



**WELLCOME  
GENOME  
CAMPUS**  
LIFE-CHANGING SCIENCE

# Welcome to our exhibition about the future plans for the **Wellcome Genome Campus**.

Wellcome is currently working with a wide ranging technical team to develop ideas about how the Campus could expand and deliver benefits for both our scientific community and the surrounding area over the next 25 years.

In January we held a series of events with people working on Campus and the local community during which we gathered local knowledge about the opportunities and challenges that are present in developing the Campus. This exhibition gives us the opportunity to outline what we heard from both the Campus and local community and sets out how we intend to respond through the design process to ensure we deliver a masterplan that is responsive to both the scientific and local community needs.

We look forward to talking to you about our ideas in more detail.





# WHAT WE HAVE HEARD

During January members of the project team conducted a number of consultation events with both Campus users and members of the community to understand local priorities for growth.

Throughout the first stage of consultation it became evident that both the Campus and the community share many of the same issues and concerns. The major themes and areas of feedback were; transportation, amenities, housing and the environment.

## TRANSPORT

Transport was a critical issue to both the Campus and local community. Both groups identified that the local road infrastructure was stretched at peak times. The Campus was open to the adoption of alternative methods of transport, including public transport and cycling to reduce the impact on the local road system.

## AMENITIES

The Campus wanted to see more options provided on-site for eating and drinking, recreation and leisure facilities as well as the provision of health and education services, this was especially true when asked to consider living on Campus. The Campus was also in favour of being more accessible to the surrounding communities. The community was interested in being able to access the amenities on the Campus. Campus staff suggested that sport and recreation facilities as well as health services would be good to access on site.

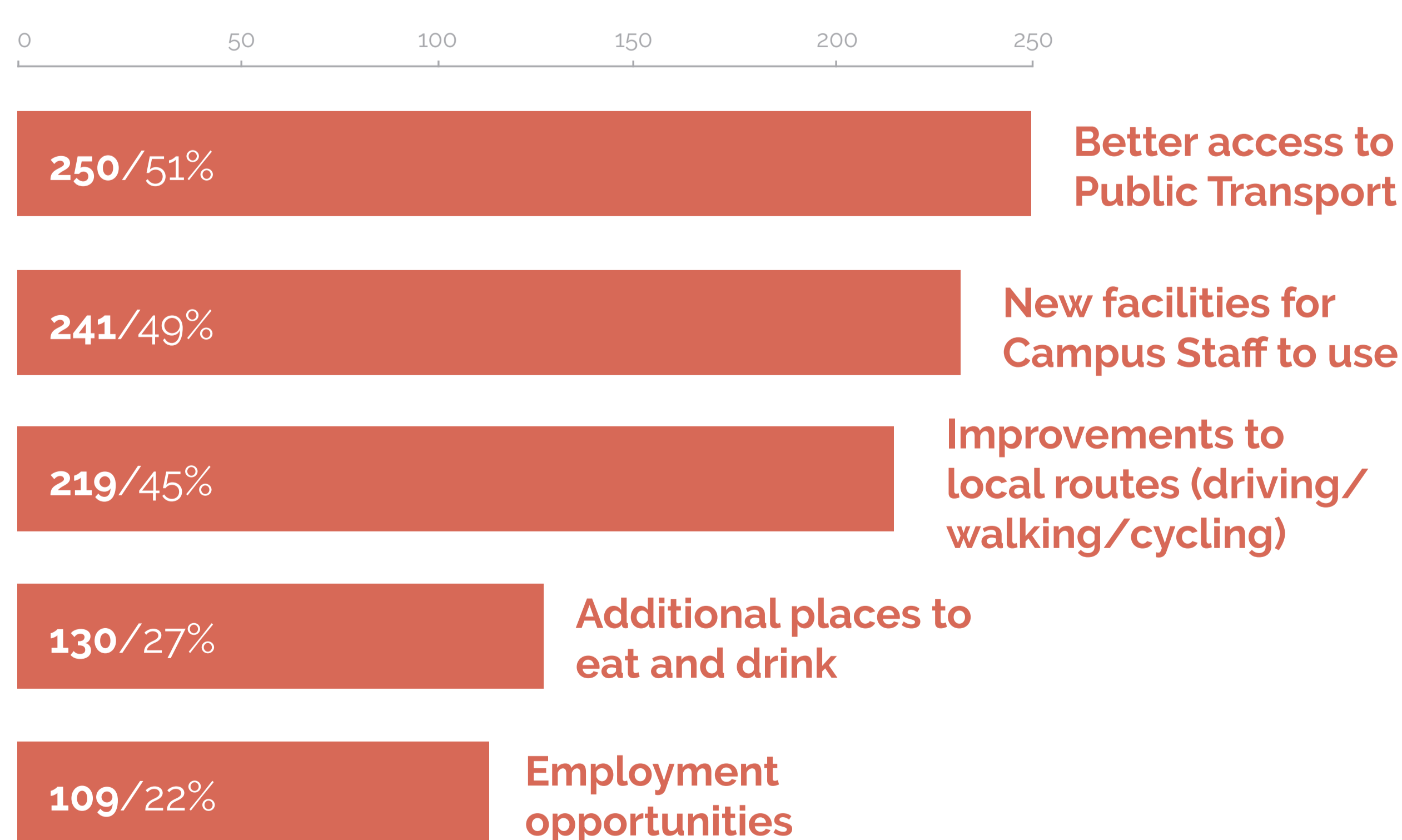
## HOUSING

As part of our initial engagement we wanted to understand whether people working on the Campus would see a benefit in the possibility of living on an expanded Campus. Of the Campus Staff who responded, 32% responded 'yes' to living on Campus, whilst 22% were 'not sure' and 46% responded 'no'. A strong theme to emerge from those who said 'no' and 'not sure' was that there would need to be improvements to both the amenities and connections available to create a community they would consider moving to. The community felt uneasy about the provision of housing, indicating that there would be greater support for homes that were for Campus staff.

## ENVIRONMENT

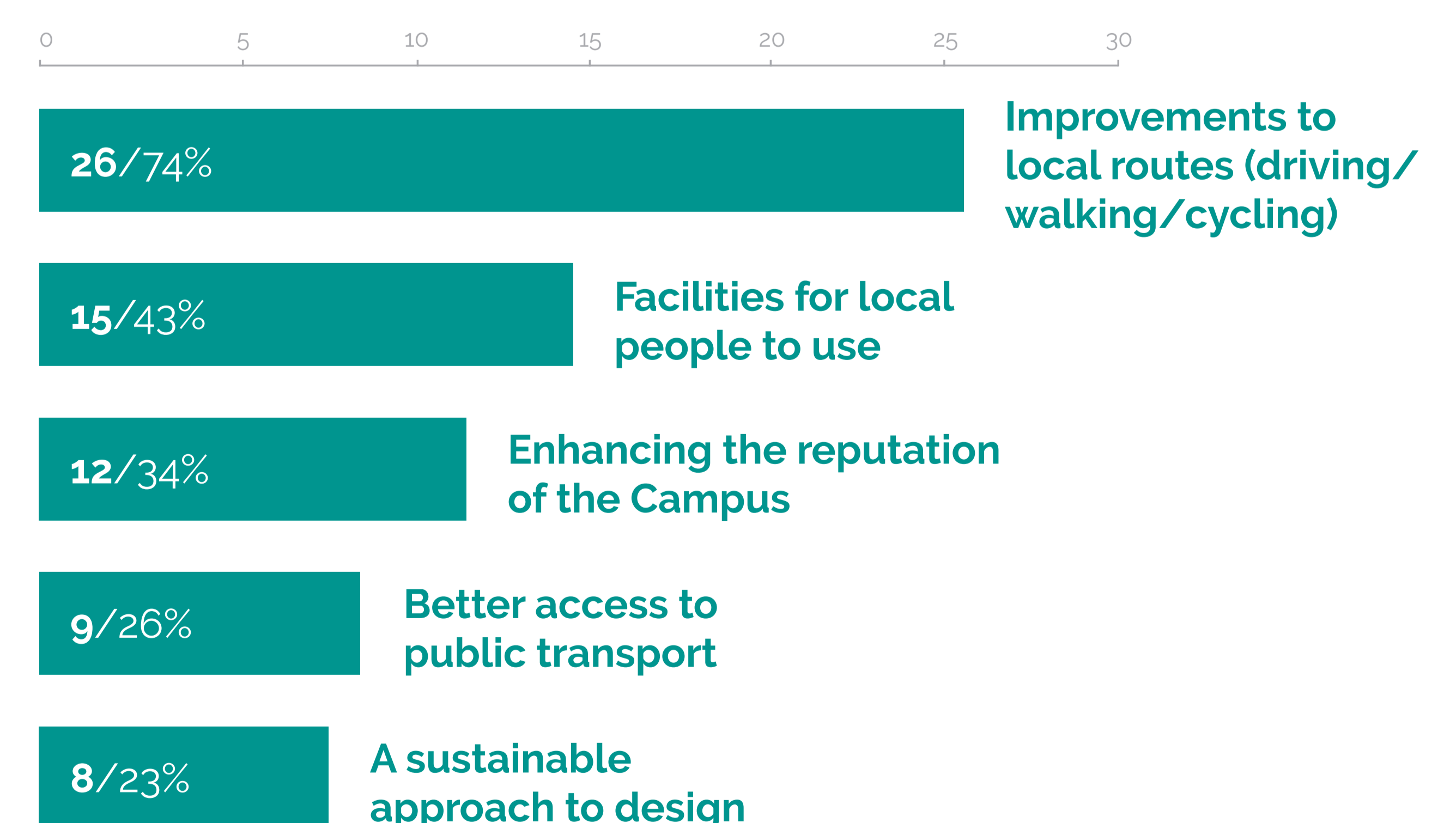
The Campus and the local community both wanted to ensure that the surrounding environment did not suffer as a consequence of expanding the Campus. The community were generally concerned about visual impact from key local routes and viewpoints. The Campus wanted to ensure that the open space and greenery were enhanced as part of the development and that the rural character of the area was respected.

## CAMPUS STAFF PRIORITIES



Feedback from the Q9 of the February 2018 Campus Survey: Which of the following would you like to see prioritised as part of any future growth? (Multiple choice). Showing the top 5 priorities out of 15 options, based on 489 survey responses.

