Movement Strategy

The Radcliffe Observatory Quarter Masterplan represents an opportunity to continue to encourage sustainable travel by improving access for cyclists and pedestrians and restraining the influence of the car. The complete regeneration of the former NHS site means the proposed Movement Strategy for the site is not constrained by pre-existing car parks, circulation routes and access arrangements.

Under the new proposals for the site, vehicular access will be concentrated and rationalised, subjugated to the needs of the cyclist and pedestrian. The Toucan crossing on Woodstock Road will be relocated so it is closer to the new East/West Link. This exhibition has already outlined how streets and spaces are being carefully designed to appeal to the cyclist and pedestrian. This board will explain other steps being taken by the University to encourage sustainable travel, principally through the University's Sustainable Travel Plan. However, these measures will be complemented on the ROQ by a robust policy of car restraint which will be built in to the redevelopment of the site. Only 100 car parking spaces will be provided across the ROQ site for essential operational requirements, around 60 of which will be located in the basement of Mathematics, accessed by a car lift. Parking for the Jericho Health Centre will be dealt with separately. The limitation of car parking will have the effect of reducing traffic movements in and out of the site by two thirds of the levels experienced when the hospital was operational. It is expected that this reduction will bring long term benefits to the surrounding area in terms of reduced traffic congestion and improvements in terms of noise and air quality issues.

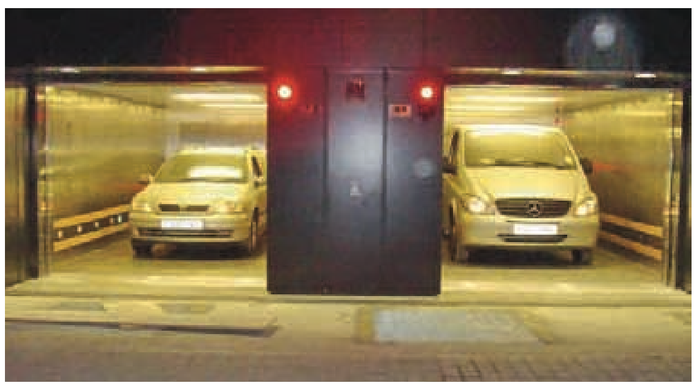
The University Sustainable Travel Plan

This document reaffirms the University's commitment to reducing traffic and parking in the City centre in favour of increasing journeys made by public transport and cycling. In conjunction with car restraint, the Travel Plan will continue to promote alternatives to the car through its various and expansive initiatives, some of which are listed below:

- Provision of information through the University's dedicated sustainable travel website;
- Operation of the Oxshare car share scheme;
- Expansion and promotion of University Season Ticket Loans and the Bicycle Salary Sacrifice Scheme;
- Expansion of video-conferencing capability and flexible working practices;
- Provision of cycle facilities including secure staff storage and shower facilities;
- Operation of 'Bike Doctor' mobile repair scheme;
- Progressively increase the number of University owned vehicles with lower carbon emissions.

The ROQ Cycling Strategy

Perhaps it is not surprising that many of the initiatives listed above relate to cycling, an activity inextricably bound-up with Oxford's character. The University has therefore considered the issue of cycle storage on the ROQ strategically, providing a range of covered and open bike storage in accordance with the requirements of the Travel Plan. In all, 2,600 cycle parking spaces will be provided at street level. Cycle parking spaces for staff will be provided inside the buildings. To avoid the large number of cycle parking equipment from visually dominating the site, a careful selection of cycle parking racks will be developed to accommodate secure and safe parking options for cyclists, without cluttering important through routes and spaces.



