

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

This exhibition introduces the role that the Wellcome Genome Campus has played in developing the science of genomics and biodata and how we want to ensure the Campus stays at the forefront of this area of scientific research.

We have been working with a wide ranging technical team to start to develop our ideas about how the Campus could grow and deliver benefits for both our scientific community and the surrounding area over the next 25 years.

This is the start of process of consultation with the local Parishes to help shape our proposals. We look forward to talking to you about our ideas in more detail.





THE WELLCOME TRUST



"Good health makes life better. We want to improve health for everyone by helping great ideas to thrive."

welcome to thrive."

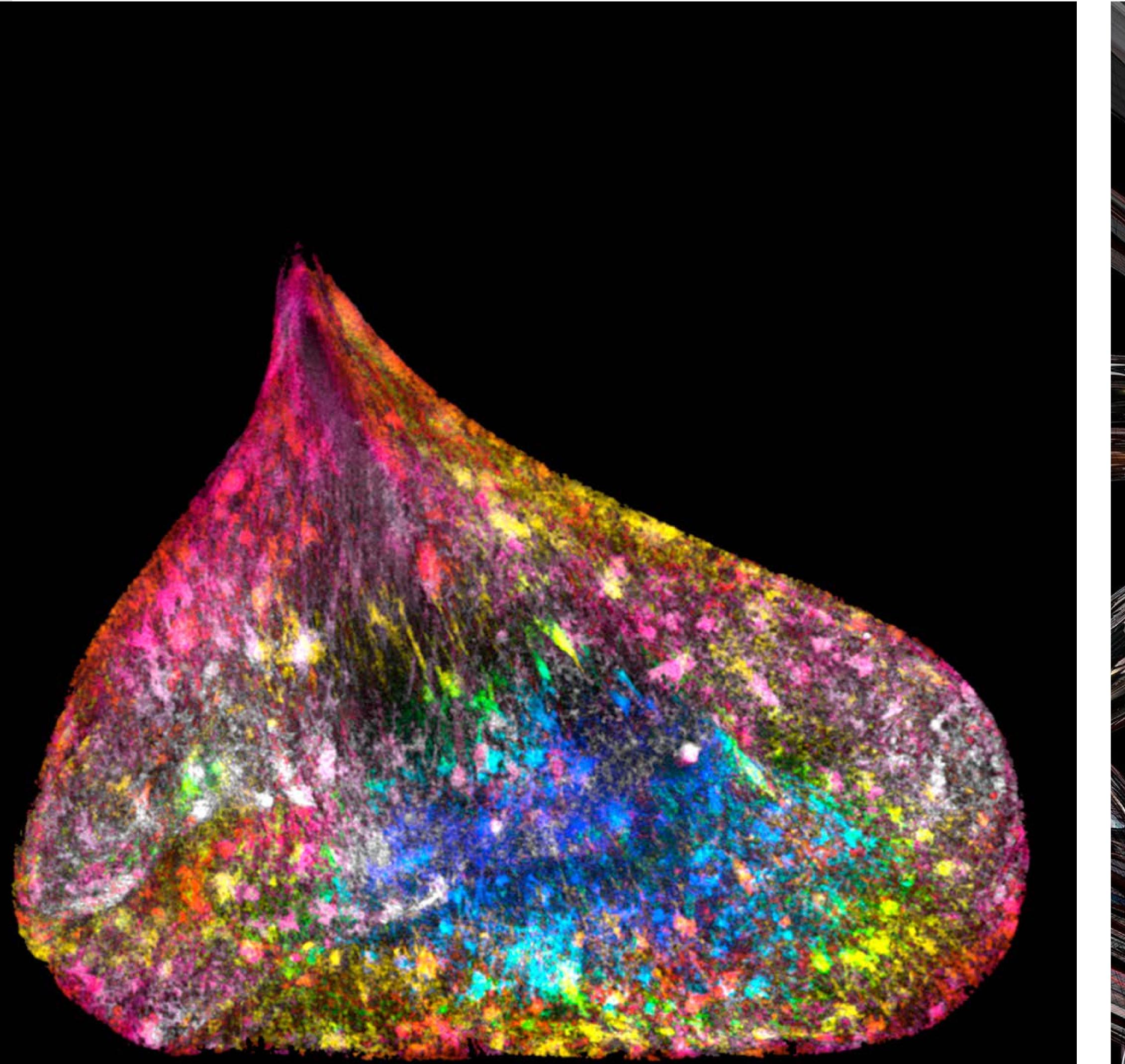
Wellcome exists to improve health for everyone by helping great ideas to thrive. Wellcome is a global charitable foundation, both politically and financially independent. It supports scientists and researchers to take on big problems, fuel imaginations, and spark debate. Wellcome supports over 14,000 people in more than 70 countries. In the next five years, Wellcome aims to help thousands of curious, passionate people all over the world explore ideas in science, population health, medical innovation, the humanities and social sciences and public engagement.