## COMMUNITY PRIORITIES



Feedback from the Q6 of the February 2018 Community Survey: Which of the following would you like to see prioritised as part of any future growth of the Campus? (Multiple choice). Showing the top 5 priorities out of 15 options, based on 36 survey responses.



WELLCOME  
GENOME  
CAMPUS  
LIFE-CHANGING SCIENCE

## SETTING THE PROJECT OBJECTIVES

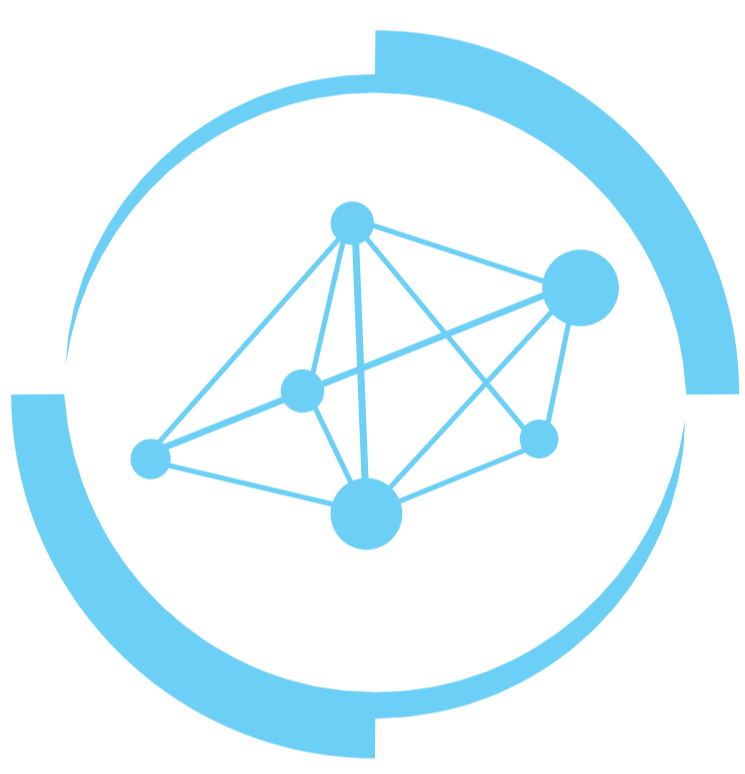
Taking account of the initial feedback we have established the following objectives for the project in order to respond to Wellcome's ambition, community priorities and Campus needs:



Create a complimentary community around the Genomics ecosystem to **attract and retain the best global talent**



Provide resilient and sustainable infrastructure and amenities for the **benefit of Campus users and the wider community**



**Engage widely** with industry and the general public – local and global – by creating an open Campus and promoting opportunities for debate and collaboration



Develop a **flexible framework** for the Campus to evolve, setting a clear intent and inspiring investor confidence



Strengthen the reputation of the Wellcome Genome Campus as a **centre of excellence in Genomics and Biodata**



Focus on enhancing **health, well-being and restorative sustainability** of people and land

These support the Campus vision:

**“To build on the scientific foundations of the Campus to become the international centre for scientific, business, cultural and educational activities emanating from Genomes and Biodata”**



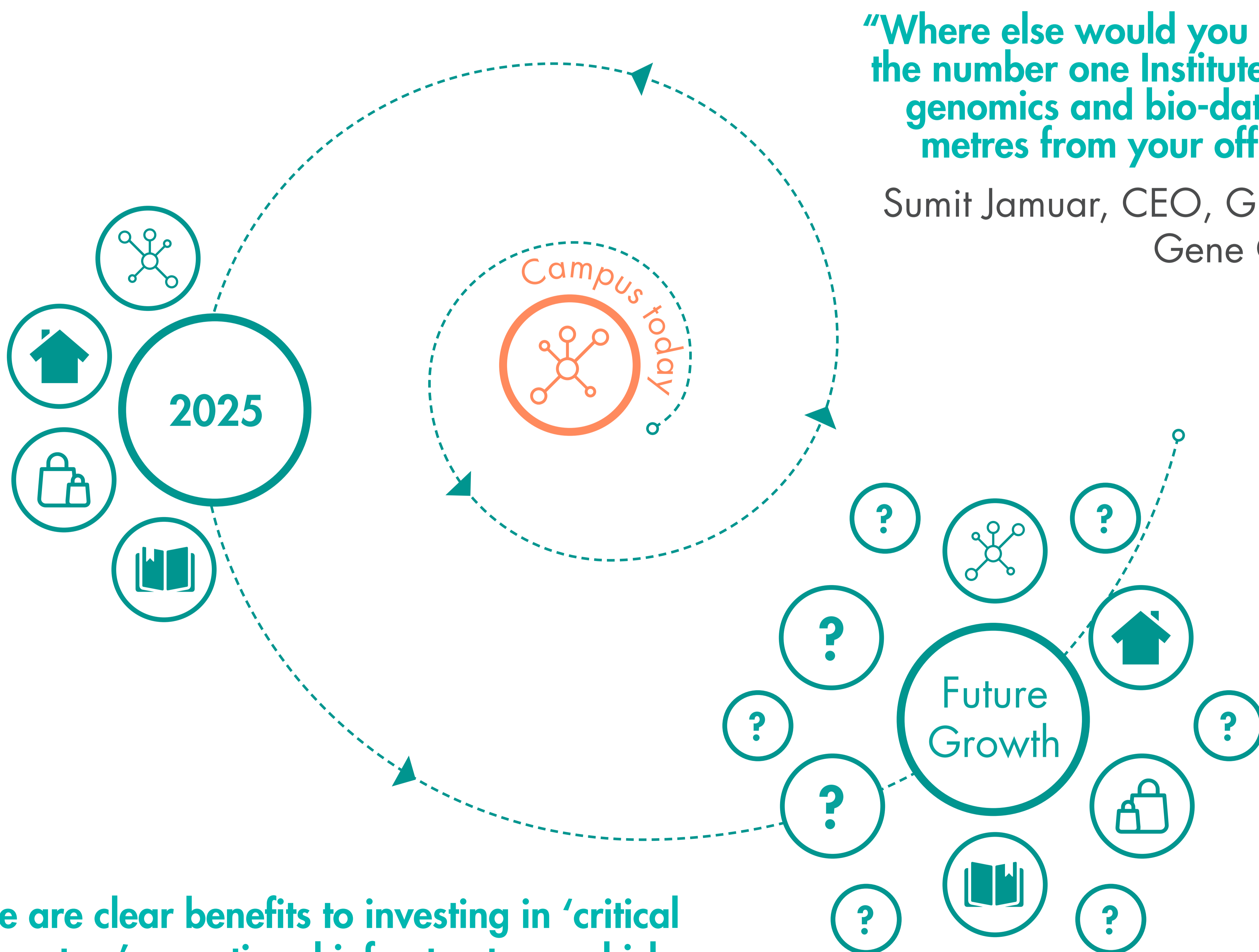
# TRANSLATION & INNOVATION

The genomics industry is perhaps the most fast moving and dynamic area of science and an area in which the UK is a genuine world leader in research. Historically, the UK has failed to secure the economic benefit that follows from the application of that research, with investment flowing to the competing centres of genomics in the US and China in particular.

It is forecast that globally bioinformatics and genome related technologies will be worth circa \$45 billion by 2020. The expansion of the Campus will provide the opportunity for scientific research to be translated into real world health applications that genome science is making possible. The Campus brings together the Government, NHS, researchers and businesses to work collaboratively, ensuring that the UK can capitalise on its leading position in an internationally competitive area.

There is significant interest from the genomics and biodata sector to provide more space for research and development on the Campus. To indicate the level of interest, the Biodata Innovation Centre was opened in 2016 and was fully occupied within 12 months. Our future plans for the Campus would provide the additional space required to ensure that investment can be captured in the UK. If expansion is not available at the Campus, it may be lost to overseas.

To ensure space for the co-location of grow-on, mature and commercial enterprise is available over the next 20-25 years we are currently testing what the expansion would need to provide in order to support successful growth of the scientific environment, and attract new talent to support future scientific advances. Current testing for the scheme is based on the need to provide a mix of complementary uses that will provide for current Campus users, existing residents and businesses in the surrounding area as well as future users of the Campus.



**“Where else would you have the number one Institutes for genomics and bio-data 20 metres from your office?”**

Sumit Januar, CEO, Global Gene Corp

**“There are clear benefits to investing in ‘critical mass centres’ as national infrastructure, which can then stimulate further national and international collaboration. We can see this from the Genome Campus at Hinxton, which includes both the Sanger Institute and the European Bioinformatics Institute.”**

Annual Report of the Chief Medical Officer, 2016



WELLCOME  
GENOME  
CAMPUS  
LIFE-CHANGING SCIENCE

## CREATING A FRAMEWORK FOR GROWTH

Wellcome has appointed a design and technical team (Masterplan team), led by architects Arup Urban Design, to produce a plan for the expansion of the Campus.