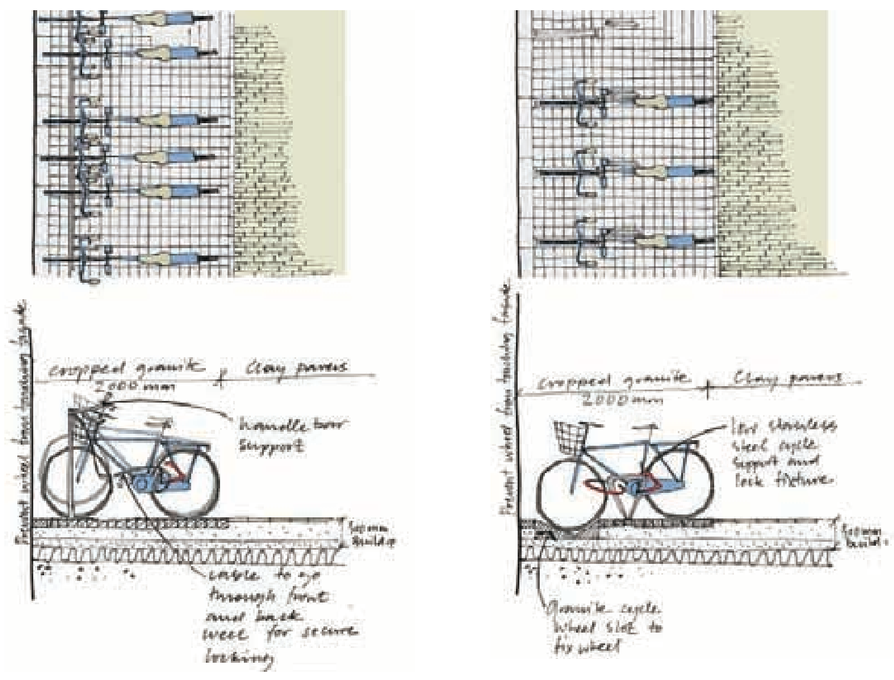
Above: A car lift in operation

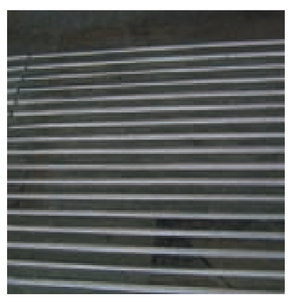
Above: Oxford Park & Ride

Above: Public Transport in Oxford

Above: Cycle parking strategy

Below: Cycle parking and public realm study





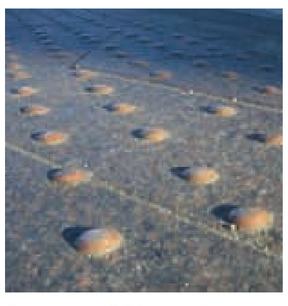
Example of DDA compliant tactile corduroy paving

Seating provision to include those with backs and armrests

Cycle stands to cater for large volumes of bikes

Changing textures can be used to highlight features and hazards

Ramps and steps as a positive design feature



Example of DDA compliant tactile blister paving

Cycle stand with support for handlebars and a cable attached to the cycle stand for secure and space effective locking

To reduce the visual impact of the large amounts of cycle racks a combined paving solution with a discreet lock fixture could be developed together with proposed bespoke furniture

Sheffield style cycle stand

Open space with people relaxing on a sunny lawn.

The identity of this route is reinforced through a carefully orchestrated palette of materials. Cornmarket Street, Oxford.

Activity of people 'en-route'

Sustainability Strategy

The Radcliffe Observatory Quarter is to lead the way in sustainability for future development by the University of Oxford. The ROQ Masterplan has identified sustainability objectives as an important focus in developing and operating the site. This strategy is informed by the University's sustainability policies which will contribute to meeting the carbon reduction challenges of the coming decades.

The Masterplan policy on sustainability states that:

All individual applications or schemes brought forward at the ROQ will be promoted in line with University policy and will take into account the sustainability criteria in local and national policy.

Strategies in respect of energy, waste, biodiversity and materials have been developed for the ROQ in order to respond to the increasing demands on resources and increasing focus on sustainable development in the UK and to provide the basis for the design of buildings for the ROQ which may be sustained for the lifetime of the site with the least environmental effect on local and global resources.

The key targets of the ROQ Sustainability Strategy, which will apply to the design of each new building on site, are set out below.

BREEAM

- The Building Research Establishment's (BRE) Environmental Assessment Method (BREEAM) is the leading and most widely used environmental assessment method for buildings. The designs for all new buildings on the ROQ site will be subject to BREEAM assessment.