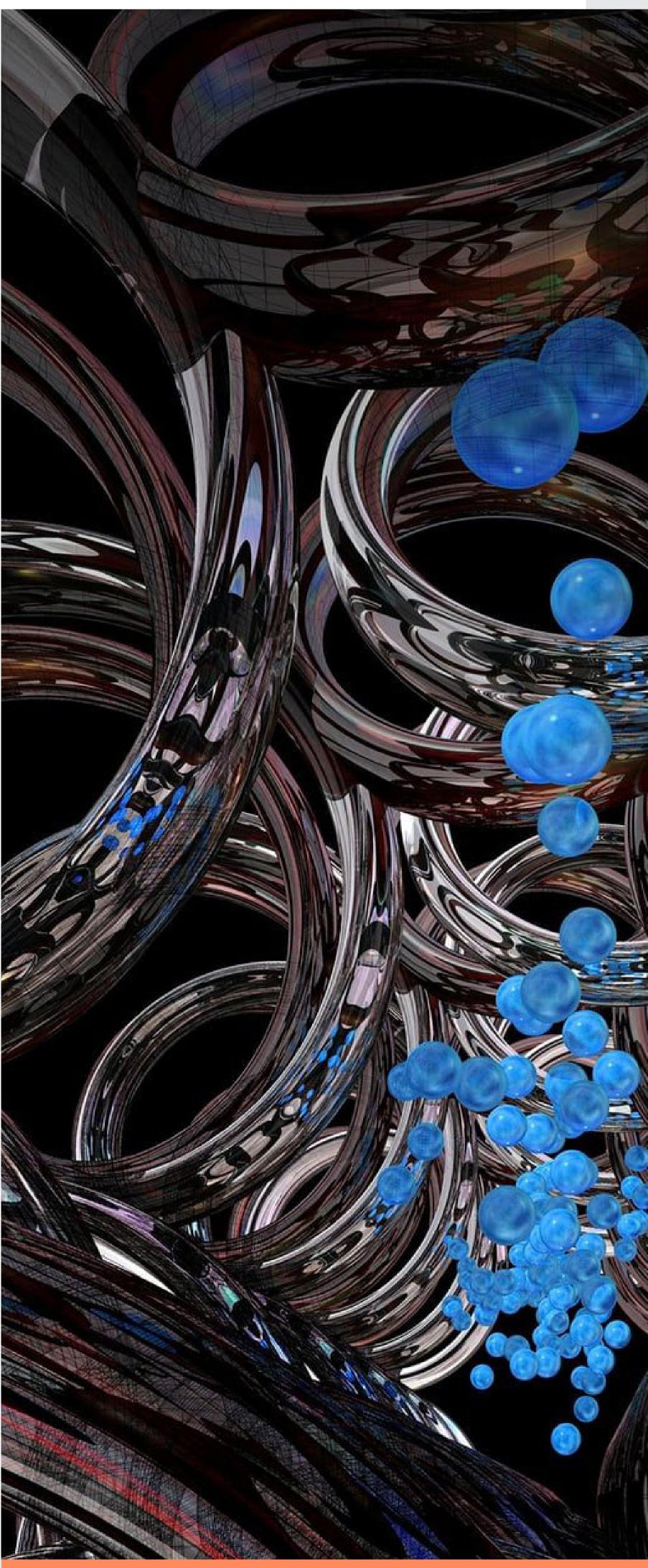
Wellcome's vision is divided into three 'impact areas':

- Maximising the potential of research to improve human health
- Delivering innovations that prevent or treat health problems
- Engaging society to shape choices that lead to better

health

Wellcome has been the de facto owner of the Wellcome Genome Campus estate since the establishment of what was then called the Sanger Centre, in 1992. Wellcome continues to support the Wellcome Sanger Institute, funding around 80% of the Institute's work and operations.





UNRAVELLED DNA IN A HUMAN LUNG CELL

SYNTHETIC DNA CHANNEL



WELLCOME GENOME CAMPUS

The Wellcome Genome Campus is home to world leading research institutes: the Wellcome Sanger Institute (Sanger) and the EMBL-European Bioinformatics Institute (EBI) as well as spin-out and startup companies, academic-industry partnerships and Genomics England; all dedicated to driving and leading life-changing genomics research and innovation for the benefit of the world.

The Campus has been at the forefront of developments in genomics and biodata for the last two decades, since the establishment of the Sanger Institute at Hinxton in 1993.

The Campus has its roots in the Human Genome Project, a global collaboration to read and record the complete sequence of DNA in an individual for the first time, and transformed the way we study life.

The Wellcome Genome Campus is a significant part of the Cambridge life-sciences hub and rivals the biomedical and genomics hubs in Boston, USA and Beijing, China.



