MANCHESTER 1824
The University of Manchester

Our future
Knowledge | Wisdom | Humanity

Foresight Group Synthesis Report

April 2021

Foresight Exercise – Synthesis Report

Luke Georghiou and Matt Atkin (and drawing upon the work of the Foresight Group (Rachel Brealey, Colette Fagan, Danielle George, Diana Hampson, Gerard Hodgkinson, John Holden, Kay Marshall, Andrew Westwood) and the many people who helped to coordinate, participate in and report on workshops or respond to surveys. They are acknowledged in Annex 1).

April 2021

Contents

Summary

An Agile, Sustainable, Inclusive and Digital University for Our Third Century

The Foresight exercise has explored options for the University on a time-horizon of 5 years and beyond in the light of lessons from the pandemic period and wider drivers of change. A participative process has envisioned a future where:

- Flexibility will be at the core of our approach to teaching, with programmes becoming increasingly 'blended' and combining the best aspects of online and on-campus learning. 'Digital first' design and flexibility will need to be embedded throughout curriculum design to support increased choice in terms of pace, place, time and mode of study as well as to the kind of qualifications offered (e.g. accommodating modular degrees or apprenticeships). Campus activity should offer high quality experience that attracts students and generates thriving learning and social communities that benefit local residents, businesses and the environment.

- Research will increasingly address challenges that demand large-scale multidisciplinary responses that cross all faculties. Knowledge will often be generated through co-creation processes in collaboration with external stakeholders. A key issue for our research is the sustainability of the UK funding model. Some areas may cease to be affordable when judged against the benefit they bring, meaning that transparency and clear criteria are needed for where we invest and for limiting or even stopping some activity.

- International strategy will stress diversification in terms of students, reducing over-reliance on China and increasing activity in emerging economies. Sustainability goals and other drivers mean that a low-travel learning experience will be the norm, meaning more effort is necessary to create a global multicultural experience on campus and to deliver Manchester courses online and via our centres and partnerships.

- Political drivers will place even greater emphasis upon our regional role in innovation and beyond and the need to improve still further our relations with local government and business. We should take advantage of areas where research excellence and local priorities align including capitalising on health devolution to address inequalities, advanced materials as an industrial focus and links to net zero to make the University the indispensable levelling-up hub for the North.

- There is a broad consensus that the future of work will also be more blended and flexible than pre-pandemic but also that there is no one-size-fits-all solution. Rather, where their roles and circumstances allow it, most will experience a mixture of on-campus work for interaction and access to facilities and home-working to reduce commuting and allow focus.

- The imperative for zero carbon by 2038 is a challenge for both investment and for behaviour. The changing patterns of teaching, research and working more generally have implications for our estate, with a need for more agile and flexible spaces achieved by repurposing existing spaces or re-providing where this is affordable. There will be a premium on spaces for collaboration, meetings and hot-desking and less need for cellular offices. Flexibility will need to extend to the way we use the working week to ensure efficient occupancy. Cultural as well as technical change will be needed.

- The future size and shape of the University, as defined by student numbers, financial turnover and mix of activities, will be bounded by the changes described here and by our ability to finance a transition and reach a model of financial sustainability that resolves the current imbalances in the 'Russell Group model'. There is no clear pathway to an alternative model and if there were, the high levels of uncertainty and risk in the political and economic environment mean that it would be unwise to overcommit to a single solution. An adaptive, evolutionary model that develops over time and values resilience will provide a strong foundation for the change that we need to maintain our position as one of the world's great universities.

1. Introduction and Purpose

The Foresight Group was set up under the umbrella of the Transition Steering Group to look at options for the University in the medium-term horizon (c.5 years and beyond) post-Covid in the light of what we have learned during the response to the pandemic but also looking at wider drivers of change including financial constraints.

The aim has been to identify and analyse the long-term implications of the "new normal" for Higher Education and the city region, and create proposals that enable the University to make informed strategic decisions.

Work began in May 2020. The findings are intended to form an input to a review of the Strategic Plan to take place at the Board Strategy Meeting in July 2021.

2. Methods and Approach

At the start a series of reference scenarios were developed to provide a common core of ideas about trends and drivers in our sector, covering themes such as digital mainstreaming, weakening of the Russell Group business model and emerging national agendas particularly around place. The 'thought pieces' prepared by senior leadership team members at the start of the strategic planning process were also used as an input.

The exercise has worked as a 'network-of-networks'. A core group with both academic and PS membership has drawn in expertise from across the University and occasionally from outside to take part in a series of online scenario workshops on each of the main identified topics. While not every aspect could be covered, the seven topics were chosen to cover core activities and the way these intersect with key challenges for the University. Thus teaching and research were addressed in their own groups but aspects of these topics were also addressed in more detail by looking at new models of internationalisation and the impact of national agendas such as levelling up between regions, including our social responsibility actions in that context. Tied more closely to emergence from the pandemic was a theme looking at changes in the way we work, including the future mix of remote and on-campus working. Two topics drew heavily upon the others. The first of these concerned the future of our campus and the likely needs we would have for different types of buildings and facilities in the light of changing ways of doing things. Cutting across the other themes with a sub-theme of financial sustainability and underlying strategy, the final topic addressed options for the future size and shape of the University. Thus the seven groups were as follows:

1. The future of the research system
2. The future of teaching, learning & student experience
3. Redefining the international university
4. Regional innovation and levelling up
5. Reimagining the way we work
6. Future campus footprint/role
7. University size and shape/business model (this intersected and shared resources with the Financial Sustainability Sub-Group)

The sub-group leaders were free to organise the workshops as they saw fit in terms of preparatory work, providing background material and running the session but a basic template was provided in which organisers were encouraged to consider their topic under 3 scenarios:

- "Alpha" – a steady state, "business as usual" roll forward of the current situation. Base assumptions for the Alpha scenario are shown in Exhibit 1;
- "Beta" – a more adverse future with heavy financial constraints and potential continuation of pandemic restrictions into the medium-term; and
- "Delta" – an unconstrained future where we were able to make radical changes if needed and investment was not a significant constraint.