Energy

- CO_2 Emissions: each new building at site will be designed and constructed so that carbon emissions will be lower than required by the building regulations in force at the time of its design and construction.
- Central Plant: The heating and cooling requirements for the majority of buildings will be met by the energy centre.
- Natural Ventilation: maximise the use of natural ventilation and daylight within all new buildings.
- Energy Monitoring: energy meters to be installed in all buildings.
- Daylight: the contribution of daylight to the interior of buildings to be maximised.
- Site Layout: design buildings passively to minimise mechanical cooling, reducing the electrical demands.

Waste

- Recycling: buildings to be designed to encourage and facilitate the use of recycling and correct storage.
- Construction: requirement to minimise waste arising from the construction process.
- Generation: minimise waste generation from operation of new buildings.

Biodiversity

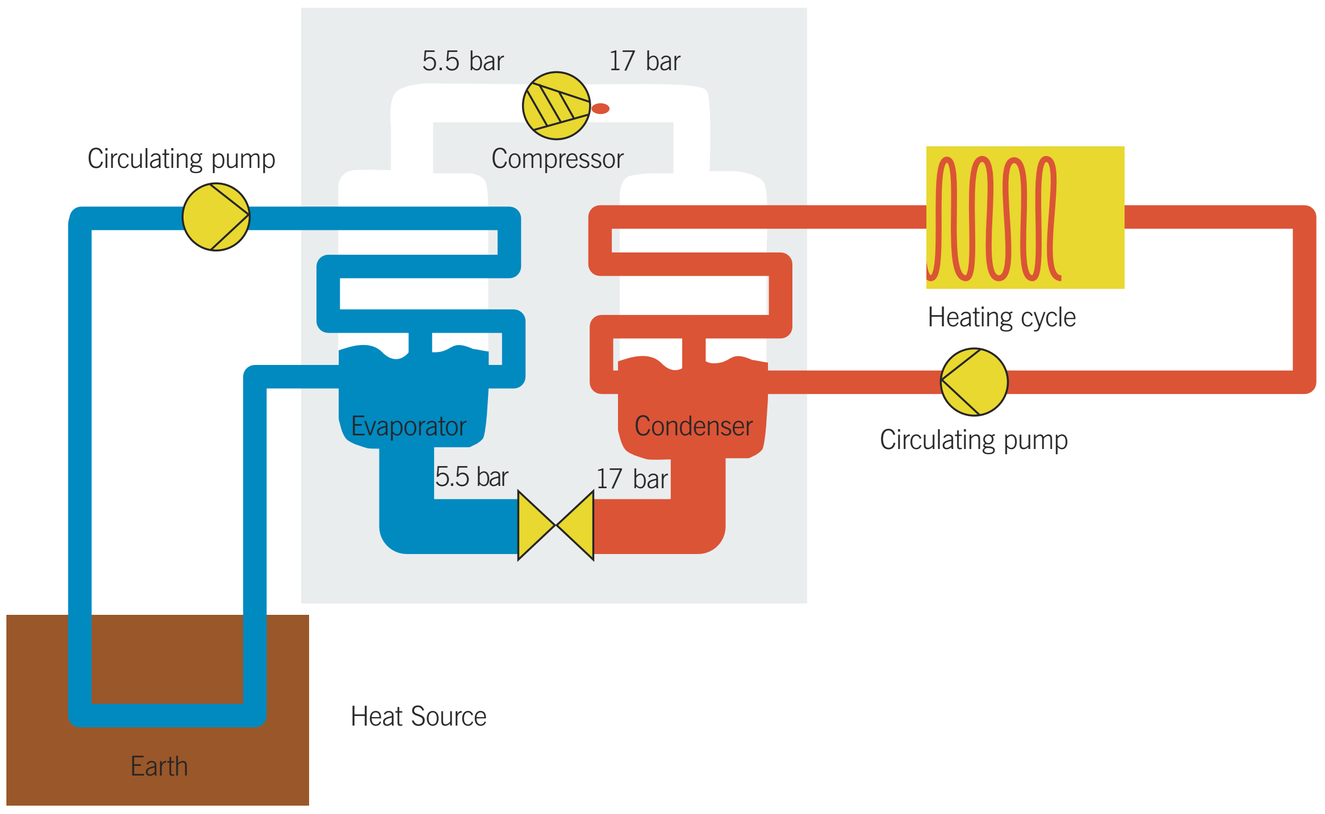
- Planting: Ensure that all plant species used will be from an authentic British (preferably local) native source.
- Planted roofs: use of green/ brown roofs in all buildings where possible, demonstrating good practice and compliance with the Landscape Strategy.