AERIAL VIEW OF WELLCOME GENOME CAMPUS



LIFE-CHANGING SCIENCE

The following institutes and organisations are currently based here:



One of the foremost centres of Genomics research and innovation in the world, carrying out leading-edge scientific research that uses genome sequences to understand the biology of humans and pathogens (organisms that cause disease, such as bacteria and viruses). It sequenced one-third of the original human genome and continues ground-breaking world class research on an industrial scale not achievable by other institutes. Its data will form the basis for future scientific and innovation activity.



The European Molecular Biology Laboratory - European Bioinformatic Institute (EMBL -EBI) is the site of an inter-governmental organisation EMBL, which is Europe's flagship laboratory for the life sciences, and has other sites in Germany, France, Italy and Spain. EMBL-EBI freely provides available data from all life sciences research and maintains the world's most comprehensive range of open access biological databases, used by millions of researchers in academia and industry, globally.

SCHERCEING

The Wellcome Genome Campus Connecting Science project provides world-class event and meeting spaces. The Connecting Science project recognises the critical importance of public understanding and engagement to the public acceptance of Genomic science, and the ethical challenges facing scientists using personal data. It also provides a base for education and scientific learning both in the UK and internationally.



The Campus was the natural home for the Genomics England 100,000 Genome Project. The project will sequence 100,000 whole genomes from NHS patients with rare disease and their families, and common cancers. This project is an excellent example of how the NHS worked together with a commercial technology provider (Illumina) and Genomics England to create a whole new pathway of state-of-theart genomic technologies to better diagnose patients with rare disease and define genomic variants associated with cancer.

BioData Innovation Centre (BIC)

BIC provides flexible space for pioneering companies that complement the unique

research and innovation taking place on the Campus, with a focus on driving entrepreneurship and translation into real world improvements in human health. Within 12 months of opening the space it was fully occupied and several of these companies have further expansion plans - providing early evidence of the success of the space in supporting growth.





CAMPUS HISTORY



1992

Wellcome Trust purchases Hinxton Hall and 55 acres of adjacent park land.

1993

The Sanger Centre is established under directorship of John Sulston and moves onto Hinxton site now known as the Wellcome Genome Campus - 80 people on site.



1994

EMBL-EBI is established at the Wellcome Genome Campus.

1996

New buildings were constructed for the Wellcome Sanger Institute and EMBL-EBI, including the Sulston Building and EMBI-EBI main buildings.

1998

The task of sequencing the human genome begins.

2002

Initial outline planning consent received for the 'Southfield' extension to the Wellcome Genome Campus.

2003

Human Genome Project Completed.

Work began on creating a 15 acre Wetlands Nature Reserve at the Wellcome Genome Campus.

2005

Southfield extension project phase 1 completed including the Morgan Building with new Sanger Institute Data Centre, new research support facilities, new laboratories and the Cairns Pavilion including new Campus sports, catering and social facilities.

2007

East wing opens at EMBL-EBI.

2013

Genomics England is established, a wholly owned company of the Department of Health to deliver the 100,000 genomes project and to create a genome medicine service within the NHS.

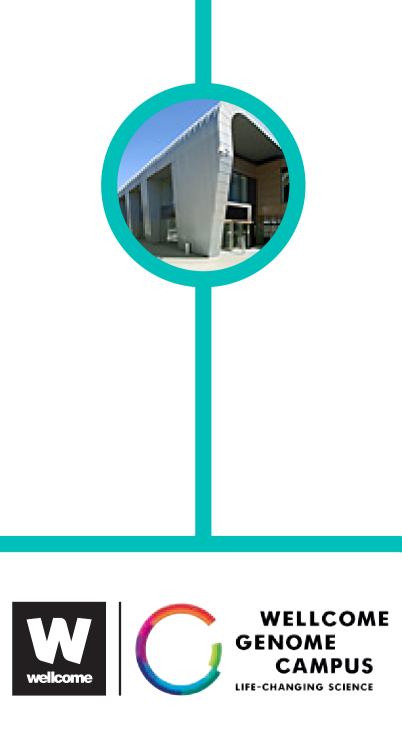
EMBL-EBI South Building opens at the Wellcome Genome Campus offering new translation and industry space.

2015

Wellcome Genome Campus is selected as the location for Genomics England's centralised sequencing facility and the Wellcome Trust announced that it was investing £27 million in the new facility.

The Campus produce a vision document that sets out the need for the Campus to grow over the next 25 years

2016



Connecting Science is launched, bringing together Advanced Courses and Scientific Conferences, the Conference Centre, Public Engagement, and Society and Ethics Research under one programme.

Biodata Innovation Centre opens offering new space for translation and industry at the Wellcome Genome Campus.



2017

Wellcome appoints a technical team to take forward the plans for future growth.



THE OPPORTUNITY FOR GENOMICS

Genomics is the study of genes and their functions, exploring how living organisms develop, specialise, mutate and sustain life and how their DNA supports this. The technologies that allow this highly complicated process to be sequenced, analysed and interpreted, are beginning to transform how human health and well-being is understood.