One purpose of the scenarios was to identify which actions would be robust enough to be feasible in all three. In addition, stretch goals, though unaffordable at present, could still indicate preferred directions of travel.

See Exhibit 1 page 4

EXHIBIT 1 Ten-Year Assumptions Underpinning Alpha Scenario

- Slow recovery from a deep recession, including long term constraints on public finances, with the research agenda and infrastructure projects **fuelling this recovery**
- The UK (and its HE institutions) remains sub-scale in relation to increasingly complex **global research challenges**
- Strong UK demographic tailwind results in the government **constraining sector student number growth** in some way to contain the cost
- Continued international perturbations/ risk relating to freedom of travel and **global geopolitics**
- Growth in online/ blended learning, with online elements **maturing into hygiene factors** rather than sources of competitive advantage
- **Margin compression** across UK and International students (growth in online provision and value for money narrative)
- A more differentiated and stratified sector emerges due to:
  - **consolidation**/ some institutional failure
  - pressure to demonstrate value for the taxpayer
  - continued attempts to reignite **vocational and skills-based** education and training
  - a new tuition fee regime/ incentives
- Deeply engrained p**erceptions persist** in Westminster that HE was well protected from austerity in the 2000/ 2010's
- **Climate change and addressing inequalities** continue as major post-Covid agendas

A second stream of work focused upon lessons captured from experiences during the pandemic. There were two main exercises:

- 'What works?' survey of staff, carried out in July and August 2020 with 2,077 responses (70% PS staff, 26% academic/research, 3% other) addressing experiences of working during the lockdown; and
- a consultation with students by a Student Experience/Student Partnership team via survey (72 responses) and workshops/focus groups with 36 participants, both across all years and levels. Note was also taken of the findings of a survey conducted by the Students' Union on Learning, Research and Support (3,031 respondents).

3. Findings

One of the leaders from each sub-group has recorded a short video summarising the main findings on that topic. The videos can be accessed on our YouTube channel **here**.

In summary the findings from each group are:

3.1 The Future of Teaching, Learning and Students

Blended and flexible learning is the expected future. From this group there was overwhelming agreement that teaching and learning should be digital first. Face-to-face delivery is also really important but we should not assume that live lectures are the most important thing we do and the reason for coming to the University. Rather, we should re-think big lectures with some of them being 'TED' style to create engagement and excitement. On campus activity should sell itself with high quality experience and events generating a sense of community and "Manchesterness". There are high up-front costs to providing good quality flexible learning. Current online interdisciplinary courses are hugely popular and we should find ways to get the best gearing out of them. From a student perspective there is a desire for a holistic flexible approach to student life, a sense of community on campus and work-life balance.

Internally we need a more flexible infrastructure – new systems and ways of working, continuing the transformation projects such as the Student Experience Programme now under way. Curriculum flex is also needed – we are very rigid with our semester start dates. Transnational education needs a more modular approach with a flexible calendar, modular and flexible degrees allowing for personalised timetables and payments. This approach also needs to be brought on campus. For course options and pricing a more risk-based approach is needed for teaching. The new culture should be more supportive of risk/innovation and tolerate failure. If we offer courses at a lower price they must be lower-cost to deliver.

Skills and employability should be market-driven and an agile approach should be taken to course development which is co-created with students as partners. Transferable skills and training should be integrated. New pathways with more interdisciplinarity and project work are needed to increase employability. If we wish to pursue degree apprenticeships we will need the infrastructure for that and employer partnerships managed with a coordinated approach across the University.

Transformation needs investment of time and money. We need to choose to stop doing things that are no longer suitable; not just adding new initiatives over the top. A positive change culture is needed but one which preserves work/life balance for staff and students.

3.2 The Future of the Research System

There are many drivers of the research system including the geopolitical context (e.g. export security, sovereignty, decarbonisation), UK political economy (e.g. budget deficit recovery, levelling up and whether it will persist as a political priority) and sector context (e.g. open research, integrity and reproducibility, digital transformation, career structure, funding model).

Change is needed in the processes of how we do research, notably alignment around challenges (illustrated by the pandemic response) with large scale, multidisciplinary, cross-faculty programmes and more external collaboration with researchers and co-production with end-users to improve impact. Lone scholar working will persist in some areas while quality and creativity remain critical in all areas but the big move is to cross disciplinary approaches which are challenging the STEM/non-STEM dichotomy, for example teams of social scientists working on multi-

morbidities with medical scientists to combine their respective datasets. The digital dimension in research can only increase as a requisite for remaining competitive and it is vital that we invest in the infrastructure and skills needed to remain at the forefront.

