 1937 Reading Room for student learning spaces and postgraduate write up spaces, respectively.
7. Develop an integrated sport solution around College Green, Santry, Islandbridge and Iveagh Grounds
8. A review of the Westland Row buildings and uses to determine how to better utilise the buildings and learning spaces in the

1. It is envisaged that special collections and valuable Library materials would remain on campus

- Hamilton. This review will include potential improvements to the Hamilton Library in the context of space being created within the Library system (see Point 5).
9. Refurbishment of the Rubrics and Chief Steward's house for staff and visiting academics' accommodation, as well as improved research facilities for Fellows emeriti.
 10. Develop a programme of uses related to the funds generated by the student spaces levy to include the network of Zón Mac Léinn and requirements from a Student Centre.
 11. Consolidate a medium-term plan to co-locate relevant professional services functions and consider the most appropriate uses for the resultant vacated spaces, which are most likely to be located in the historic area of the campus.
 12. Consider the potential disposal of Foster Place and 5 College Green in the context of Point 11 and develop a plan to relocate the academic and academic support areas to more appropriate accommodation, noting that Point 5 will create additional space within the AHSS zone of the campus.
 13. Consider a refurbishment and appropriate use for the Printing House.
 14. Consolidate a long-term plan for TTEC as a site for research-industry collaboration, academic activity, creative arts, student accommodation and a potential, professional services hub.
 15. Consolidate a long-term plan for the College Green campus buildings and their occupancy in the context of the TTEC development.





Book of Kells
Lecturer's Room
Arts Building
Kilgobbin Rd, Dublin

8. IMPLEMENTATION

8.1 The purpose of Estate Planning is a long-term approach to enhance Trinity College as a whole. As described earlier in this strategy document, the panacea is to allow for the University to grow in activity and income without incurring costs due to unnecessary expansion of the estate, whilst also reducing the overall cost of the estate per member of staff and student. This drives efficiency while ensuring a more focussed improvement of the existing estate. In order to properly assess the progress, it is necessary to create a baseline of the existing position. This needs to cover a wide range of areas. The key ones are:

8.2 **Space and Cost**

This is non-residential with cultural and commercial spaces also separated.

GFA - all areas

GFA - by faculty, sport, professional services etc

8.3 Some initial analysis of this has been undertaken in terms of occupancy but it is also necessary to align the total cost of operating against the GFA, noting that some areas, by virtue of type of activity, will have higher operating costs.

8.4 This forms the base position from which future increases or decreases in operational efficiency of the estate can be measured. This data can be considered along with other benchmarks of the profile of the University which are already routinely

measured, such as student and staff numbers, research income and total income.

8.5 **Other Areas**

After this there will be a series of other metrics that should be routinely monitored following the establishment of the baseline position:

1. Number of student rooms in and out of the main College campus – UG and PG as a total and as a % of total students. The baseline data for recent years is already available.
2. Utilisation data when collected which will form the base for identifying locations for improvement and/or repurposing. This will form the basis of a renewal project that will span multiple locations and, where applicable, may dovetail with larger projects. Capturing this data requires urgent attention in order to inform a specific renewal plan.
3. Number of learner spaces in the library in total and as % of total students. The baseline data for 2017-18 has already been collated.
4. In terms of condition the % of space in the good and excellent condition

8.6 Looking at the baseline position is an early part of the process which is dynamic given the impending occupation of the Business School and the ramp-up and completion of the E3 Learning Foundry which are committed and in the short to medium term will add to the total size of the Estate. Once a baseline has been established then it is possible to look at the range of projects and assess how they should proceed. Any strategy will evolve over time, but the list below seeks to ascribe some priority to the exercises that need to take place.

8.7 **PROJECTS**

New projects should only be contemplated when there is a demonstrable need for new accommodation. The utilisation and condition elements are fundamental to further consideration. It will be helpful to list below the projects and identify how they should be prioritised as Trinity

moves forward. The projects are identified in the order they appear in Section 7 and are categorised as short, medium or long term. Short term would be something that is urgent and for which planning should be commenced immediately, leading swiftly into implementation. Medium term may start now or a little later but may take a while to bring to completion due to complexity, funding or a dependency on completion of other projects. Long term reflects identified need that will need to be dealt with over time. There are also some projects that need continuous attention on an annual basis.