The aim is to provide a long-term plan which can accommodate the immediate known needs identified by Wellcome, combined with sufficient flexibility to respond to the inevitably changing scientific, institutional and commercial environment. The Masterplan team has been asked to consider the following:

- **Capacity for expansion of the current institutions and accommodation of future research or academic facilities;**
- **Expansion of the 'Connecting Science' programme, including capacity for a 'Genome Discovery Centre' to provide a national centre of expertise with access to the public;**
- **Further space for innovation to meet immediate demand and for grow-on space for successful start-ups;**
- **New infrastructure to support the Campus growth, serve local communities and attract and retain global talent, including new homes, cultural, sport, recreation, social and education provision;**
- **Opportunities for broader growth, including large scale inward investment.**

### Our team

**ARUP**

Arup Urban Design,  
Masterplanner

**BURO HAPPOLD  
ENGINEERING**

Engineering and  
Environmental Consultants

**aspire**

Development  
Managers

**vectos**

Transport Advisers



Town Planning Advisers

### Special Advisors

**ALISON BROOKS  
ARCHITECTS**

**ARCHITECTURE 00**

**FiD**

 **Kim Wilkie**

# EMERGING PROPOSALS

Creating a successful environment for scientific research, innovation and translation will need to be supported by a range of complimentary amenities if we are to retain and attract global talent to drive our research and translation. Our research suggests that a significant number of Campus users would consider living on-site if the right type of accommodation was provided, supported by new amenities and infrastructure. Our modelling is looking at:

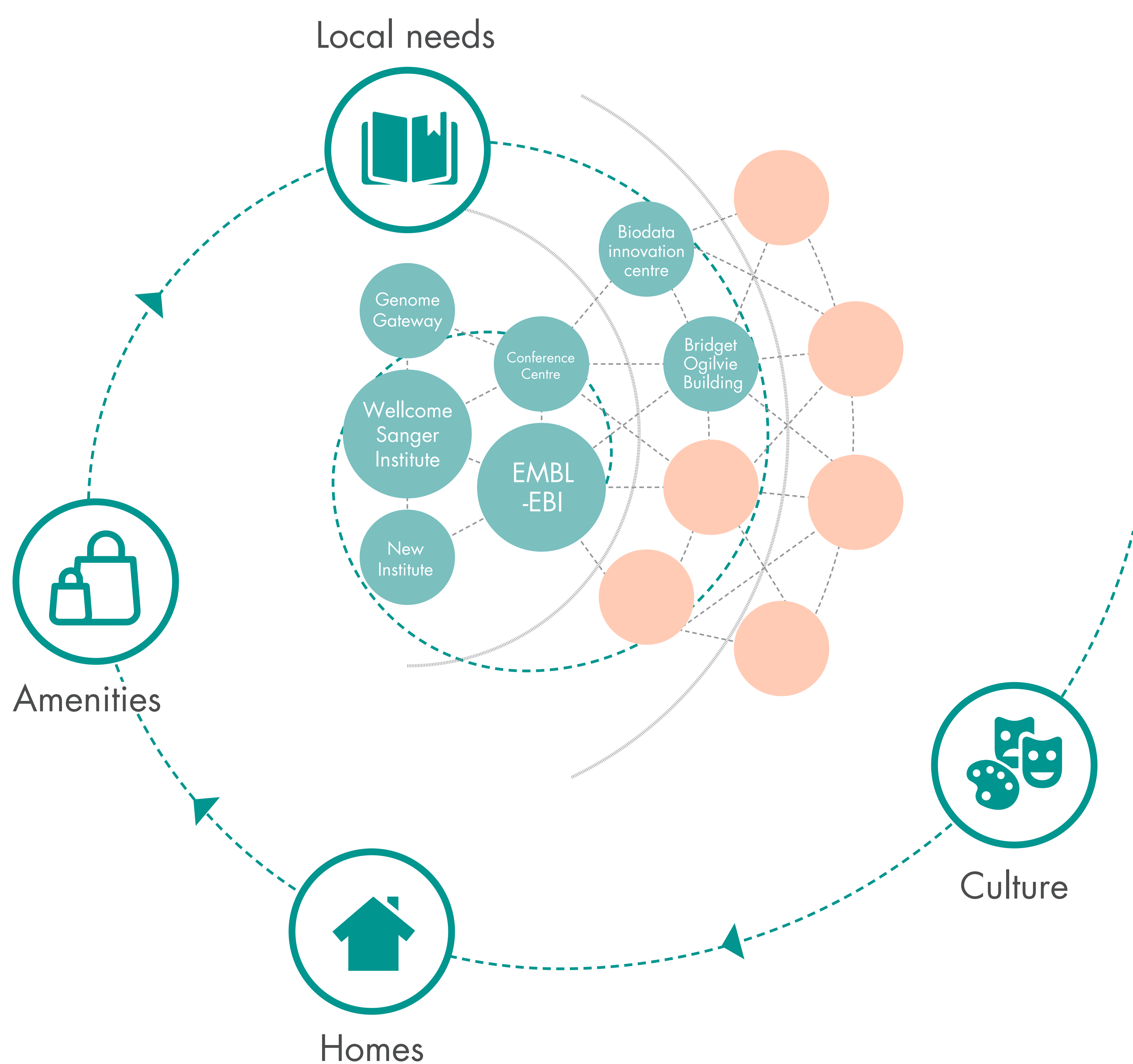
- **The types of homes that could be attractive to current and future employees**
- **Different types of household including singles and sharers, couples, families and 'empty nesters'**
- **The split between rented and sale**

Of the 489 respondents, 49% of Campus users would like to see more amenities provided on-site. It will be essential that the Campus provides sufficient 'critical mass' to support a range of local services, and that amenities are phased to avoid adverse impacts on current facilities, and can help create a sense of place from day one. We are currently exploring:

- **Mapping demand from the Campus workforce, neighbouring residents, and those who may live on-site**
- **Providing an expanded nursery and/or primary school**
- **Children's play-spaces and recreation facilities**
- **Health facilities**

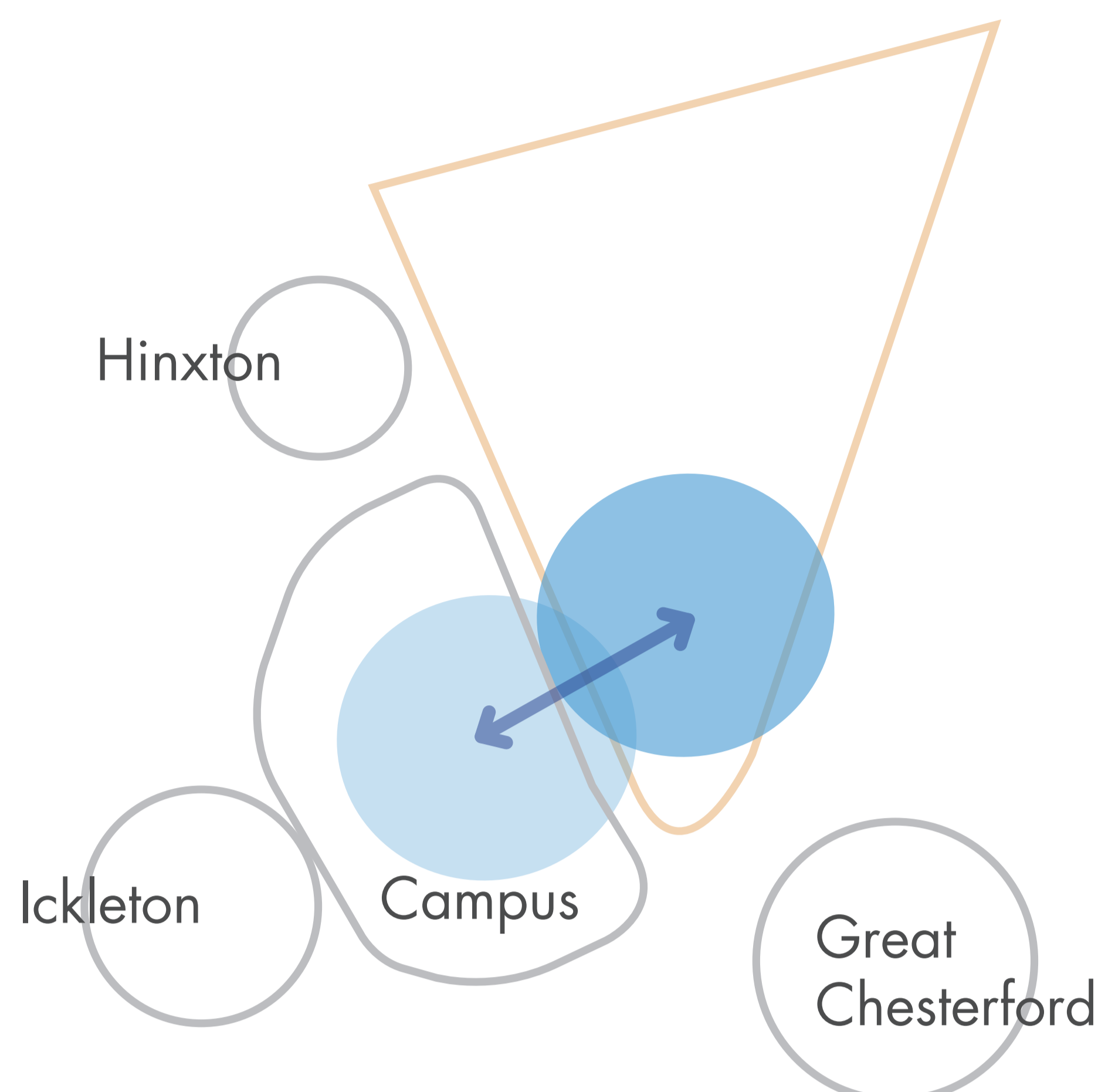
The capacity for homes, likely take up and housing types will be tested through the masterplan process in consultation with people currently working at the Campus and will determine what facilities are required to support this.

The Campus expansion is designed to enhance the quality of place from the outset. New science and translation space, homes and amenities will be delivered in phases over a number of years.





# EXPANDING THE GENOME AND BIODATA ECOSYSTEM



The expanded Campus will continue to focus on discovery research and translation through industry partnerships and collaborations. Additional floorspace will allow the current institutes to expand, create potential for a new institute to locate on the Campus as well as the provide the space for growth of the Connecting Science Public Engagement programme.

We see the expansion growing out from the existing cluster of buildings, to create a new neighbourhood that will contain social spaces and a range of building types to support start-ups, grow-ons, mature companies and new institutes. The potential for active streets and collaborative spaces will create opportunities for staff, visitors and residents to interact and share ideas.

## INITIAL THINKING

### Transparent, public ground floors

The use of and access to ground floors plays a critical role in the perception of an open Campus.

### Flexible buildings and plots

Blocks that allow a range of appropriate building types and sizes to support businesses, from start-ups to mature companies that contribute to a healthy and flexible Genomics ecosystem.

### Pedestrian-centric quality

Streetscapes designed to prioritise people's needs - legibility, safety, comfort and health - allow the public realm to contribute to Campus life.



### A diverse mix of uses

Opportunities for a mix of uses - retail, leisure, hotel, residential - in the predominantly working district add vitality and interest.

### Active Streetlife

Public uses and safe, comfortable walking, cycling, and public transport (i.e. shuttle) amenities enhances people interaction and promotes wellness.