Our 'people strategy' in research needs refreshing, tackling the issues of recruitment, diversity, skills, career pathways (particularly for ECRs), leadership etc. Academic time needs to be more clearly identified as a resource and allocated across teams whilst challenging misconceptions (e.g. that REF QR funds 40% of academic time).

A sustainable government funding model for research would be transformative but appears to be falling down the political agenda again. Lobbying for FEC/QR reform remains a priority. The failing funding model puts into sharp relief the interdependence between research and our teaching (including student recruitment) and reputation. Some research areas may cease to be affordable at current levels of activity, meaning that transparency and clear criteria are needed for allocation of internal investment and for scaling back or even stopping activity.

Key priorities, themes and challenges in the future should be supported by horizon scanning activity and mobilisation of teams. Illustrative themes are shown in Exhibit 2.

EXHIBIT 2 Key Research Themes

- Environmental Sustainability (including sustainable manufacturing and circular economy), Clean growth and Net zero
- Health and care, including post-Covid recovery (including ageing, mental health and wellbeing) and economic sustainability of the system
- Digital/ Big Data/ AI/ machine learning (potentially requiring investment in specialist skills where we lack capacity)
- Cyber security/ defence/ crime (including cyber, fake news, post truth, deep fakes)
- Inequalities – amplified by pandemic, Covid-legacy; regional dimension visible with political 'levelling up agenda' and recognising that research on/in the region is not parochial- a perception bias among some academics and politicians (not among geographers and regional economists!)
- Mobility and transport
- Post-pandemic society (including public understanding/ outreach)
- Methodologies, including for interdisciplinary research as a cross-cutting theme (topic) in itself for mobilising internally.

3.3 Redefining the International University

The overarching messages included the importance of diversification, both in terms of students and institutional relationships with universities, government bodies and industry. Strategic partnerships are essential to allow us to project Global Manchester and 'Manchesterness', compete for the largest international research and scholarship opportunities and to help shield us from the worst of downturns. There is great opportunity in development of blended co-delivered new courses with strategic partners, including stackable modules. This provides an alternative international experience to one based on intercontinental travel. Success in sharing our values with the world requires continued investment in digital platforms.

Considerations of sustainability, the lingering pandemic and geopolitical uncertainty all push towards a 'low travel' global learning experience. Diversification is important to reduce reliance on China and to achieve a truly global campus experience and avoid monocultural classes, including those dominated by home students. Less travel would mean more teaching delivery via partner Universities as well as our own international centres but bold and ambitious online/blended learning options require continued investment in new digital platforms and work to ensure that remotely located students have adequate access to equipment. An online British cultural experience could be offered, bringing in our University College for Interdisciplinary Learning (UCIL). For transnational education and University of Manchester Worldwide (UMW) resource is need for students to access systems worldwide and 24/7. Further reinforcement of our existing offer might include use of new technology (VR, AR) – to give people experiences in different situations (e.g. tour of the host city; medical students provided with virtual hospital experience, virtual law courts). Digital platforms will provide opportunities to share our values around the world and reputation in UK/Europe around social responsibility, building up on programmes like Equity and Merit, MA Global Health and Ethical Grand Challenges

Depending upon availability of resources there are different possibilities to create an international experience for our students with combinations of in situ international/multicultural activities alongside overseas opportunities. This may include ensuring an international flavor to curricula, co-delivery with overseas partners or at a less intensive level guest lectures and co-mentoring. More ambitious joint offerings could include a stackable model of credit, including credit transfer with partners and sharing of teaching experience.

Our overseas UMW offices (and our presence in Delhi and Sao Paolo) can be used as a base for online delivery as well as being repurposed to support a wider range of University activities and particularly to assist with global projection.

We will need to respond to demographic and economic change in terms of the likely sources of international students. For example, an active Sub-Saharan Africa strategy is needed to respond to a rapidly growing qualified population in the region. This will also demand strategic partnerships in the region, potentially working through the African Research Universities Alliance.

3.4 Regional Innovation and Levelling Up

The University is already heavily embedded in its region as one of the largest employers in Greater Manchester, and its staff and students are a key source of economic activity and provide a buzz to the city. As graduate retention rates rise, the contribution to growth through highly skilled workers is increasing while our research contributes to a wide range of areas including health, the environment and culture. Our innovation activities are major attractors for investment in the region and a source of new firms. Social responsibility activities reach out to the community.

The post-Brexit agenda has made levelling-up and reaching out to 'red-wall' seats a key policy theme although to date it has only been manifested as thinly-spread short term infrastructure improvements. There is still an expectation that Spending Review 2021 will be guided by this reset. While the North should be a beneficiary of any such movement, tensions in government do not make major change a certainty, meaning that a flexible strategy is necessary. Even if little investment is forthcoming we will be expected to change and contribute to this agenda.

Despite the criticism of them on many fronts including culture war, universities are recognised as one of the UK's few areas of comparative advantage with a key role in driving trade and investment. The direction of drive in government policy is to concentrate on the most excellent but while we are almost certain to be perceived in the top ten we are still mentally separated from the Golden Triangle and need to close the gap to secure a central role and the resources that come with it.