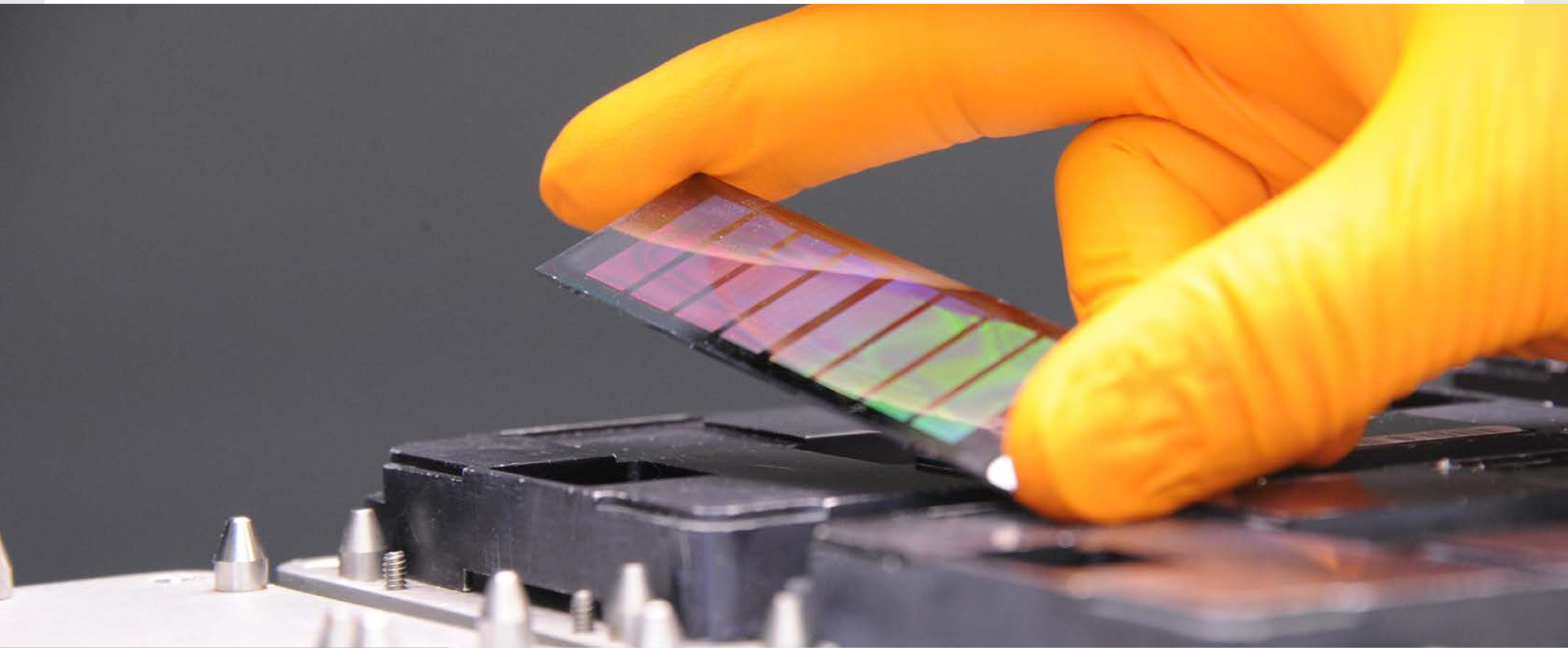
It took ten years of international collaboration to map the first genome, 30% of which was done at the Wellcome Sanger Institute; in contrast the Institute currently maps 417 genomes every day. The first genome cost \$2.7 billion to map, each now costs less than \$1,000. The significance of scientific discovery and the resulting exponential explosion of biodata offer an unparalleled opportunity to help address our global health and environmental challenges.

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.

Scientific research must now come together with private capital to develop the genome based diagnostic and prognostic tools as well as new treatments, that genome science is making possible.

The Government, the NHS, researchers and businesses are working together, through the Life Science Industrial Strategy, to ensure that the UK can capitalise on its leading position in an internationally competitive area.





RESEARCH TAKING PLACE ON THE CAMPUS



THE OPPORTUNITY FOR GENOMICS

In 2014, Genomics England selected the Campus as the home for its centralised sequencing facility to sequence 100,000 genomes from individuals with rare diseases and cancer. This is a vital first step towards a genomic medicine service for the NHS.

The UK's Government Office for Life Sciences has identified the following challenges for UK genomics in the context of healthcare:

- To grow the supply of skills in bioinformatics and genomics, particularly within the NHS
- To maximise the pace of commercialisation and scale-up to grow a healthy commercial genomics sector
- To build the relationship between academic research and application in NHS hospitals, surgeries and clinics

Under the stewardship of the Wellcome Trust, the Campus has become home to the world's largest body of scientists and bioinformaticians working in genomics and is well-placed to resolve some of these pressing challenges in the long term.

