

1 **Cambridge's global mission: A primary school at the heart**

Jonathan Nicholls, Jeremy Sanders and Jonathan Rose

INTRODUCTION

The North West Cambridge Development (NWCD) was originally conceived in purely utilitarian terms as the answer to a need for future expansion space that would allow the university to maintain its excellence in research and teaching. Since then, the university has evolved an aspiration for the NWCD to be an exemplary urban extension that sets high environmental and design standards, and knits the university even more closely into the community and fabric of the city. The masterplan created by AECOM Design & Planning is an expression of that aspiration in physical terms, the University of Cambridge Primary School (UCPS) being the first and most obvious product.

In this chapter, we outline chronologically the progression from 1923, when the university purchased the site that has become the NWCD, to 2013 when Marks Barfield Architects was chosen as the architect for the UCPS. We then show how the vision for North West Cambridge has become an expression of ambition for the university's wider aspirations, and describe in some detail how the masterplan itself evolved through workshops, consultation and visits to key developments around the world.

CHRONOLOGICAL HISTORY

The story of the University of Cambridge's development of a new community in the City of Cambridge begins with the purchase of farmland from Trinity College in 1923. The university had leased Howe Farm and Gravel

Hill Farm from Trinity for its School of Agriculture since 1909. The decision was taken to buy the land from this willing seller after World War I, both as a mark of ambition for the School of Agriculture and for the long-term use of the university for future purposes that were unknown at the time. The farmland incorporated an experimental farm to which local landowners, Cambridgeshire County Council and the city contributed joint funding, given the importance of the rich peaty soils to arable and fruit crops in the Fens. This theme of the university working closely with local interests recurs in the vision and development of North West Cambridge, not as a closed community for university and college use, but as an urban extension of the city, connected to it and contributing significantly to its sustainable growth. A faint echo of the origins of the site will continue with the UCPS's ambition of growing some of its own food for and by its pupils.

The university's Department of Agriculture closed in 1972 and, although livestock husbandry remains a requirement for the Department of Veterinary Science, the future of the arable farmland soon became a focus for consideration as the university looked towards future expansion. As early as 1974, the then Vice Chancellor, Sir Peter Swinnerton-Dyer,¹ had proposed that major university buildings should be located in an ellipse whose centre incorporated the major developments in the heart of the city but whose foci were in the north west and the south east (in the area of the city now often referred to as the bio-medical campus, on which the University of Cambridge hospitals and associated research projects provided through the university and other partners are located). This proposal, often referred to as the Swinnerton-Dyer Ellipse, has underlain all future considerations of the strategic development of the university's lands. Its influence can be seen in the 1989 Report of the Long-Term Planning Committee (*Cambridge University Reporter*, 1988–9), which referred to the Ellipse and which looked in more detail at sites within it. Two years later, in 1991, a report of the Council of the Senate (*Cambridge University Reporter*, 1990–1) focused on all the land to the west of Cambridge between Huntingdon Road, Madingley Road and the M11 motorway (see Figure 1). This report established the formal university policy for the development of North West Cambridge and has governed all future policy for its use.

Two significant events took place in 2000. The first was a growing realisation in the university that its staff, and especially those whom it wished to attract to retain its world-leading position, needed access to affordable housing in a city where the economy was vibrant and housing stock was under increasing pressure. This was voiced in a Discussion (a formal



*Figure 1: The NWC site in its immediate Cambridge context.
(Image courtesy Getmapping PLC)*

university process when reports are published for consideration in the university before decisions are taken on them by the Regent House, the governing body) in June 2000. That this was a more widespread concern is evidenced by the Council of the University (the principal executive and policy-making body of the university), which acknowledged this concern and reiterated it. The second significant event was the establishment of the Land Use Working Group to look in more detail at the development of North West Cambridge. The Working Group (chaired by the then Vice Chancellor, Sir Alec Broers – given its significance to the future of the university) employed EDAW, an international firm of architects and master planners, to look at indicative land uses for the site. EDAW was incorporated into AECOM in October 2009, having been closely associated with AECOM since 2005. AECOM remains the master planner for the North

West Cambridge site. This long-term relationship reached a high point when the NWCD won The Future Projects Award for Best Masterplan at the World Architecture Festival in 2014.