The University has an excellent relationship with GMCA and other local players, particularly in Manchester, and a shared commitment to key local and national priorities such as net zero, closing health inequalities and growing

the digital/AI economy. Our strategic proposals led by ID Manchester and including the proposed Manufacturing Innovation Parks play strongly into this agenda with the latter offering a means of extension of skills and translational research to left-behind parts of the city. Innovation GM forms a new opportunity. Relations with other GM leaders and local MPs need to be strengthened as there is some perception that we only benefit only the Oxford Road corridor and not the left-behind areas. More connection to the outer boroughs such as Oldham and Rochdale and the surrounding region (Cheshire, Lancashire and Cumbria) is also needed. One challenge we face is the layered definition of 'the North' and the multiple governances and identities that are bound up in it. There are opportunities for different ways of working to strengthen this agenda. For instance, changing working patterns post-Covid offer the opportunity to reach into communities that currently are excluded (by distance or working patterns) from working at the University.

Our key areas where research excellence and local priorities align include capitalising on health devolution to address inequalities, advanced materials as an industrial focus and links to net zero. These can help to make the University the indispensable levelling-up hub for the North, contributing to our Civic and Social Responsibility strategies.

3.5 Reimagining the Way We Work

There is general agreement, for example in the 'What works?' survey (see Exhibit 3), that working patterns will be different after the pandemic but that this will be a more blended and flexible future with no one-size-fits-all solution and no way forward with the extremes of all-campus or all-home working. Flexibility lies not only in location but also in working hours. However, the degree of flexibility will be bounded not only by individual preferences but also in the wide range of demands associated with different roles in the University. Line managers will need to recognise that particular working patterns have varied implications according to the personal circumstances of colleagues. Benefits and drawbacks of remote working occur both for individual colleagues and for achieving the University's mission, though of course the two are closely interlinked

Taking primarily the individual perspective, the key findings of the 'What works?' report are summarised in Exhibit 3. The positive aspects of remote working for the individual summarised there are more flexible hours, with colleagues citing the ability to work to their natural preferences/ rhythms. Also mentioned is having fewer distractions at home than in an office. Many said they felt more productive and that the quality of their work had improved. A large number also felt that they are benefitting from not having to commute. Whilst the majority were using this time to do exercise or spend time with family, some reported they were using their commuting time to do more work, in some cases adding two or three hours a day to their usual working hours. The majority mentioned the lack of commuting had significantly reduced their stress levels caused by traffic or using public transport, had saved them money and many mentioned the positive impact on the environment.

Against these largely positive reports are drawbacks including a blurring of work and leisure time with potential negative impacts on wellbeing. The burdens of home working have fallen disproportionately upon those with caring and/or childcare responsibilities and colleagues who do not have a home environment that is conducive to extended working. Some have also experienced problems of connectivity which have been beyond their control to remedy, for example because they live in an area poorly served with broadband. Lack of access to essential equipment is also cited. More broadly, some reported experiencing a sense of isolation and have missed face to face communication with colleagues and students. There are particular difficulties for the younger generation and problems of induction for those who are new arrivals at the University, staff or students, who have not had the time to build up relationships and networks or the tacit knowledge that facilitates day-to-day working and which is difficult to acquire in formal settings.

Social contact and team working are also an important part of achieving our mission. Several analyses have referred to a loss of creativity that comes through interaction, often informal and referred to as 'water-cooler moments'. For those whose work depends on laboratories or other forms of facilities and equipment, there are many aspects of work that cannot be done remotely. As well as being a place of work, the campus is a hub for social interaction and would lose its buzz without a substantial presence of staff and students.

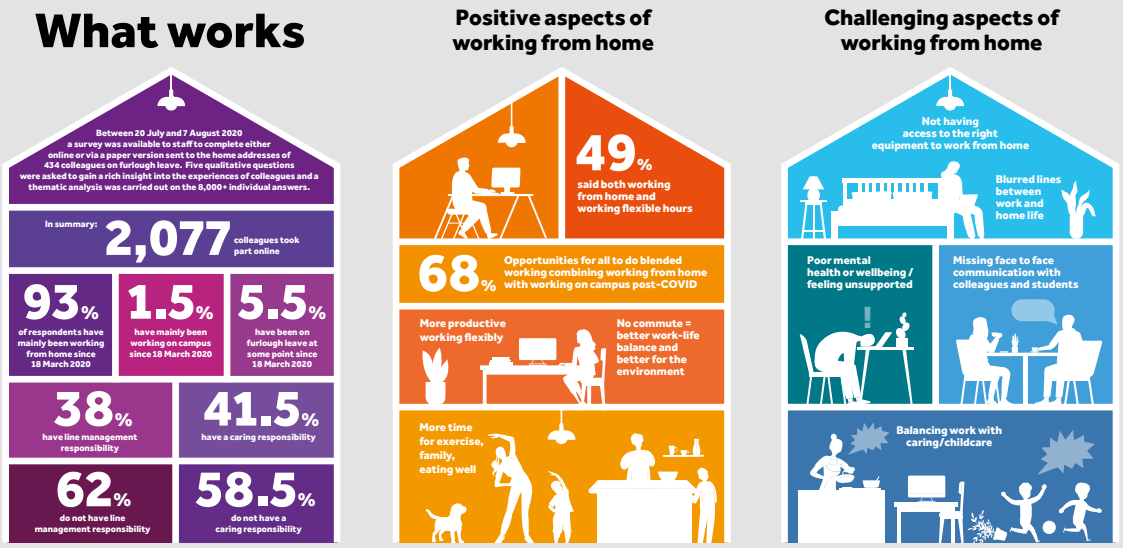
Nonetheless, the foresight perspective has shown that the majority of those for whom it is feasible would prefer their work in the future to be more blended and flexible, with a mixed week of two or three days at home and the remaining days on campus. Benefits for the University of this pattern of flexible working include the consideration that it is easy to organise and reduces travel with major benefits for sustainability. Furthermore

it provides a resource that can be projected to an international wider audience (and conversely allow the use of international inputs in our own curriculum). There are some student processes that have gone online in the lockdown that may well continue that way.