### Inside - outside collaboration spaces

A network of small courtyards and open spaces are embedded in the masterplan to support planned and serendipitous working and socialising.

## PRECEDENTS



High quality public realm



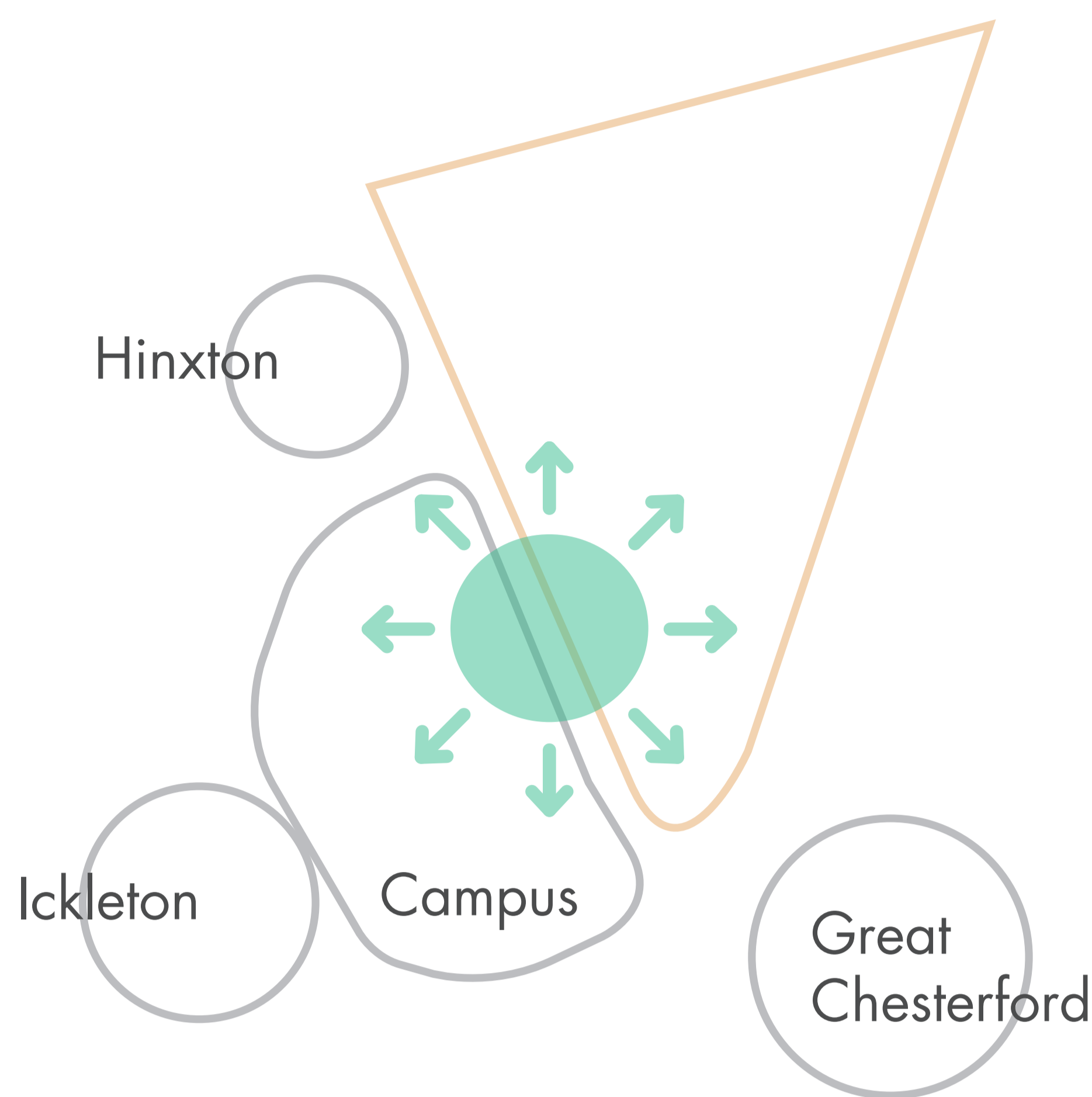
Social spaces



Innovative and sustainable design



# GATHERING AND ENGAGEMENT AT THE HEART



The Campus wanted to see more space for connecting with each other whilst the community wanted to be able to access amenities at the Campus. We would like to create a green Common as the heart of the extension, expanding on the gardens surrounding Hinxton Hall. This Common will offer the opportunity to connect the emerging Campus to the existing one across a traffic-calmed Mill Lane, on to the accessible wetlands and River Cam valley further west. The Common would be framed by a diverse mix of public uses, including a range of cultural, sport, recreation, social and education amenities that will encourage staff, residents, visitors and the local community to interact.

## INITIAL THINKING

### Recognising the rural setting of the East Anglian Chalklands

The historic pattern of long views, open fields, and the enclosure offered by woodlands are used to create a sensitive new Campus and settlement.

### Purposeful landscape not decorative

Grassland, pasture, food-growing, allotments, woodlands, marshes, Sustainable Urban Drainage Systems (SUDS), playgrounds, walking and cycling routes are prioritised over ornamental landscapes.

### Connecting the new to the old

A new green Common extends the heart of the new Campus to the gardens surrounding Hinxton Hall and the wetlands and River Cam valley further west.



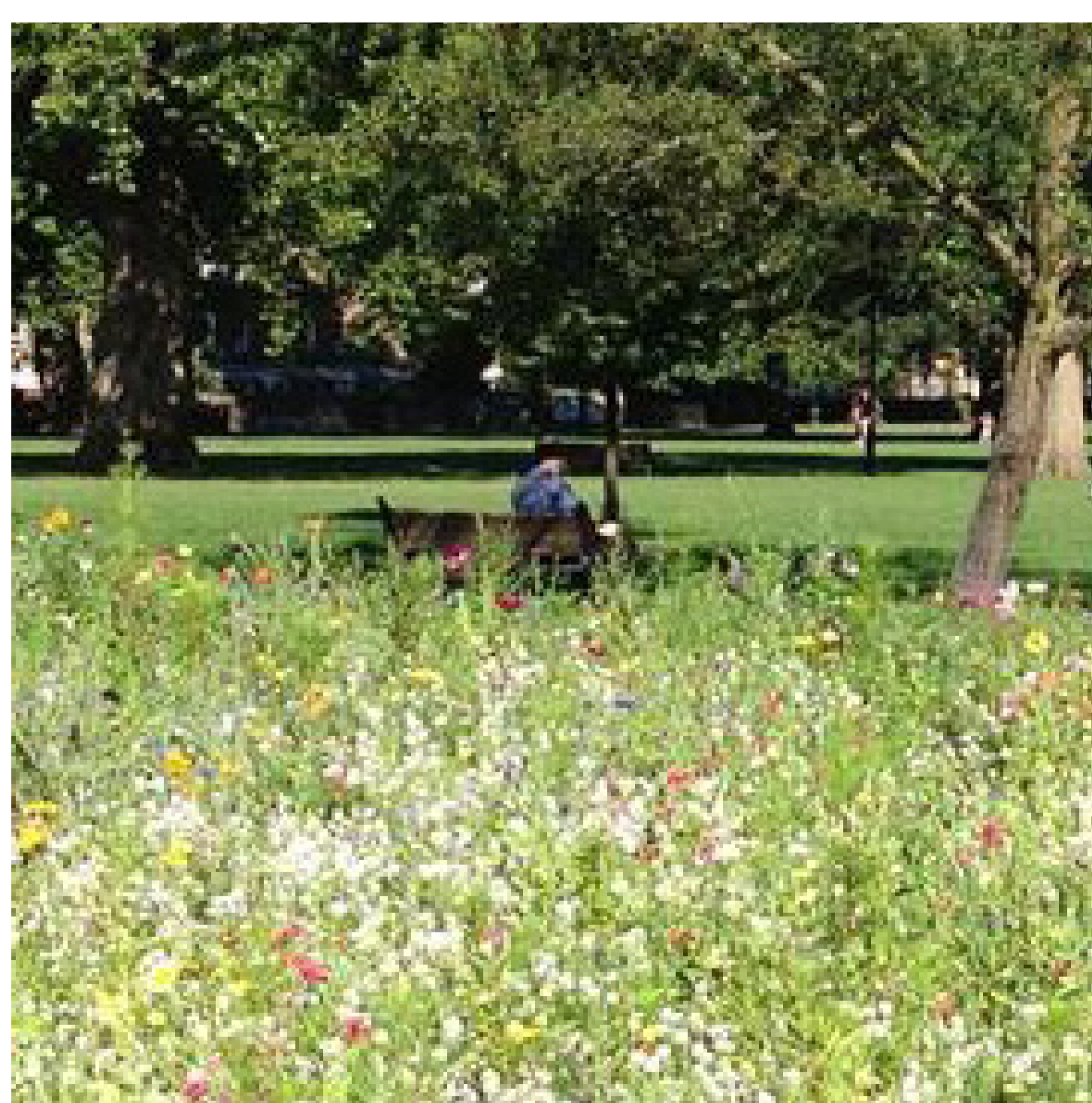
### A mix of uses around the Common

Mixed use buildings bring together the interconnected and diverse nature of the Wellcome Genome Campus working, living, and public uses to the green.

### Designed for active and passive use

Open spaces provide opportunities for a variety of uses from quiet enjoyment of the open space to a well-managed and successful genomic science festival organised by Connecting Science.