In 'The Plans for the Development of the University North West Cambridge Site: Notice' (*Cambridge University Reporter*, 2000–1, p. 466) the key issues for the future development of the university to 2016 were identified as providing for university expansion (based on projections of percentage growth for undergraduates, postgraduates and post-doctoral staff – the last as a proxy measure for research funding); siting such that future developments were to be close to existing academic sites to take advantage of proximity and to foster sustainable travel to work; the need to provide affordable housing for purchase and rent – with a reference to the then Government's *Regional Planning Guidance for East Anglia* that called for a further 22 000 residential units (over and above those already approved within existing local plans) in the Cambridge sub-region by 2016; sustainability to minimise environmental impact and to comply with legislation requiring high environmental standards; and research collaboration with external organisations. The Notice also referred to the need to take account of high-quality design for spaces and buildings, landscape settings, and the provision of associated infrastructure and social facilities, largely paid for by the sale or leasing of land on part of the site.

The importance of North West Cambridge was emphasised by an address given by the Vice Chancellor on 12 March 2001 in the Senate-House (the university's historic location for Discussions and important speeches) about the proposed development and the mounting in the same building of an exhibition by EDAW of the emerging ideas for the spatial use of the site.

Development of these proposals from this point onward was slowed because the site sat within the green belt, located partly within the city and partly in South Cambridgeshire. Therefore, master planning had to be undertaken in conjunction with both local planning authorities to determine the future green belt boundaries in the area. Such reviews are infrequent and the university needed to ensure that sufficient land would be allocated within the North West Cambridge site for development by anticipating the scale of expansion that might be required over the next 30 years or so. This story can be followed through subsequent reports (*Cambridge University Reporter*, 2002–3, 2003–4, 2004–5, 2007–8). The university's principles for the development remain largely unchanged from the Notice published in 2001, summarised above, but were amplified and made more specific by research carried out on housing needs for the university and by

the inclusion of a requirement that community facilities should include a primary school and nursery (the former first appears as a concept in the Third Report: *Cambridge University Reporter*, 2004–5, p. 513).

By June 2010, the university had developed its proposals sufficiently that it could publish the 'North West Cambridge Project: A Green Paper' (*Cambridge University Reporter*, 2009–10, p. 1010), which set out in detail the proposed uses for the site, informed by a vision and purposes described below. It is striking that the university had not significantly altered its view of the uses for the site since 1989 and certainly not since the Notice of 2001. The concept that the proposed 3000 units of housing (of which half would be let at affordable rents and half offered for sale in the market) should be situated alongside community facilities had developed into a firm proposal that a local centre would be built as part of the initial phase of building to ensure that the first residents and those in neighbouring communities would have access from the outset to shops, a community hall, places to eat, and healthcare. School and nursery provision was now also established as an essential component of the new community. The anticipated child population was derived from statistical data in a report prepared by the university's Department of Land Economy. Based on that research, the masterplan included provision for a three-form entry (3-FE) primary school close to the heart of the site, adjacent to the community hall, and next to the major green space Storey's Field. It was noted that one possibility could be that the university would run the school. Secondary provision was not anticipated for the site but a contribution would be made to a new secondary school on the nearby National Institute of Agricultural Botany (NIAB) development site, just north of Huntingdon Road, which itself would provide significant new housing in the city.

The years following the publication of the Green Paper within the university were devoted to responding to the consultation, arranging and seeking approval for the governance arrangements for the development, the submission of outline planning permission for the masterplan, and the financing arrangements by way of new borrowing by the university through a public bond. These points are developed further below (and further details are in the *Cambridge University Reporter*, 2010–11a, including delegation to Council of the power to borrow up to £350m; 2010–11b; 2010–11c). Finally, in October 2012, a report was published for approval in the university seeking permission to commence the development by way of a Phase 1. Given the importance of this decision and the financial and other commitments to be made by the university, the question was put to the vote of the Regent

House (which has the authority to vote on significant matters), and was carried overwhelmingly in January 2013 (*Cambridge University Reporter*, 2012–13, p. 342).

Much work had been undertaken by those already responsible for the project prior to the final decision of the university in January 2013. Events, however, did not run sequentially. In August 2012, the Local Authorities' Joint Development Control Committee: Cambridge Fringes (which brought together the planning authorities of the City of Cambridge, South Cambridgeshire and the County Council) had given consent to the submitted planning application subject to certain conditions that the university was confident could be met. Other planning obligations imposed on the university had also been agreed to in outline form.