The move to a more blended and flexible approach to working has significant resource implications. Most visible is the urgent need for IT infrastructure and associated systems to take advantage of it. A particular challenge both in the transition back from Covid and in the longer run will be how to support an on- and off-campus blend. Hybrid broadcasts from events with a live audience risk either satisfying neither those present nor those participating remotely, with a higher probability of the latter feeling like second-class citizens. There may be technological fixes such as holography but these are not currently in widespread use.

As will be discussed in the next section, fewer people on campus and the likelihood that the activities they undertake while they are there being in a different mix has significant implications for the kind of estate that we will require. The main demand will be for collaboration and meeting space, hot desks for those intermittently present, and storage for the materials they need to keep on campus. From a strategic perspective this will reduce our exposure to investments in estate but in the medium term, as discussed below, there is a challenge in using the estate we have in a way that is different from what was intended when it was built and from its pre-pandemic use.

EXHIBIT 3 Key Findings of What Works? Survey Report



Source: What Works? Summary and full findings available at **here**.

3.6 Future Campus Footprint

The size and shape of the University estate, including its electronic infrastructure, will be a key driver for financial sustainability and being able to respond to changing work patterns and needs. This highlights a need for more agile, flexible spaces achieved by re-purposing existing spaces or re-providing where it is otherwise inefficient. Such change will come at a cost and will compete with other urgent priorities such as Library provision and dealing with buildings at the end of their physical and economic life.

The University is committed to zero carbon by 2038 and a plan is being prepared to create a road map to achieve this goal. Reducing the size of the built campus could be a key contributor to this goal. However, success in this area will require significant investment over time. It will also be important to consider whether this action achieves true carbon reductions or whether it shifts some of the footprint elsewhere. A more blended approach to all that we do will reduce the amount of travel and use of consumables that will contribute towards our carbon reduction

It is imperative that the campus continues to be a vibrant and engaging place not only to support the business function but also the wellbeing of students and staff to create a sense of place and belonging. We must ensure that a blended approach does not create a ghost campus. Time spent on campus must be valuable for all and maintain the attractiveness of Manchester as a vibrant and exciting university. We will need to consider how we create what is often called a 'sticky campus', not just for the benefit of the University but also for the benefit of the local community, businesses and the wider city and region. Student attendance and retention in the city is important to support the local economy and also to provide the talent pool for which Manchester is renown with its 50% graduate retention rate.

We will need to deliver reasons to stay on campus, try different things and be experimental. Events, pop-ups and maker spaces alongside a highly visibly sustainable campus may be some of things to consider to create vibrancy and encourage activity beyond 5pm. A continuing great food offer, sport and library/learning facilities should be considered.

Key challenges and opportunities for each area are of the estate are shown in Exhibit 4.

EXHIBIT 4 Future Provision Needs for Aspects of the University Estate

Aspect of Estate	Future Provision Needs
Research Estate	A different approach is needed for providing large scale, multi-disciplinary, modular spaces that can flex and reconfigure as required. A team based cross-disciplinary approach, dependant of electronic based resources will grow. Office provision for research staff should be arranged in a more home/office blended future.
Teaching and Learning Estate	It is likely that the future will be a more blended experience for students. Large-scale traditional lectures may reduce and provide some opportunities for repurposing those spaces to provide flexible, technologically equipped spaces for face-to-face teaching, which will continue to be vitally important. Some large tiered theatres will remain for showpiece and 'TED' style events. Timetable and curriculum flex are needed to enable substantial gains in efficiency. This could mean different patterns of teaching, possibly using our estate for longer days and different semester dates. Dense wi-fi, power and an intelligent booking system will be essential. Teaching laboratories will be a constraint to the growth in student numbers in some disciplines and there may be a need to provide addition-al laboratory facilities in re-purposed space. This approach could result in working the estate much harder but would need to be balanced off against higher staff and running costs, and loss of external income through for example, reduced conference income.

EXHIBIT 4 Future Provision Needs for Aspects of the University Estate (continued)