This close collaboration and engagement between the research

institutes and industry enables scientific impact that cannot be delivered by either party alone.

The remaining space at the Campus is not sufficient to accommodate the future growth needed to ensure that the Campus remains at the forefront of genomic science. The masterplan is therefore looking at expanding the Campus to become the international centre for scientific, business, cultural and educational activities emanating from Genomes and BioData.

"A world-wide movement is building pace here, it's absolutely clear that once we understand the Genome, it will totally revolutionise the life experience of humanity."

> - John Chisholm Executive Chairman of Genomics England and former Chairman of the UK Medical Research Council



BIG DATA PROCESSING & ANALYSIS AT WELLCOME SANGER INSTITUTE



PLANS FOR GROWTH

The influence and impact of Genome science will further accelerate over the next 25 years through more research, diverse applications, a flourishing of commercial entities using them and increasing familiarity of individuals with their own genomes.

Our goal is to ensure that the Campus remains at the forefront of this work, but it cannot do so without having the space to expand.

We want to improve what the Campus has to offer by providing additional facilities on the site that can enhance the current Campus and also provide new opportunities. We already have a number of exciting projects in the pipeline, including ideas about ways in which to make the science we do more accessible to our neighbours and to members of the general public from further afield.

Additional facilities on the site will enhance the current Campus and provide opportunities for new activities, research and associated business opportunities – as well as affording the opportunity to create better links to Hinxton, neighbouring villages and towns, and the wider Cambridge region. As part of this growth, we want to create a place where anyone, from scientists and students to members of the public, can come to learn about this area of science and explore its applications and implications.



SITE LOCATION PLAN SHOWING SURROUNDING COMMUNITIES



WORKING WITH THE COMMUNITY

What we've heard so far

Through our initial conversations with the local Parishes in 2015 and our ongoing regular engagement, we are aware of some of the issues that have been raised in relation to bringing forward new plans for the Campus, such as:

- Road congestion
- Public transport provision
- Development integration with Hinxton village
- Access to retail, places to eat and drink
- Access to recreational and leisure facilities
- Concern for the environment
- Availability of housing
- Creating a community

Our relationship with the local villages is very important and we want to continue to understand local views in more depth as we move forward with developing our plans.

Next stages of engagement

We hope to involve local residents, businesses and people already working on the Campus to better understand priorities and opportunities for the development, as well as any local matters and considerations we should be aware of, and what the benefits of expanding the Campus could be.

By consulting early in the process, before we have fixed plans, we hope local knowledge can help inform our proposals.

We will be providing regular opportunities for local people to get involved in shaping the future of the Campus between now, when we submit our planning application and beyond.

2015 Initial Campus Vision

In 2015 the Campus began to consider how it would be able to capitalise on the growth of the genomic and biodata science over the coming 25 years.

Winter 2018 Local Priorities Consultation

The technical masterplan team have been appointed and are now starting to investigate the opportunities for the development site. Based on previous community feedback we have developed a set of masterplan principles that will need to be set in the context of the local community's priorities.

Spring 2018 Consultation on a masterplan concept

The project team will have a concept masterplan to show the community. The community will be invited to participate in reviewing and developing the design, providing an opportunity to refine the proposal.

Summer 2018 Developing the proposals

Following consultation on community priorities and an initial concept, a design framework will be developed for further consultation with the community. The outcome of this will form the basis of a planning application.

Autumn 2018 Planning application

We anticipate being ready to submit an outline planning application to South Cambridge District Council towards the end of the year.



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' (Gateway) to provide a national centre of expertise and a regional attraction;
- Further space for innovation to meet immediate demand and for grow-on space for successful startups;
- 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