This last point highlights the fact that not all the decisions taken about the development were solely driven by the university's desire to create an exemplar community. It is a well-established principle of planning in the UK under the *Town and Country Planning Act, 1990* that so-called section 106 agreements (referring to the relevant section of the *Act*) require site-specific mitigations for a development in order for it to be acceptable in planning terms. These may, for example, focus on restrictions on the nature of the development, require certain actions or obligations of the developer, and necessitate sums of money to be paid in respect of the provision of schools, community facilities, transport enhancements and other amenities. Through its negotiation with the planning authorities, the university was obligated in these respects, including the payment of sums for specified purposes against agreed trigger points. Some of these bore upon the amount to be paid for a new primary school and for secondary schooling. However, this was an obligation that the university was willing to embrace and, as chapter 2 explains, a combination of events and national policy provided the opportunity to go beyond the basic requirement of the planning authorities and conceive of a primary school that would bear the university's name and have a special pedagogical and research focus, consistent with the university's main purposes.

By its decision of 2013, the university committed itself to a first phase of mixed development that would comprise the following elements (the figures in brackets indicate the total for the whole development when fully built out):

- 530 units for rental to qualifying staff on a subsidised basis – in 2014, the number of units for subsidised rental in the first phase was increased to 700 (of 1500);

- 325 units of postgraduate student accommodation (of 2000);
- 700 housing units for sale on a market basis by residential developers under land sale agreements (of 1500);
- A food store and other shops;
- A primary school;
- A community centre;
- A nursery (1 of 3);
- Other community facilities including a senior living cluster with extra care;
- A hotel;
- Playing fields and informal open space;
- Landscaping.

The financial framework and criteria for the success of the project, together with an analysis of the risks, were set out alongside the details of the masterplan in the 2010 Green Paper. This is the largest development in the history of the university and its ambition required the launch of the university's first public bond (and first major borrowing from financial markets) of £350m in 2012. Delivery of the project was entrusted to a syndicate² – first mooted by the Green Paper – which has acted as a quasi-board within the university, with a mix of external experts and internal stakeholders both from the senior leadership of the university, the colleges and the academic community. The executive was recruited from the development and construction industry, and was complemented by major international consultancy firms for project management, cost analysis, transport and legal affairs. The university is not founded to be a developer. The arrangements put in place for North West Cambridge were designed to balance the need for commercial discipline in the delivery of the scheme with reassurance for the university's community that its ambitions for the strategic imperatives were being met. This was particularly true for those who would be most affected by the developments (for example the postdoctoral staff and the colleges, given the significant amount of new postgraduate accommodation planned for the site).

Phase 1 was divided into several lots and a competition was launched to find architects to lead the design for each lot apart from the school. The competition, informed by the vision set out in the Green Paper, was managed by Caroline Cole of Colander Associates,³ and generated worldwide

interest from practices large and small. The panel was chaired by Professor Jeremy Sanders, a member of the Syndicate and Pro-Vice-Chancellor (and second author of this chapter), and included architectural experts from the university and the city, and the principal master planner from AECOM (and third author of this chapter), Jonathan Rose.

The uncertainty over governance of the school required that the selection process be run in collaboration with the County Council using its standard procurement procedure: this mechanistic approach was not well suited to prioritising quality and inspiration, but the joint panel, which included the consultant headteacher to the project Dame Alison Peacock (the Wroxham School) and a Reader in the Faculty of Education, Dr Catherine Burke, were clear in their selection of Julia Barfield and colleagues from Marks Barfield Associates from the strongest possible shortlist of potential architects.⁴

THE UNIVERSITY'S AMBITION

The compulsion to develop North West Cambridge has at its core the pursuit of the mission of the university and its existential need to remain one of the best universities in the world, the better able to serve the needs of society. The 2010 Green Paper clearly set out this link:

The University's mission⁵ is to contribute to society through the pursuit of education, learning, and research at the highest levels of international excellence. It is this strategic purpose that is the motivating force behind the current proposals. The University faces increasing competition for the most able staff and students from across the globe and its reputation is affected by its ability to continue to recruit and retain the very best people in this environment. That is truer now than it was when the arguments for the development of North West Cambridge were first set out and the case will become only more pressing in the years ahead. The University intends to remain among the world's leading universities and North West Cambridge is a key component of realizing that ambition. The University's competitors in the Far East and North America are rapidly developing new research and teaching facilities that include high-quality residential accommodation for staff, research workers, and students. These universities are making such investments for the same strategic reasons as Cambridge and, as has been seen from recent field visits, are setting high standards for Cambridge to match. The consequence of doing nothing to address this competition will place the

University in danger of falling behind on the world stage. (*Cambridge University Reporter*, 2009–10, p. 1010)

The following three paragraphs of the Green Paper expanded on this vision in terms of social, environmental and financial sustainability:

In Cambridge there is a lack of good quality residential accommodation at affordable prices in the open market. One important factor in maintaining the University's ability to attract the world's best staff and students is a supply of affordable housing in modern and sustainable communities, including accommodation for students on the collegiate model, and scope for the development of new research partnerships in flexible accommodation in proximity. North West Cambridge offers the opportunity to contribute significantly to these needs and provide accommodation to internationally attractive standards on an affordable basis.

These are compelling reasons for promoting the development of North West Cambridge. But the vision for the masterplan goes significantly beyond this. The Project Board wishes to create a vibrant, urban extension to the City that predominates as a University quarter but one that is also a mixed academic and residential community supported by high-quality schooling, shops, community, and leisure facilities, connected internally and with the wider city by green spaces and pedestrian and cycle routes. The highest principles of energy and transport sustainability will be incorporated into the development so that not only will North West Cambridge support the academic and social needs of the University, it will be an exemplar of what can be achieved through contemporary technology, architecture, and urban planning. The underlying form sought through partnership between the University and local authorities is one of mixed-use neighbourhoods and North West Cambridge will reinforce that model in the way that it is developed out. It will also integrate with the development of West Cambridge and provide a coherent whole to the benefit of the existing residents, staff, and other occupants of that site, providing much-needed facilities that will assist development of the remaining areas of the West Cambridge site.

The University will have a long-term interest in the land at North West Cambridge; it will therefore wish to maintain control or influence development as much as possible. Any development must also be on financially acceptable terms, with tight management of income, expenditure, and capital flows. (*Ibid.*)

The postdoctoral staff who are likely to form the majority of tenants in the University's rental homes at North West Cambridge are a relatively new group of staff. They are working as researchers, predominantly in the areas of science, technology and medicine, usually immediately post-PhD, and the majority stay for one to three years en route to a permanent career elsewhere. They are recruited from all over the world, and are either paid from grants obtained by university academics or are on fellowships of their own. They are the creative and intellectual driving force behind the daily research success of Cambridge, and there is intense international competition to attract the best. Their numbers grow each year and in 2012 they became the largest staff group in the university. By 2015 their numbers had reached around 4000. By contrast there are 1800 permanently-appointed academics. Yet, historically, postdoctoral staff have been invisible in the university's *Statutes and Ordinances*,⁶ and they have largely been excluded from college life and associated amenities such as accommodation. North West Cambridge aims to provide homes, an attractive environment and lifestyle. The accommodation will be designed in modern, open collegiate form, but exactly what that should mean socially and intellectually in the twenty-first century is open for discussion and exploration. In order to help catalyse this thinking, the Office for Postdoctoral Affairs was created by the university in 2013 and will be based in North West Cambridge from 2017.⁷ The social organisation will evolve over the coming decades in response to new ways of working and living, and the architecture should be sufficiently flexible to respond to these unpredictable developments.

The university's long-term approach to North West Cambridge is quite different from that taken by a typical commercial developer. It would be irrational for a commercial developer to eschew profit and not to ensure that its owners, whether private or public shareholders, are remunerated for its activities. It might equally be irrational for such a developer not to prioritise quality and place-making in order to maximise its return. Some do. However, many developers will not retain a long-term relationship with a development once it is built; they will seek to create the largest amount of housing or other income-generating space that they can persuade the planning authorities to approve, while minimising their obligations. Much of the post-World War II development of Cambridge, for example, was undertaken as suburban housing without much regard for the need to create self-sustaining communities by integrated developments that included work places and amenities.