Aspect of Estate	Future Provision Needs
Workplace	Lockdown has been a mixed experience but feedback suggests that most people would prefer a more blended and flexible approach to where and how they work. It is clear that there is not a 'one size fits all' approach to workspace and this will differ according to roles and personal preferences. Less working on campus for at least part of the week presents opportunities to re-purpose space and ultimately shrink the estate footprint or utilise it for other purposes. Colleagues have missed the social interaction of working on campus and can feel less engaged, with particular difficulties being felt by new starters and younger colleagues just starting out in their careers. To enable a more blended approach to work will need a wide variety of flexible spaces for collaboration, meetings, hot-desking etc. (assuming no post-Covid social distancing). Excellent wi-fi and power throughout will be essential to support an agile approach. Most of our buildings however are highly mixed uses and very cellular, not easily adaptable to provide the type of accommodation needed for a more agile experience. MECD has been designed with many of these ambitions in mind and the development could be a test bed to evaluate new ways of working. One of the biggest issues in moving to a more agile way of using our estate is the need for a cultural shift. The current model of territorial space ownership will have to be challenged and policies created to assist this.
Library and Learning Space	The Main Library is regularly the busiest campus building. The pandemic and lockdowns have demonstrated that, even in adverse conditions, students still attend for private study. The Main Library remains largely unchanged since the early 1980s and prior to lockdown there were plans to renovate and rebuild. There is an urgent need for investment but this will need to be re-thought in light of the future campus. Lessons can be learned from the Alan Gilbert Learning Commons which is seen as an exemplar of learning space both internally and externally.
Residential Estate	Changes to the way students attend campus may influence the way we provide and manage student accommodation and a more 'Air bnb' approach might be adopted. If it is possible to withdraw from significant areas of non-residential real estate on the main campus it could be possible to re-purpose buildings at the heart of the campus for student accommodation. This would be attractive to those students who prefer a more city-based experience and enliven the campus outside traditional teaching hours.

3.7 Size and Shape

In the context of the Foresight exercise size and shape is understood as:

- The overall size of the University, taking total student numbers and financial turnover as proxy measures.
- The relative mix of activities delivered by the University, as measured primarily by the relative scales of the faculties and subject areas offered but also proportions of UG: PG students, the relative focus on teaching vs research and the relative size of academic vs professional services activities and the balance of research activity. These link to a range of connected issues including breadth of coverage, balance, focus and specialisation.
- The extent of distance learning and other provision outside Manchester, including overseas.

We are currently bounded by the Russell Group business model which has income from home fees declining in real terms to a level below cost, research (arguably the Group's defining feature) running a substantial deficit from almost all funding sources and the only clear surplus coming from international student income, with an acknowledged over-dependence upon the Chinese market. The model is heavily bounded by government policy decisions, the expectations of stakeholders, including students, staff and the public, and by competition in international and domestic markets. These expectations are encapsulated in the principles that underpin our Strategic Plan. The main routes away from this involve a combination of some or all of actions that increase revenue and lower cost and take the University to an acceptable level of financial sustainability:

- Increasing the proportion of the highest margin activities (currently international growth)
- Creating a proposition that commands an 'above market' price
- Out running cost inflation (e.g. by securing a large productivity/ efficiency dividend)
- Extending the reach of the University brand via "low cost" models
- Increasing throughput (students passing through more quickly)

These actions inevitably result in a University that has a different size and shape according to the above definition. Almost all paths to transition require investment and a level of risk-appetite in both financial and reputational terms an uncertain environment. The Foresight Group considered in qualitative terms a variety of alternative models for the University, summarised in Exhibit 5. Some of these features are central to the model of global top 25 institutions (see Exhibit 6) but almost all of these elite institutions have their financial standing underpinned by sources not available to us, such as the endowments of leading US institutions, reliance on income from hospitals or publishing houses, or much higher levels of government support.

The Foresight Group embraced a number of principles which implied rejection of several of the alternative models. These included:

- Any future option should be underpinned by excellence in both teaching and research;
- In an unconstrained future, large international growth is far more attractive than in a constrained future, where the University may need to (and would be well placed to) play more to national and regional strengths noting the financial consequences of this based on the prevailing funding and pricing structures;
- Further significant orientation towards postgraduate activity is not attractive based on the current proposition, cost of provision and volatility of the market;
- A "maximum surplus" option is defensive and not strategic in itself, from a TLS or Research perspective: indeed, we might already be deploying this option in parts of the University;
- "Small and excellent" might be a non-starter given our starting position as a large, high quality provider with a strong international reputation; the implications of radical cost reduction could include significant reputational and operational damage. Scale is important and potentially more so in the future (noting the rise of Asian universities). This would not preclude the strengthening of separate sub-identities where this was useful in different markets;
- Strategic options involving FE, if they were wide reaching, could be distracting, unattractive to some key audiences and place a drain on funds given the relative funding position of that sector: we cannot however pull away completely from the political context and our civic role. The same considerations could apply to any marked shift in our offering and chosen markets;
- There is appetite to review the scope of our provision, although it is not clear that this would be transformational: the scale of benefit relative to the difficulties of implementation requires further work;

- More formal separation of Research and Teaching (e.g. the former into Institutes), whilst a model that is deployed elsewhere globally, is perhaps too big an assumptive leap for the UK sector to merit this as a priority for further work and would be a barrier to research-informed teaching;
- Differentiating those activities that are there to generate surplus from those activities that generate research excellence, recognising that they are not mutually exclusive, (i.e. move away from a "one size fits all" approach) is an important consideration.

It will not be possible to explore these options in more detail without developing a modelling capability beyond that currently available to us. Considering implications for the strategic plan the key conclusion is that a more adaptive/ evolutionary option that develops over time is better able to navigate the uncertainty and risk, than a radical, singular choice. If an option(s) can be identified that is widely supported, strategically attractive (e.g. neutral-to-positive impact on non-financial KPIs; increasing our resilience to a range of risk, reputation enhancing) and strengthens our financial sustainability more than temporarily, this would represent a significant overlay to the Strategic Plan – a large scale change. There would be hard (cost, implementation, de-prioritisation of other initiatives) and soft (management bandwidth, student and colleague engagement) implications. A full impact assessment would be required to identify the range of implications for other priorities and measures of success defined in the Strategic Plan.