Materials

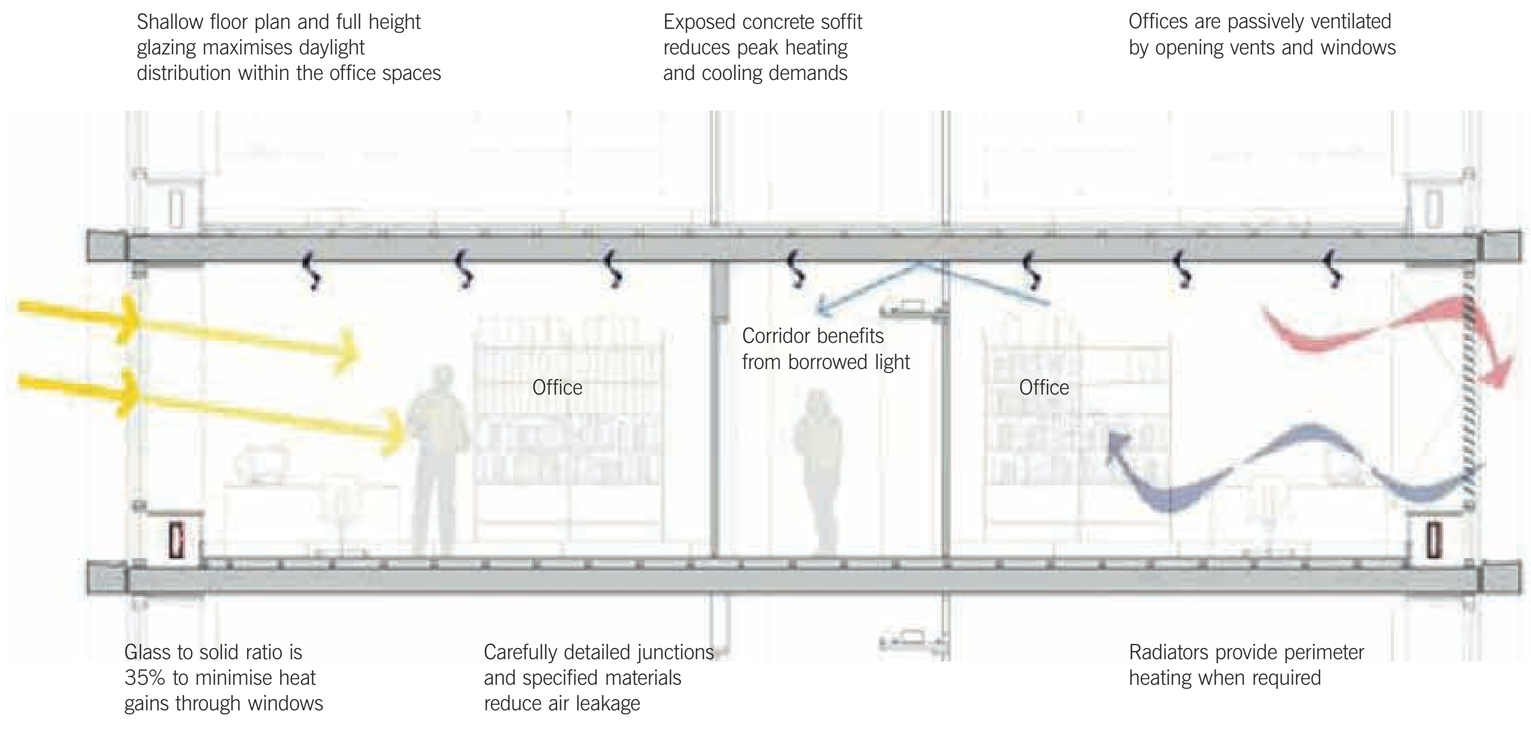
- Specification: the use of durable, flexible and adaptable materials is required.
- 'Greening' the supply chain: implementation of a site-wide materials use and purchasing policy.
- Local: promote specification of local materials.