BUROHAPPOLD ENGINEERING

Engineering and Environmental Consultants



Project Managers



Transport Advisers



Town Planning Advisors

Special Advisors

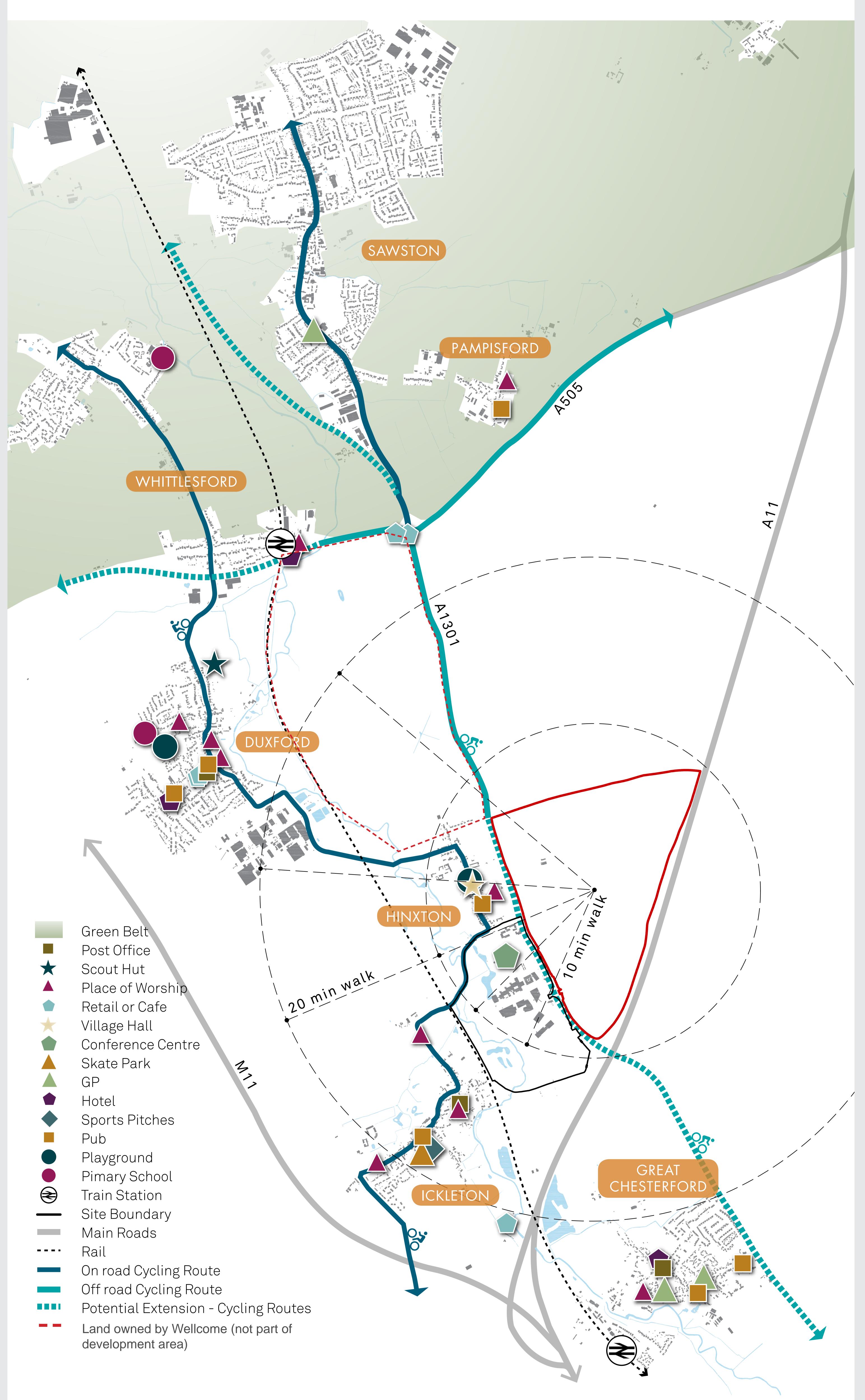






SITE CONTEXT