EXHIBIT 5 Example Size and Shape Options

Option	Description	+/-
Massive and international	• Expand to meet global demand • Distributed presence - see Monash (c. 80k students; Australia, Malaysia, Italy, China, India) • Could include horizontal integration (collaboration/ mergers/ collaboration: one or many brands)	+ Scale efficiencies + Opportunity to be a consolidator - Risk and complexity; falling margins?
Small and excellent	• i.e. beyond the level of "trimming" • Highly selective student recruitment • Research rationalised to areas of excellence • See Oxbridge/ Ivy League	+ Research power and academic reputation - Alternative incomes insufficient to combat tuition fee losses - Difficulty of transition
Regional	• Reduce international exposure, potentially as a result of multi-year pandemic impacts • Potentially need to drop grades to maximise intake • Leverage of N8 (economies of scale etc) • Either organic growth or via merger/ consolidation	+ Resilience to global threats + Civic, Community, levelling up inequalities - Loss of international/ national prominence - Reduced research power? - Potential for forced mergers/ intervention?

EXHIBIT 5 Example Size and Shape Options (continued)

Option	Description	+/-
System-based	• Vertical integration into F.E. • "Follow the funding" on both the teaching and research sides • Emphasis on skills-based provision and impact	+ Potentially differentiating: diversification of income - Risk and complexity; first mover; reactive
Maximum surplus	• Reduce "expensive" research • Optimise student numbers on high margin courses • Prioritise growth in areas most readily delivered online • Exit expensive and/ or bespoke provision	+ Financial sustainability - Reactive rather than strategic - Loss of teaching and research identity?- Exposure to tuition fee changes
Post graduate focused	• Shift the mix of students significantly in favour of PGT (from the current 1/3 of total students) • See Ivy League	+ Reduced exposure to tuition fees - Volatility and operational complexity (1 year rather than 3 years) - Pressure to take on lower quality?

EXHIBIT 6 High level size, shape and business model of the Top 25 global institutions

ARWU 2019 Rank	University	Total Student Numbers	Students %UG	Students %PG	Operating Revenue £billion	% income from gifts, investments and other	Notes
1	Harvard University	23,373	31	69	4.629	61	43% of the income is from gifts and investments
2	Stanford University	16,233	43	57	10.085	81	60% of income is from health care services
3	University of Cambridge	19,578	62	38	1.965	49	Income generated from publishing services, examination and assessment services and other income equates to £890m
4	Massachusetts Institute of Technology (MIT)	11,161	40	60	3.303	44	
5	University of California, Berkeley	39,932	75	25	1.723	20	
6	Princeton University	8,125	65	35	1.803	80	64% of income is generated from investment earnings
7	University of Oxford	20,735	57	43	2.450	52	Oxford generated £800m from publishing services
8	Columbia University	27,088	29	71	4.234	57	Columbia benefit from £1.1 billion in patient care revenue
9	California Institute of Technology	2,238	43	57	2.885	8	£2.3 billion of income is from Jet Propulsion laboratory operations
10	University of Chicago	14,372	44	56	4.114	82	Two thirds of income comes from patient services
11	University of California, Los Angeles	44,288	71	29	5.607	72	36% of operating revenue comes from Medical Centre
11	Yale University	12,907	44	56	3.449	71	41% of the income is from gifts and investments
13	Cornell University	22,822	65	35	3.650	59	£937m is generated from Medical Physical Organisation
14	University of Washington	42,062	69	31	4.344	54	38% of total income comes from medical services
15	University College London	36,976	52	44	1.467	14	
16	Johns Hopkins University	17,408	33	67	5.058	33	£595m is from clinical services and £479m is from reimbursements from affiliated institutions
17	University of Pennsylvania	21,211	47	53	9.255	80	62% of total income comes from patient service revenue
18	University of California, San Diego	34,964	80	20	3.487	62	36% of operating revenue comes from the medical centre
19	Swiss Federal Institute of Technology Zurich	18,003	48	52	1.552	9	
20	University of California, San Francisco	10,636	62	38	5.927	76	The medical centre represents 60% of the total income generated
20	University of Michigan -Ann Arbor	45,102	66	34	6.712	67	53% of total income comes from patient care
22	Washington University in St. Louis	13,756	52	48	2.976	72	The medical centre represents 40% of the total income generated
23	Imperial College London	17,413	56	44	1.073	22	
24	University of Toronto	74,299	77	23	3.018	19	
25	The University of Tokyo	27,453	51	49	1.856	38	
33	University of Manchester	37,278	72	28	1.098	15	

4. Implications for the Strategic Plan

A key aim for Foresight is to inform a re-appraisal of the Strategic Plan in the light of the pandemic and other changes. This work is still ongoing and will eventually engage the Board directly at the Planning Conference. Exhibit 7 shows some potential implications and early actions.