1. Teaching & Learning Spaces review - SHORT TERM. Some early work has commenced but there is an urgent need to complete a more detailed analysis and, thereafter, collation of this data will require continuous attention.
2. Post Graduate experience - MEDIUM TERM. There may be opportunities to improve the 1937 Reading Room in the Short Term.
3. Residential Strategy - CONTINUOUS ATTENTION
4. Design Guidelines – SHORT TERM. This exercise is underway and, following approval of the Design Guidelines document, will become embedded in management of the Estate.
5. Masterplans- MEDIUM TERM, noting that mini-masterplans for Trinity@ Grand Canal Quay and the East end are under development.
6. Conservation Plan - SHORT TERM. This is also a recommendation from the Estates & Facilities Quality Review and should be initiated.
7. Law - SHORT TERM. The business case is under development.
8. Completion of Business School plaza and public realm – MEDIUM TERM. This project has been committed but requires a new location for the activities undertaken in the

Simon Perry building and this is dependent on another project (ie. the E3 Research Institute).

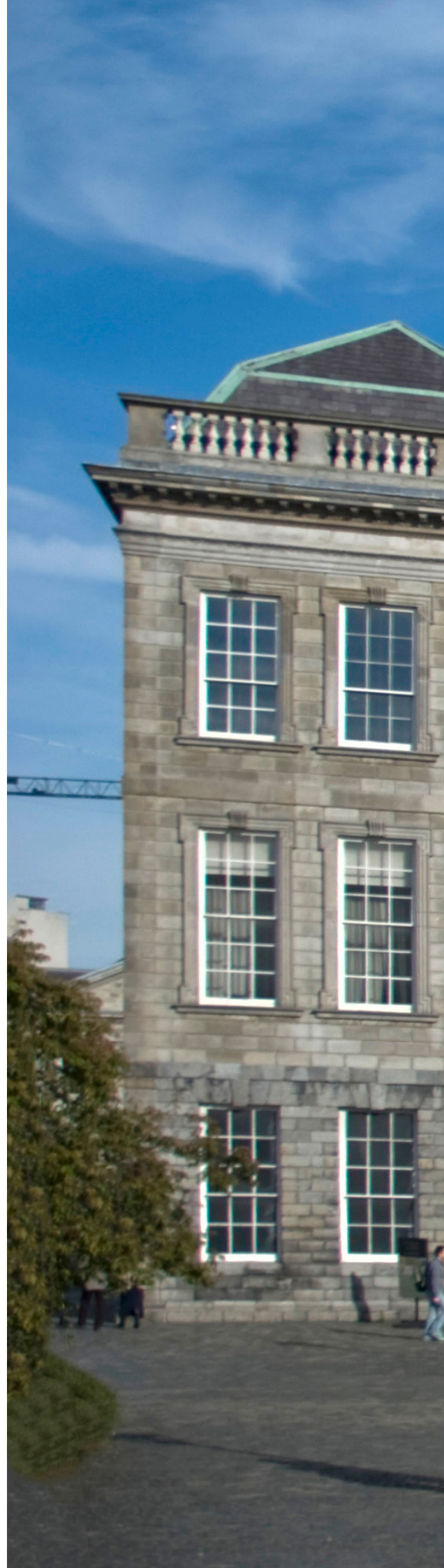
9. School of Nursing and Midwifery - LONG TERM. This project may be facilitated by future space opportunities in Trinity@ Grand Canal Quay pending a viable business case.
10. Trinity St James's Cancer Institute - MEDIUM TERM. Planning for this project is underway but implementation will require funding.
11. Old Library enhancement - MEDIUM TERM. This project is in a planning phase but implementation is dependent on appropriate levels of funding being committed from multiple sources.
12. Santry Depository - SHORT TO MEDIUM TERM. This project may move forward in the short term, pending a viable business case and agreement with relevant third parties. It offers the advantage of freeing up space on the main campus and can be considered as an enabling project for other initiatives.
13. Integrated sport solution including Iveagh Grounds - SHORT TERM. A feasibility study for Iveagh Grounds has been commissioned but implementation of a project on that site will require a viable business case.
14. Review of Westland Row/Hamilton - MEDIUM TERM. No work has yet commenced on this, but a feasibility study would be able to proceed swiftly and this would allow a strategy for that suite of buildings to be developed.
15. Refurbishment of the Rubrics and Chief Steward's House - SHORT TERM. These buildings require urgent attention and a business case for refurbishment is at an early phase.
16. Programme for any Student Centre - MEDIUM TERM, noting that the student spaces levy will allow some improvements in student spaces in the Short Term. Developing a design brief for a student

Centre and benchmarking could proceed in the Short Term.

17. Professional Services reorganization, including potential disposal of Foster Place and College Green - MEDIUM TERM. Some reorganization of occupancy within existing buildings will facilitate some consolidation of cognate administrative activities in the Short Term.
18. Printing House renewal - MEDIUM TERM. This will depend on identifying the most suitable use(s) and development of a business case.
19. Grand Canal Quay and the implications for the College Green Campus - MEDIUM TERM. The exercise on longer-term planning for the main campus will get underway as the planning for Trinity@Grand Canal Quay emerges in 2018-19.