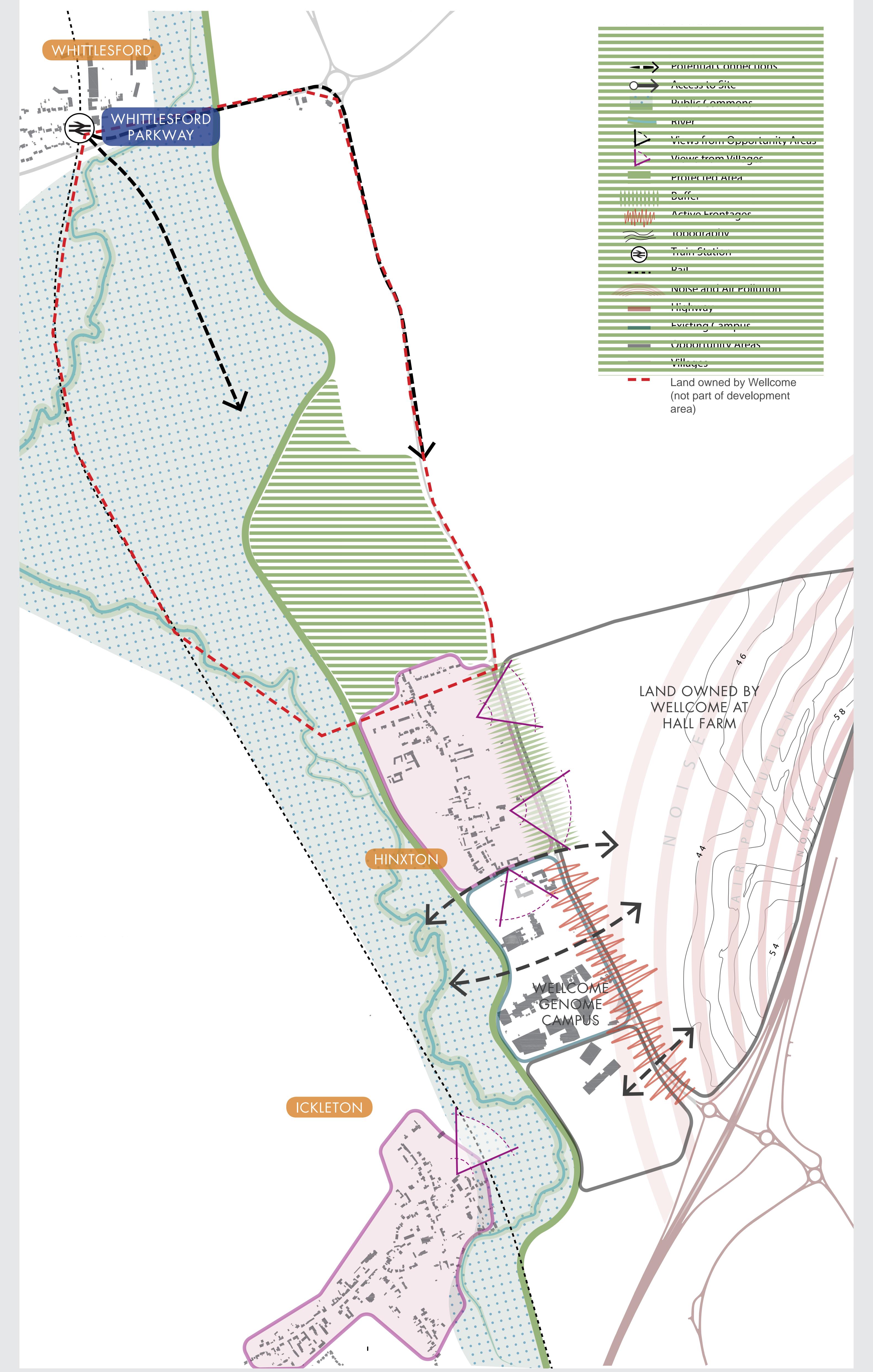
The masterplanning team have mapped out the key features of the surrounding area to understand how the development can be integrated into the existing local communities.