EXHIBIT 7 Objectives and actions arising from the findings

Objective	Actions
To address international and teaching margin risks	• Create compelling online programmes (to reflect the new online blended expectations not "DL") in a small number of markets with the potential for scale • Create new ways for Chinese students to benefit from the University at reduced risk • Invest significantly in scaling up a small number of global student markets outside of China • Investigate the role of alternative brands (Perhaps "UMW", perhaps not) to insulate the University of Manchester brand from potential future margin pressure • To simplify the delivery of teaching and research to better prepare the University for a lower-margin/ recessionary future
To address the dependency on massive estates investment	• Invest in the repurposing of PS space to create capacity for academic growth whilst reducing the pressure for new build • A revised long-range estates masterplan configured around a low consumption world
To address new world of work/ study and risk of "ghost campus"	• Update the residences strategy to reflect an evolving market and commercial model (Airbnb?) and the potential for central campus locations • Maximise the opportunity within MECD to exemplify working in the "new normal" • Prioritise the creation of creator/ shared spaces • To re-contract with the whole workforce, to re-establish the employee/ employer relationship and define new norms and expectations

EXHIBIT 7 Objectives and actions arising from the findings (continued)

Objective	Actions
To address exposure to long term cost inflation	• Ensure Reshaping PS both reduces costs and creates a more flexible support model (enabled by investment in people, skills, processes and technology), so we can serve new agendas and peak workloads when they emerge without inflating the cost base • Resetting our international activities for a low travel (or less travel-dependent) future • Resetting colleague expectations around a "low consumption culture"
To address risk to our regional/ national/ global reputation	• Invest in and actively manage key external relationships to ensure our role in post-pandemic recovery is prominent
To diversify income	• Identify and prioritise activities which could meaningfully breakout of the current economic constraints e.g. Major philanthropy campaign coincident with the bicentennial.

ANNEX 1 List of Theme Leaders and Workshop Participants

We would like to thank the following contributors to the Foresight exercise
2077 colleagues who took part in the 'What works?' survey
108 students who took part in survey and workshop activities

Workshop participants (University of Manchester unless stated otherwise):-

Adam Grant
Alan Ferns
Alice Larkin
Amanda Lea-Langton
Anastasia Valassopoulos
Andrew Simmons
Andrew W Trafford
Andrew Walsh
Andy Brass
Andy Westwood*
Angela Davies
Angus Hearmon
April McMahon
Ben Ward
Bernard Strutt
Bertrand Taithe
Beth Moorcroft
Carly McLachlan
Caroline Jay
Catherine Schofield
Cathy McCrohan
Chloe McEvoy
Chris Taylor
Christopher Hardacre
Christopher Pressler*
Christopher Sharples
Colette Fagan*
Craig Hopper
Dale Cooper
Dan George
Dani Murtagh
Daniel Jameson
Danielle George*
David Lewis
David Polya
Diana Hampson*
Ella Gould
Emily Collins
Emma Barrett
Evelin Peil
Fiona Brown
Fiona Fraser
Fiona Lynch
Fiona Smyth
Fong Kuan Wong
Francesca Gains
Gemma Dale
Geraint Howells*
Gerard Hodgkinson*
Hannah White
Heather Devine
Helen Cutts
Ian Cotton
Ian Hutt
Ian Rodd
Janine Rigby
Jeff Penny
Jennifer Lockhart
John Holden*
John Mcbeth
Josh Muldoon
Judy Williams
Julian Skyrme
Karen Cotterill
Karen Niven
Karen Piper Hanley
Karina Lovell
Kate White
Katherine Morris
Katrina Hendry*
Katy Wolfenden
Kay Marshall*
Keith Brennan
Keith Brown
Kenneth McPhail
Kim Marklew
Lara Melville
Laura Black
Len Williamson
Lisa Grady
Lorna Pontefract
Lorraine Beard
Louise Mcmahon
Luke Georghiou
Lynn Sheppard
Malcolm Whitehouse
Margot Power
Martin Evans
Martin Humphries
Martin Schröder
Matt Atkin*
Michael Billington
Michael Dixon
Michelle Harper
Nancy Papalopulu
Nicky Cullum
Nicola Sheehan
Patricia Pearlman-Dee
Patrick Hackett
Paul Dennington*
Peter Clayton
Philip Shapira
Philippa Woods
Rachel Brealey*
Rachel Elliott
Rachel Hobson
Radha Boya
Rebecca Harrington
Richard Body
Richard Cotton*
Richard Curry
Richard Jones*
Richard Kingston
Rosie Haynes
Rosie Williams
Roxanne Bretherton
Sarah Albutt
Sarah Chapman
Sasha Handley
Simon Merrywest
Stephen Flint*
Steve Jones
Steve Jordan
Steve Pettifer
Tanya Graham
Tanya Luff*
Tony Brown
Trevor Byrne
Tyrrell Basson
Vanessa Mulholland
Vikki Goddard

* Theme Leader/Workshop Organiser Rapporteur

Alan Harding, Chief Economic Adviser, GMCA.
Jonathan Simons, Director, Public First.
Steven Heales, Head of Innovation, GMCA
Rory Brooks, Chairman of MML Capital Partners, also Chairman of the International Advisory Board, CBE

To find out more about our vision and strategic plan, or to download this document in PDF format, visit:
www.manchester.ac.uk/strategic-plan

The University of Manchester
Oxford Road
Manchester
M13 9PL

+44 (0)161 306 6000
www.manchester.ac.uk

Created by the Division of
Communications, Marketing and Student Recruitment

Royal Charter Number RC000797
0279 04.21