## PRECEDENTS



Respect the rural setting and make accessible

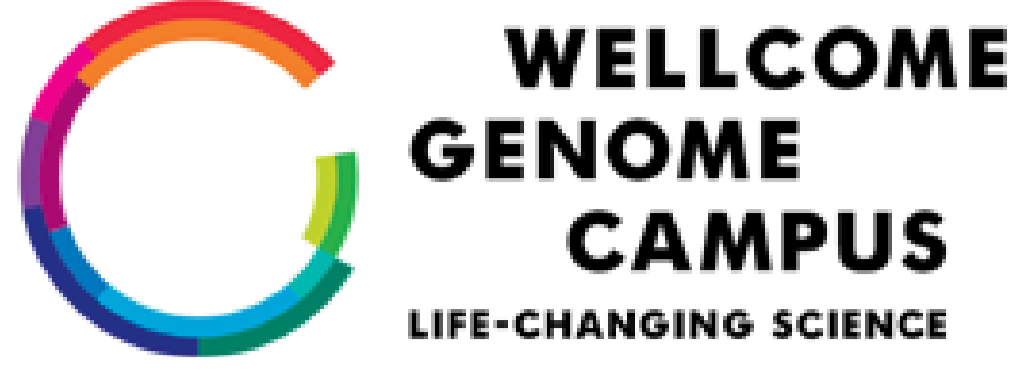


Create outdoor social spaces

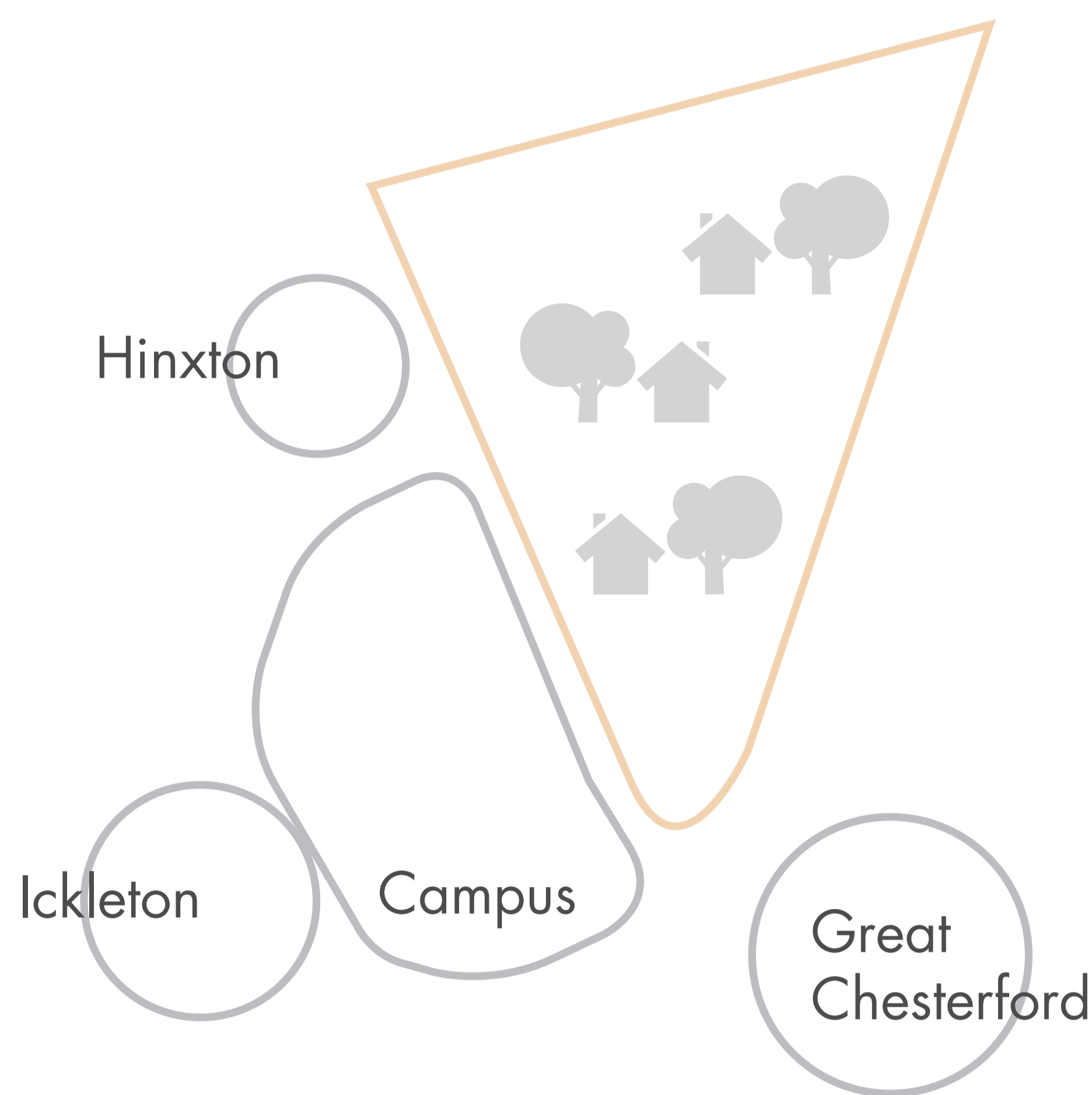


Create places for interaction





# LIVING IN A RURAL LANDSCAPE



Both Campus users and the community believe that the surrounding rural environment make this a unique and special place in which to work and live. We want to reflect the rural setting and distinctive landscape throughout the design process, using it to drive the quality and design of new neighbourhoods and how they connect with their surroundings. Our design will respect the views on to the site and the visual framework for the emerging Campus will be structured around open fields and woodland canopies, preserving views of the rolling land to the east. The landscape will be enhanced through ecological restoration improving local biodiversity.

## INITIAL THINKING

### Building neighbourhoods around a heart

We would like neighbourhoods to cluster around a central core of shared amenities, open spaces, shops, and co-working facilities.

### Respecting the topography

Builds along the existing slope and topography of the site and working with natural water drainage flows and long-distance views and horizon lines.

### Setting amidst open fields and woodland

Using a pattern of wooded vales and linear settlements as the most appropriate response to the site and its wider context, our approach will acknowledge the importance of views from surrounding areas.



### Pedestrian-centric quality

There is a primary focus on the pedestrian environments with safe walking and cycling routes, minimal exposed parking areas, and habitable spaces overlooking the streets.

### Opportunities for work spaces

Design of neighbourhoods recognise the changing needs of individuals and families working in the knowledge sector - catering for workers and entrepreneurs in need of alternative and shared spaces.

### Oriented for optimal sun access

Block layouts will work with sun and wind patterns; optimising the orientation of blocks and buildings to promote morning and evening sun.

## PRECEDENTS



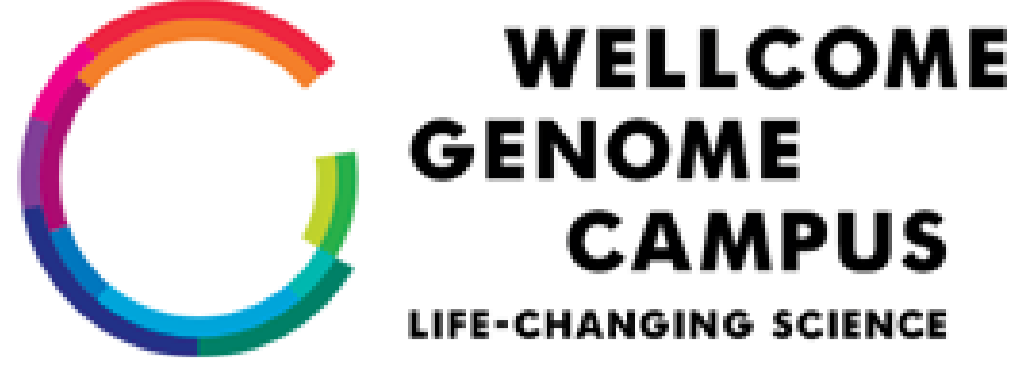
Connection to the landscape



Creating a safe community



Design that will respect the location



# RESILIENT INFRASTRUCTURE FOR THE 21<sup>ST</sup> CENTURY

Wellcome’s objective in expanding the Campus will be to embed health, well-being and restorative sustainability during design, delivery and operational phases. We are exploring ambitious and innovative approaches to transport and mobility, digital technology, health and well-being in the built environment and carbon reduction during construction and throughout the buildings life-cycle. The expansion of the Campus gives us the opportunity to set a new precedent in Campus design.

Some of the options we are currently exploring include:

## TRANSPORT

Transportation was an important theme that emerged during both Campus and community consultation. Our intention to provide housing and complementary amenities on-site offers the potential to create more sustainable travel patterns by allowing people to live, work and undertake day to day activities without the need to drive.

We are also exploring several other options to improve connections to and from the Campus. These include:



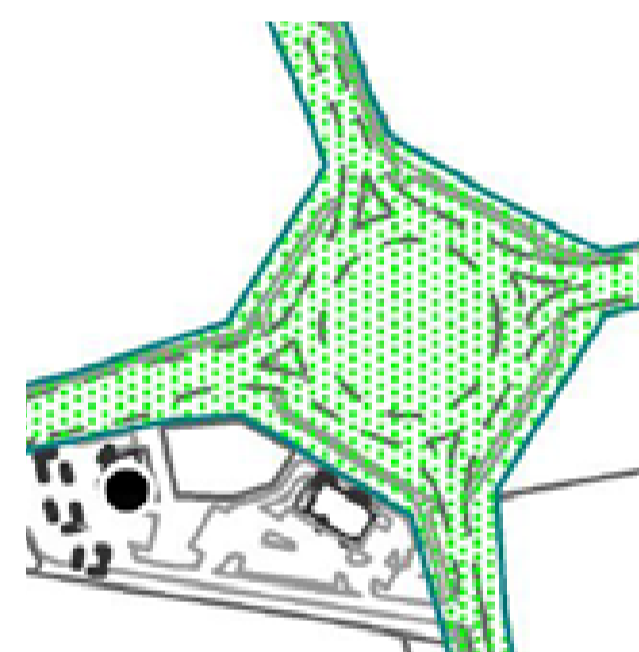
Improving local cycling infrastructure and implementation of bike hire hubs within the campus and at key local destinations.