Renewable Energy

The energy strategy for the site is a key aspect of the sustainability strategy. It is proposed that the initial construction will include ground source heat pumps to serve the site via a centrally located energy centre in the Mathematics Institute. This will achieve at least 20% on-site generation of renewable energy for both the Mathematics and Humanities schemes, as required by the City Council's Natural Resource Impact Assessment (NRIA). The technology makes use of energy contained within the ground for heating, and discharges heat into the ground during summer when cooling is required. Essentially, heat pumps take low grade heat from the ground and release it at a higher temperature. For the ROQ site this is achieved by vertical (bored) ground collectors in which a heat exchange fluid circulates and transfers heat via a heat pump. The energy centre will provide all of the space heating and cooling requirements for the majority of the buildings on the ROQ site.



Above: Ground Source Heat Pump - Model



Above: Humanities Building - Section

Mathematics Building – Sustainable Measures

The design of the Mathematical Institute has sought to realise the aims of the Sustainability Strategy by:

- achieving a BREEAM rating of 'Excellent';
- achieving a carbon saving of circa 20% beyond that required by building regulations through the use of passive design and energy efficient systems. The low zero carbon technologies within the energy centre will achieve further carbon savings on top of this;
- designing the envelope of building to reduce solar heat gain;
- using the thermal mass of the building and high levels of thermal insulation, in conjunction with natural ventilation, to reduce peak heating and cooling demands;
- being naturally ventilated above ground level;
- using zonal heating and ventilation controls to isolate areas of the building that are not in use to reduce energy consumption from the heating and ventilation systems;
- achieving daylight penetration into the mezzanine (basement) level through the use of large areas of glazed roof at ground floor level.

Humanities Building & Library – Sustainable Measures

The Humanities Building and Library incorporates the following features of sustainable design by:

- achieving a BREEAM rating of 'Excellent' for the Humanities building and 'Very Good' for the Library;
- allowing cellular accommodation to be naturally ventilated and to maximise daylight distribution;
- maximising daylight penetration to the library and teaching spaces, through the lantern structure and the sunken courtyards which are largely glazed;
- designing the envelope of the building to reduce solar heat gain and to maximise thermal insulation;
- achieving a carbon saving of circa 25% beyond that required by building regulations through the use of passive design and energy efficient systems. The low zero carbon technologies within the energy centre will achieve further carbon savings on top of this;
- using thermal mass and high levels of thermal insulation to reduce peak heating and cooling demands, in conjunction with night time passive cooling;
- natural ventilation of the upper building;
- connection to the centralised energy system and energy centre, located within the basement of the Maths Building, to provide all of the building's heating and cooling requirements.

Next Steps

Thank you for taking the time to visit this exhibition. We welcome your views on the plans that have been presented. Please feel free to complete a feedback form or provide your comments to a member of the exhibition team.

Once this exhibition has ended the University will review all the comments we have received and finalise the planning applications which will be submitted to Oxford City Council in the coming weeks. In addition to this consultation exercise, Oxford City Council will undertake a statutory consultation once both applications have been lodged with a view to determining the applications early next year.

Subject to obtaining the necessary approvals and funding, the University would like to begin construction towards the end of next year, with both buildings ready for occupation by 2013.

Thank you for attending our exhibition.

A separate planning application will be made for each of the two schemes, comprising of the following documents:

- Planning Statement
- Design & Access Statement
- Full technical and architectural drawings
- Energy and Sustainability Statement
- Landscape & Public Realm
- An Environmental Impact Assessment addressing the following topics:
  - Air quality;
  - Archaeology;
  - Built heritage and townscape;
  - Drainage and flood risk;
  - Ecology;
  - Groundwater, contamination and waste;
  - Land use and employment;
  - Noise and vibration; and
  - Transport.