8.8 REPORTING

Whilst each individual project will be monitored via the usual governance arrangements, an annual report to the Board on Estates data has merit. By September 2019 it is anticipated that the baseline data and the teaching & learning spaces review will have been completed and all short-term projects advanced.





APPENDIX - EXTENT OF CONSULTATION

The following attended workshops and/or individual meetings to discuss the development of the Estates Strategy:

ESTATES STRATEGY STEERING GROUP

- Provost Patrick Prendergast, Chair
- Prof. Veronica Campbell, Bursar
- Mr Jonathan Coulson, Turnberry
- Prof. Catherine McCabe, Chair of Estates Policy Committee
- Mr Paul Roberts, Turnberry

FACULTY DEANS

- Prof. Darryl Jones, Dean of Arts, Humanities and Social Sciences
- Prof. Vinny Cahill, Dean of Engineering, Mathematics and Science
- Prof. Mary McCarron, Dean of Health Sciences

OTHER EXECUTIVE OFFICERS

- Geraldine Ruane, Chief Operating Officer
- Ian Mathews, Chief Financial Officer
- Chris Morash, Vice-Provost/Chief Academic Officer
- Dr Diarmuid O'Brien, Chief Innovation and Enterprise Officer

HEADS OF SCHOOL

Arts, Humanities and Social Sciences

- Head of School of Business Andrew Burke
- Head of School of Creative Arts Matthew Causey
- Head of School of Education Damian Murchan
- Head of School of Histories and Humanities Christine Morris
- Head of School of Languages, Literatures and Cultural Studies Juergen Barkhoff/Juergen Uhlich
- Head of School of Law Oran Doyle
- Head of School of Linguistic, Speech and Communication Sciences Martine Smith
- Head of School of Psychology David Hevey

- Head of School of Social Sciences and Philosophy Gail McElroy
- Head of School of Social Work and Social Policy Eoin O'Sullivan
- Head of Confederal School of Religions, Peace Studies and Theology Siobhan Garrigan

Engineering, Mathematics and Science

- Head of School of Biochemistry and Immunology Ed Lavelle
- Head of School of Chemistry Michael Lyons
- Head of School of Computer Science and Statistics Declan O'Sullivan
- Head of School of Engineering Henry Rice
- Head of School of Genetics and Microbiology Charles Dorman
- Head of School of Mathematics John Stalker
- Head of School of Natural Sciences Patrick Wyse Jackson
- Head of School of Physics Igor Shvets

Health Sciences

- Head of School of Dental Science Brian O'Connell
- Head of School of Medicine Michael Gill
- Head of School of Nursing & Midwifery Anne-Marie Brady
- Head of School of Pharmacy and Pharmaceutical Sciences Anne Marie Healy

OTHER STAFF

- Prof John Parnell (Estates Policy Committee, Senior Dean)
- Dr Eddie McParland (Fellow Emeritus)
- Prof James Lunney (Physics)
- Valerie Smith (Administrator, AHSS Faculty office)
- Prof Paula Murphy (Registrar)
- Kevin Ennis (Interim Director of Marketing)
- Kevin Keane (President of SU)
- Shane Collins (President of GSU)
- Peter Dudley (Sub-Librarian)
- Michelle Tanner (Head of Sport & Recreation)
- Dr Alison Oldham (Director of Services)
- Orla Sheehan (Manager, Academic Services Division)
- Prof Juliette Hussey (Vice President for Global Relations)

- Prof Kevin O’Kelly (Dean of Students)
- Prof Peter Gallagher (former Associate Dean of Research)
- Prof Christine Casey (Estates Policy Committee)
- Prof Patrick Wyse Jackson (Head of School, Natural Sciences)
- Monica Janson (Design Services Manager, Estates & Facilities)
- Prof Catherine McCabe (Chair, Estates Policy Committee; Estates Strategy steering group)
- Paul Mangan (Director of Estates and Facilities)
- Marco Benassi (Space Planning Officer)
- Prof Cliona O’Farrelly (School of Medicine)
- Greg Power (Head of Capital Projects and Planning)
- Deirdre O’Shea (Estates & Facilities)
- Anne Marie Diffley (Visitor Services, Library)
- Jillian Wilson (Head of Central Events)
- Brendan Leahy (Head of Facilities and Services)
- Kevin Ennis (Interim Director of Marketing)
- Breffni Jones (Marketing Director)
- Adrian Neilan (Commercial Director)
- Helen Shenton (Librarian and College Archivist)