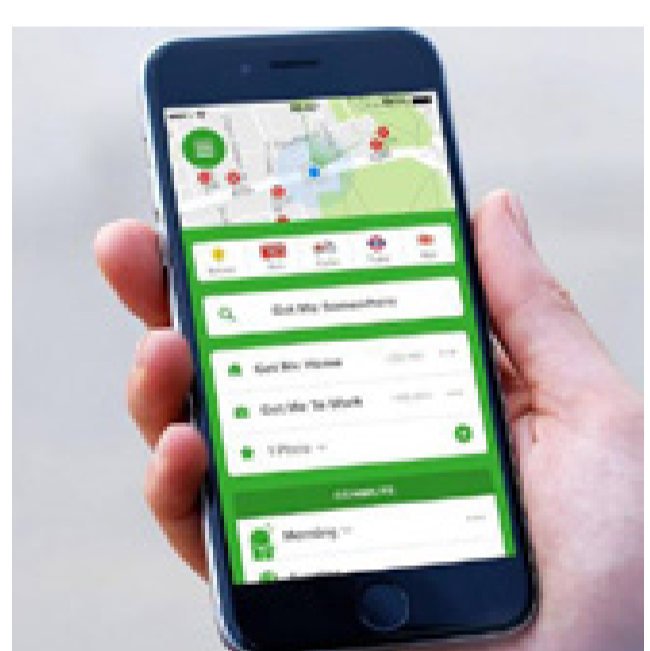
Traffic Management measures in Hinxton, Ickleton and Duxford to address rat running including options such as traffic calming, physical barriers and Automatic Number Plate Recognition (ANPR).



Providing a direct cycle / bus / autonomous vehicle link to Whittlesford Parkway Station.



Offsite highway works at junctions to be informed by a Paramics microsimulation traffic model.



Providing an on-demand bus services which would not be restricted by fixed routes and timetables but would instead respond to real time demand with the use of a mobile app.



Developing a transport strategy that compliments the Greater Cambridge Partnership proposals which includes Greenways, rural transport hubs, A1307 improvements and the Cambridge Autonomous Metro (CAM).



Enhancing the existing bus provision for campus staff and the local community.



# RESILIENT INFRASTRUCTURE FOR THE 21<sup>ST</sup> CENTURY

## ECOLOGY AND BIODIVERSITY

There are a range of different habitats at the site suitable for wildlife including arable fields and margins, woodland corridors, tree plantation, tall ruderal herbs, hedgerows, scrub, buildings, river and wetlands environments. Wellcome will seek to achieve a 'biodiversity net gain' for the masterplan, which means the site will have greater biodiversity in the area after the development than before. Some of the options we are investigating to achieve this include; enhancing wildlife corridors, selecting native and local species of planting, and designing the green infrastructure (trees, woodlands, grass, water features) to improve on the wildlife currently found at the site.

## WATER AND FLOODING

A range of techniques and technologies will be used to reduce reliance on mains water supply as well as providing flood mitigation designed to cope with a 1:100 year flood as well as climate change.

- Rainwater harvesting - reducing demand on mains waters supply and minimising storm water discharge
- Green roofs – retain rainwater and improve amenity and ecology
- Permeable paving – improve surface water flow and reducing storm water discharge
- Wetland – provide water storage and purification functions
- Swales - grassed, vegetated and stone lined swales can control storm water runoff
- Bioretention structures – provide effective treatment of water pollutants
- Grey water recycling

## CARBON AND EMBODIED ENERGY

A range of innovative approaches are being explored to reduce carbon production as well as demand on utilities. These include:

- Combined heat and power system
- Roof Photovoltaic system
- Solar thermal domestic hot water
- District heating and cooling
- Battery storage
- Using SMART technology to automate building control systems

## THE MASTERPLAN WILL SEEK TO PROMOTE HOLISTIC SUSTAINABILITY ACROSS A RANGE OF PRINCIPLES:



### Health and happiness

Encouraging active, sociable, meaningful lives to promote good health and well-being.



### Local economy

Creating safe, attractive places and amenities to live and work which support local prosperity.



### Culture and Community

Nurturing local identity and heritage, empowering communities and promoting a culture of sustainable living.



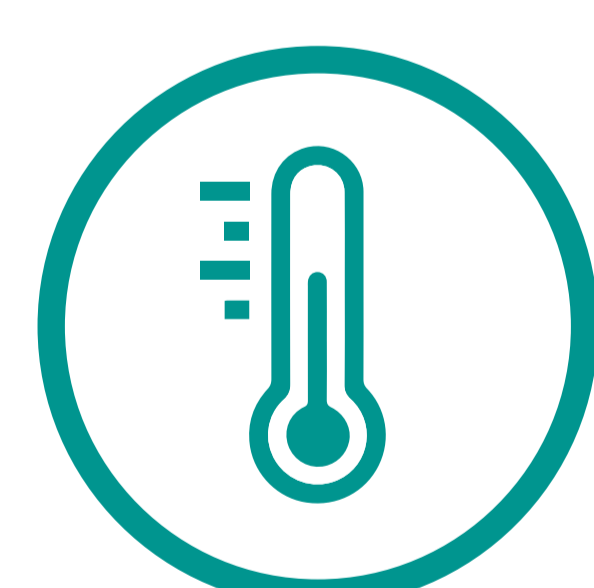
### Land and nature

Protecting and restoring land for the benefit of people, wildlife, and the planet



### Sustainable water

Using water efficiently, protecting local water sources and reducing flooding and drought.



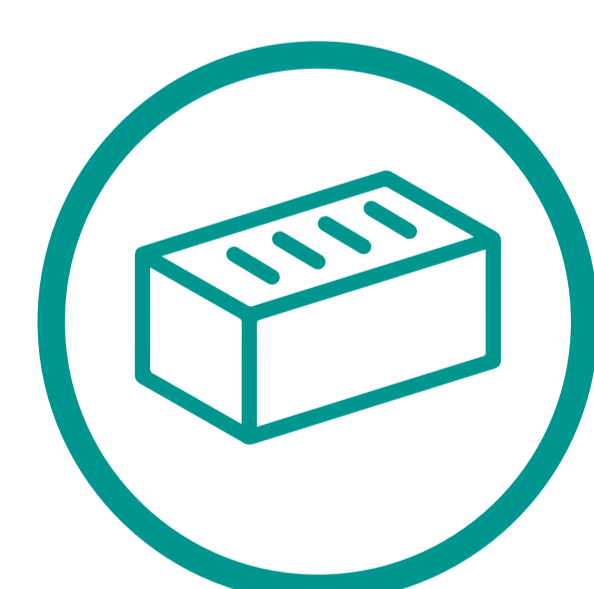
### Climate resilience

Building in capacity to adapt to a changing climate and future weather extremes, thus protecting the long-term health of occupants and functionality of the Campus.



### Local and sustainable food

Promoting sustainable humane farming and healthy diets in local, seasonal organic food and vegetable protein.



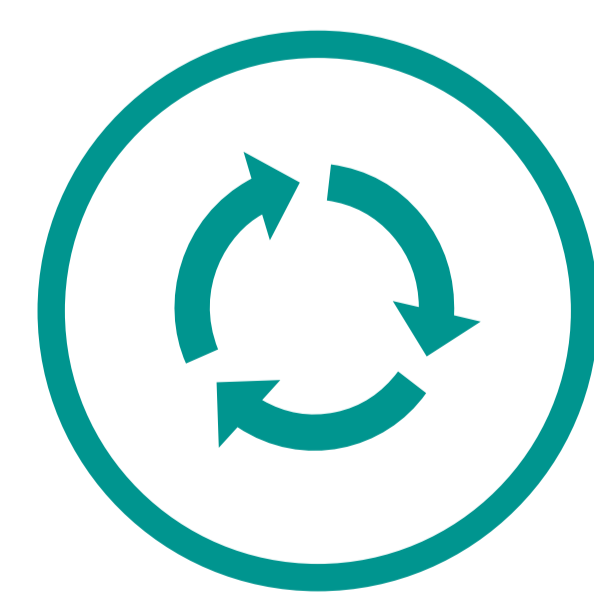
### Materials and products

Using materials from sustainable sources and promoting products which help people reduce consumption.



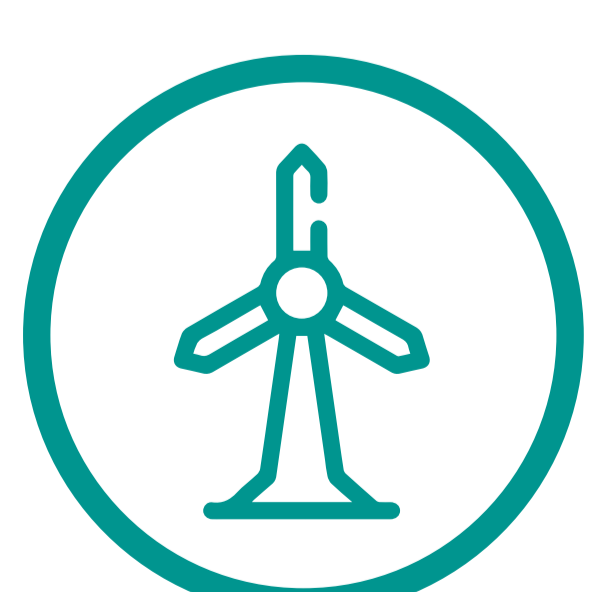
### Travel and transport

Reducing the need to travel, and encouraging walking, cycling and low carbon transport.



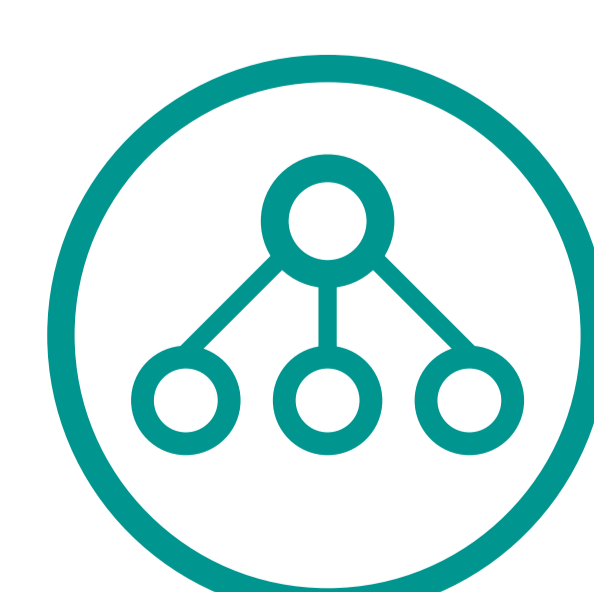
### Waste Reduction

Reducing consumption, reusing and recycling to minimise waste and pollution.



### Carbon Reduction

Designing buildings, land, transport and operation to aim for ambitious carbon reduction targets.



### Governance

Closing the performance gap between design intent and actual performance through effective governance to monitor, measure and review.



**WELLCOME  
GENOME  
CAMPUS**  
LIFE-CHANGING SCIENCE

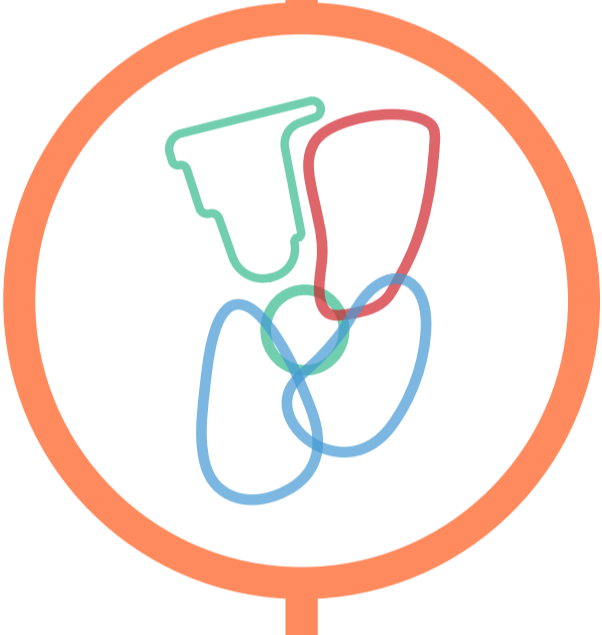
# STEWARDSHIP OVER TIME

Wellcome is committed to the long-term stewardship of the land and the expansion of the Campus. Wellcome's long-term horizon allows for the establishment of a governance structure for the new Campus that will ensure its holistic objectives of quality, innovation, sustainability, well-being and behavioural change can be achieved. Wellcome's long-term approach to development has already delivered environmental benefits to the Campus and community. In the future, Wellcome's commitment will continue to deliver innovative solutions that are difficult to deliver under conventional business models.



**2025**

The aspiration: Wellcome Genome Campus cements its position as a global leader in genomes and biodata. Alongside the engine of science and work, a complementary community grows, providing homes, amenities, and a high quality of life to its diverse workforce as well as the wider community.



**2018**

Planning permission for Campus expansion.



**2017**

The government's Industrial Strategy recognises the UK's global pre-eminence in the field of genomics and supports the growth and expansion of genomics science and its translation into healthcare and related industry.



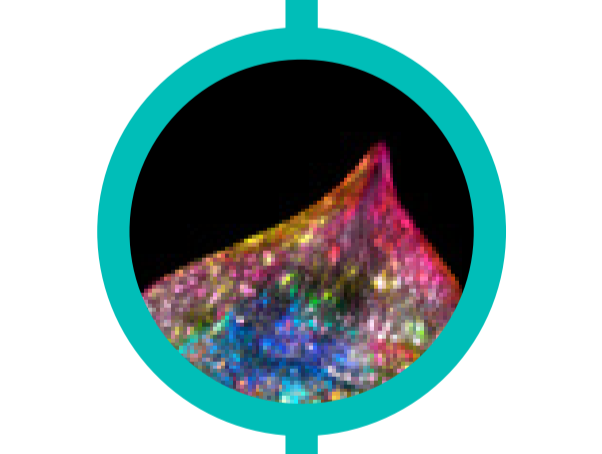
**2016**

The Biodata Innovation Centre opens to offer new space for start-up companies engaged in translation and industry at the Wellcome Campus. Within 12 months of opening almost all space was either already let or had active interest registered on it. The space is fully occupied with eight leading genomics or biodata related companies based there, a number of which have already expanded.



**2014**

An update of the Campus's award-winning Green Travel Plan (originally adopted in 2002) is commissioned, continuing its commitment to sustainable means of travel with a target of no more than 40% of employees by 2020 commuting by a single occupancy vehicle.



**2012**

The Prime Minister announces plans to sequence 100,000 genomes including the genomes of people with rare diseases, infectious diseases and cancer. The government establishes Genomics England to deliver the project.



**2005**

The Campus expands; the Southfield extension is built; The Wetlands Nature Reserve is created, a culmination of several years of planning, design and construction. It acts as a natural flood defence mechanism, and provides a new and diverse natural habitat.



**2002**

The Human Genome Project is completed. Sir John Sulston wins the 2002 Nobel Prize for medicine for his work on how genes regulate organ development.

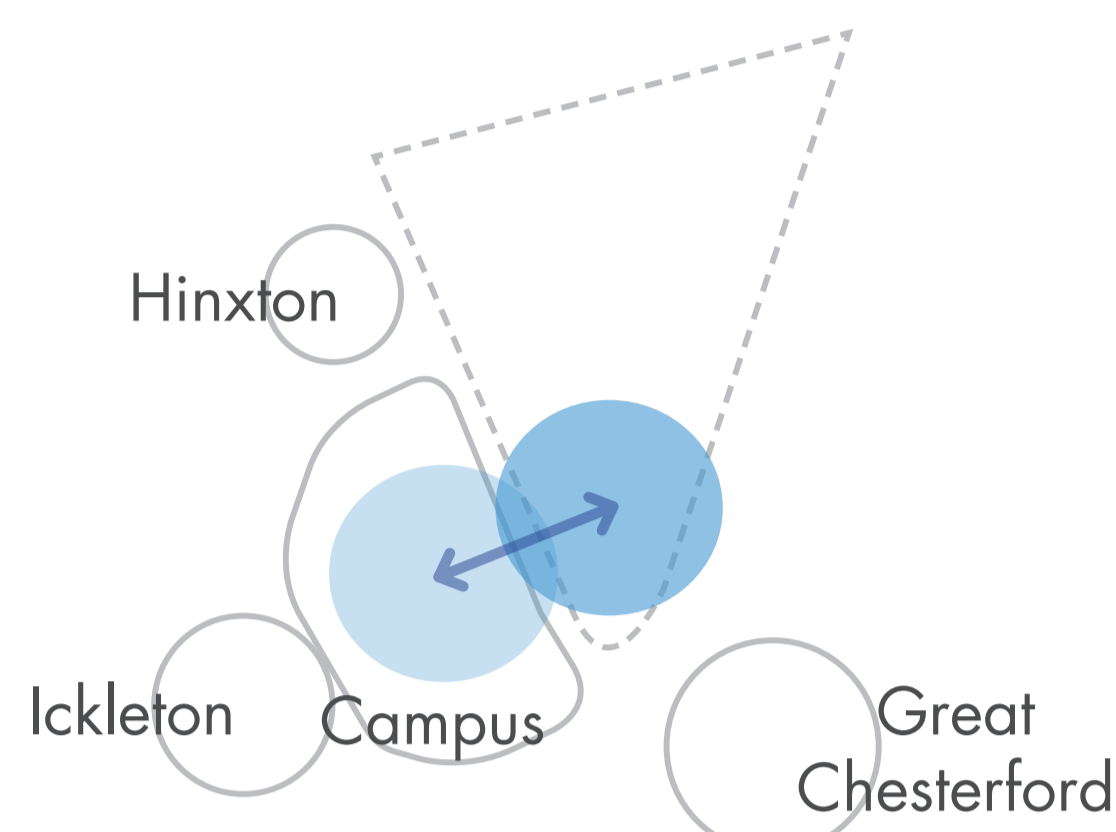


**1993**

The Sanger Centre is established on the Campus site with Sir John Sulston leading the effort to decode the Human Genome and the European Bio-informatics Centre co-locates on the site.

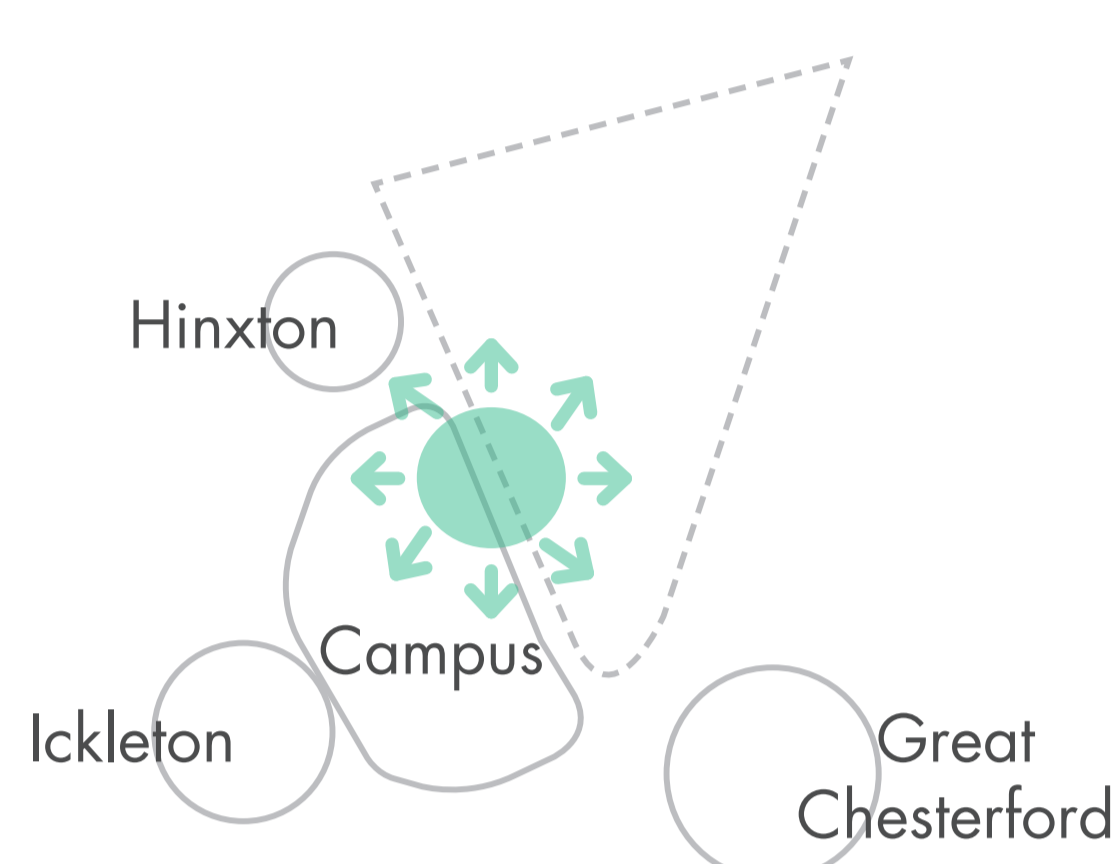
# CONCEPT APPROACH

Drawing on the feedback we have received from both the Campus and the community we have developed a concept approach to expanding the Campus. The following principles will guide the design and development of a masterplan:



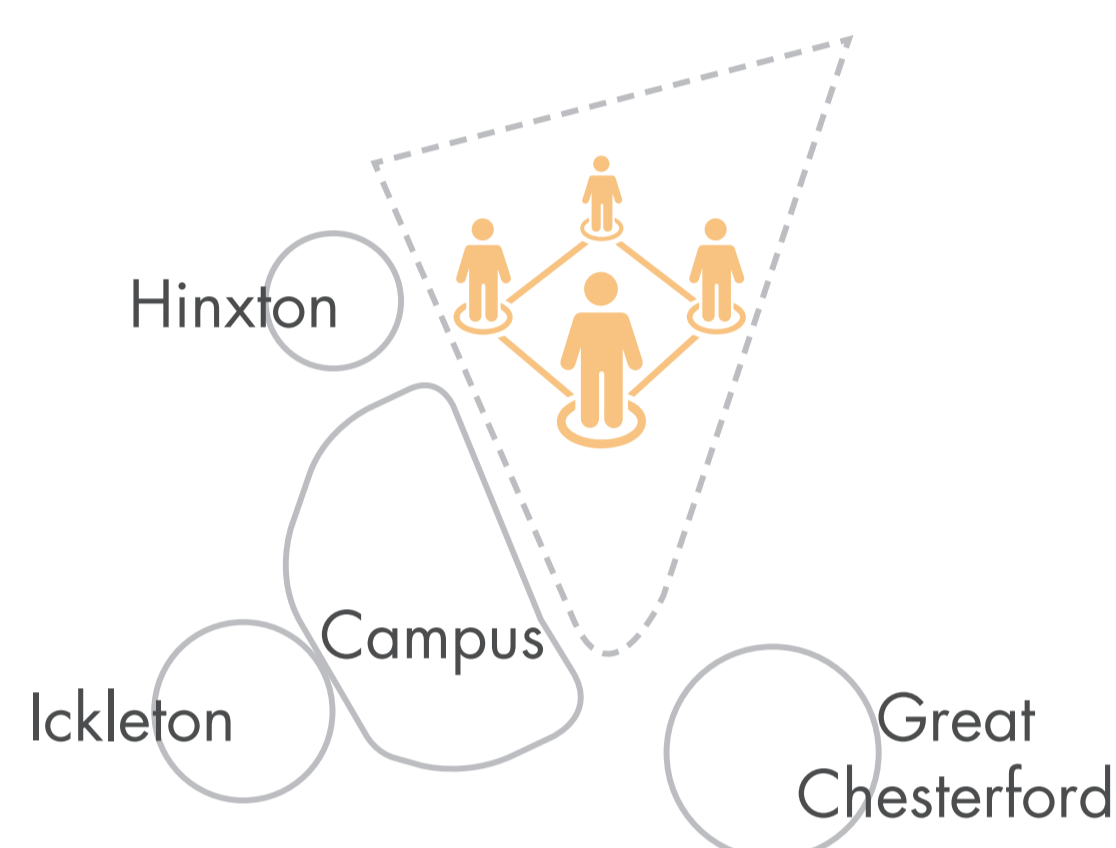
## 1. Evolution of the existing Campus

Evolution of the existing genome Campus fit for 21st Century challenges and opportunities.



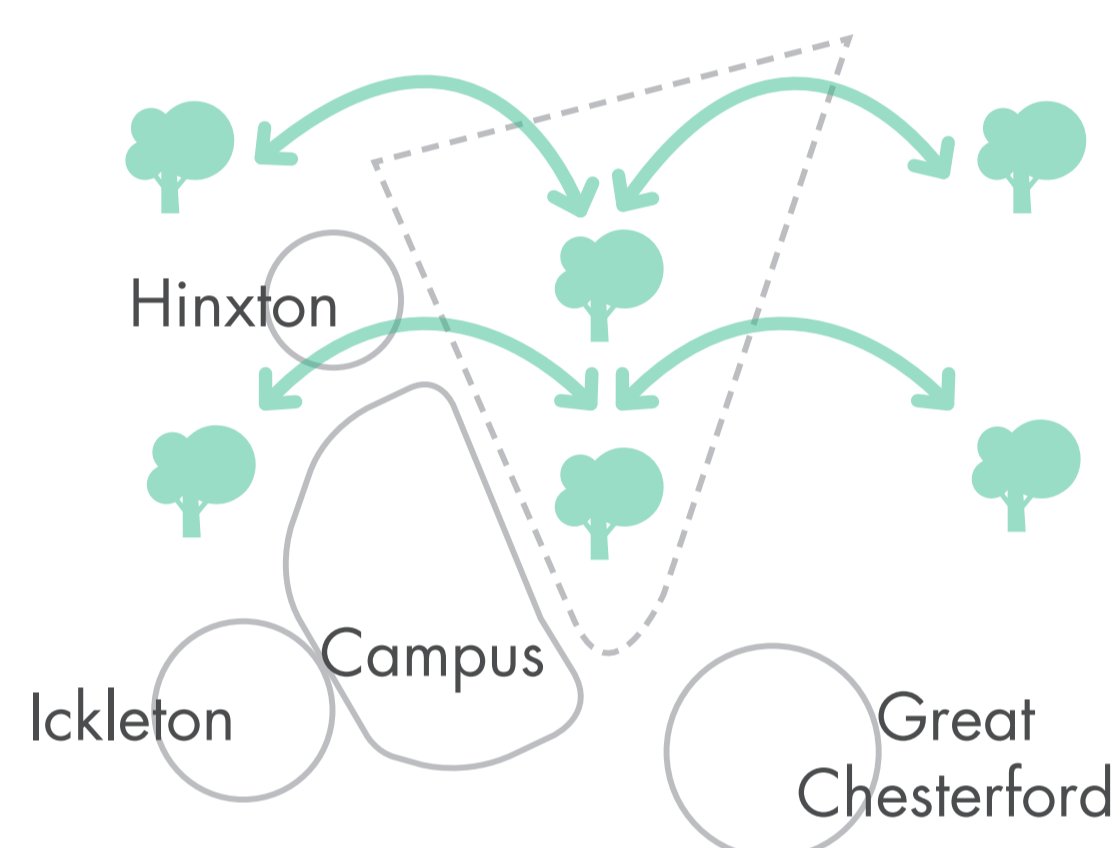
## 2. Creating a new heart

A generous open space for the Campus and the wider community.



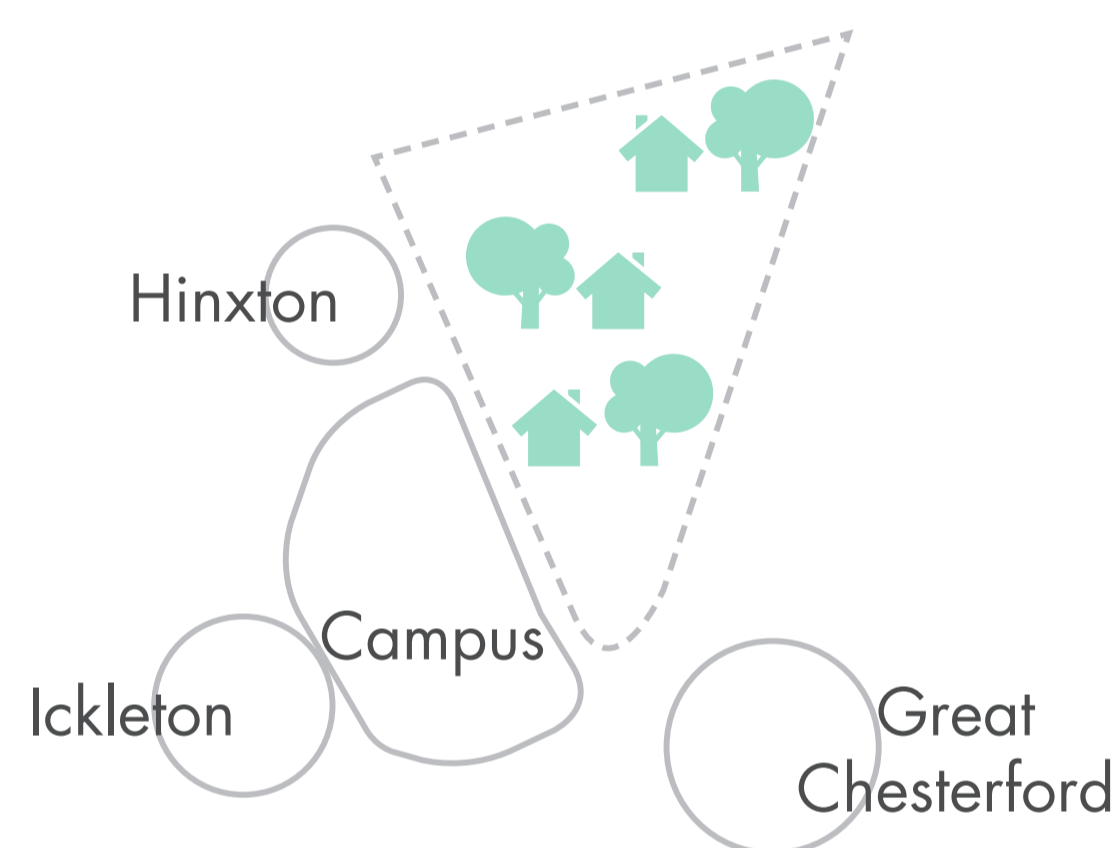
## 3. Providing a range of community amenities

Provision of amenities could include new sustainable transport options and a nursery/primary school serving the Campus and the wider area.



## 4. Respecting the rural character

A sensitive understanding of the existing landscape preserves long-distance views, maintains open fields and positively contributes to carbon reduction.



## 5. Setting homes amidst open fields woodland vales

A response to sensitive views, topography and natural water drainage flows creates an opportunity to embed new homes in contextually appropriate planting.