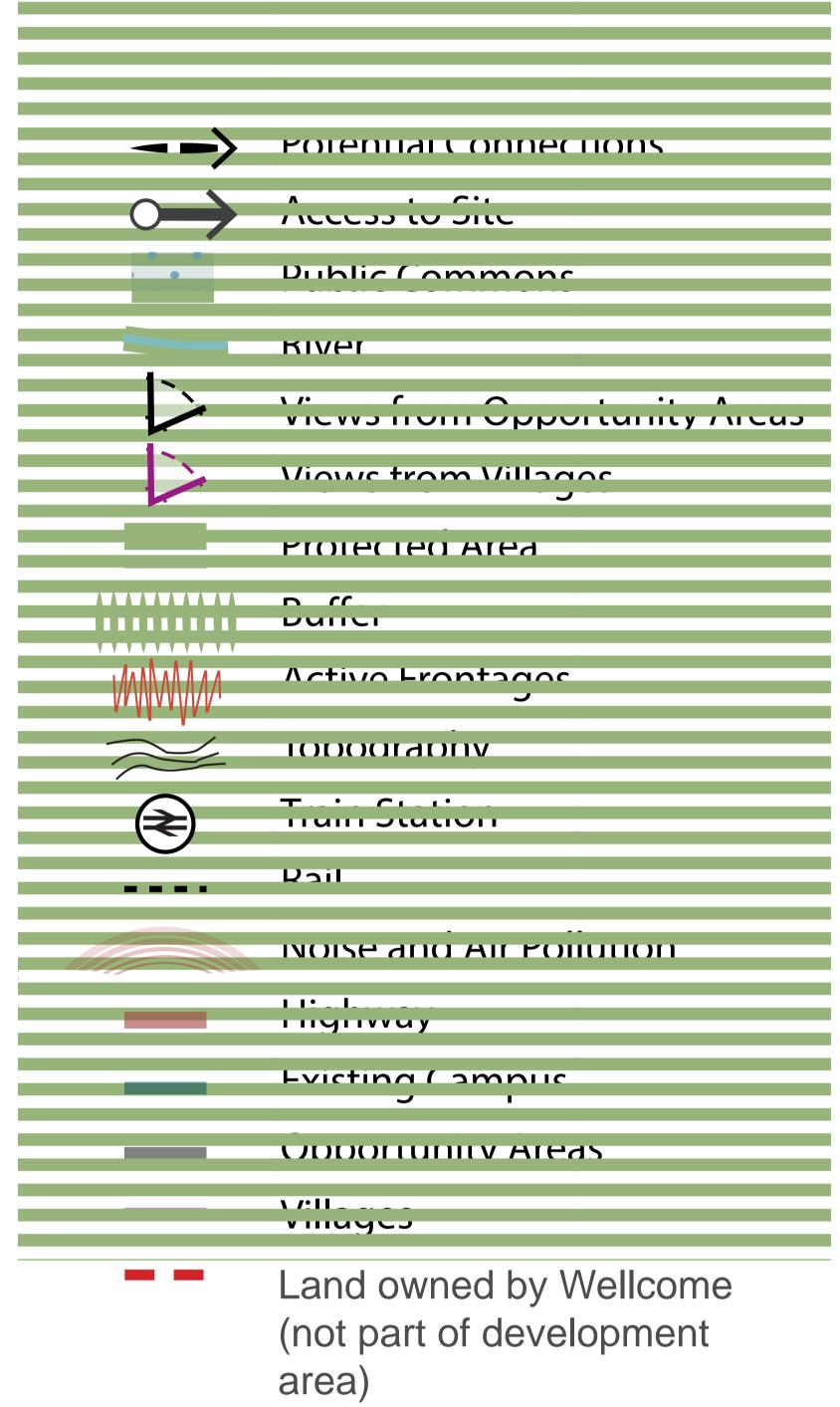




SITE OPPORTUNITIES AND CONSTRAINTS

The map below shows the issues and potential opportunities that need to be considered as part of the immediate area context. The map will help to inform our approach to growth on the Hall Farm site.



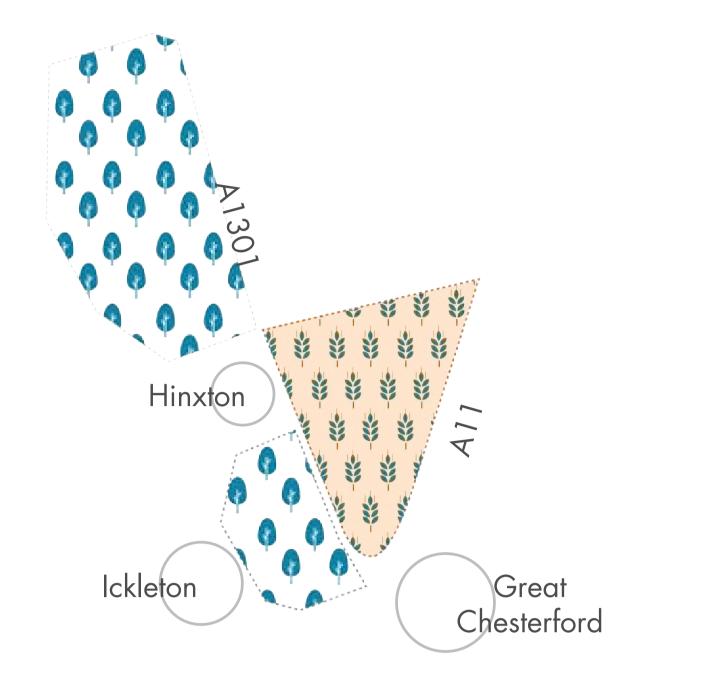


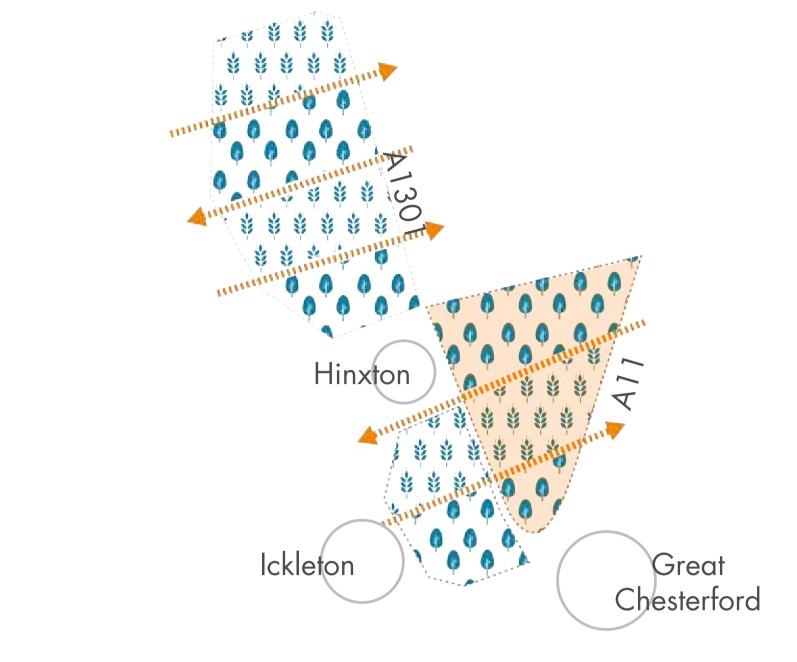


INITIAL PRINCIPLES FOR GROWTH

The Masterplan team are beginning to look at how the site could respond to further growth and have identified the 8 following opportunities as initial considerations for the site:

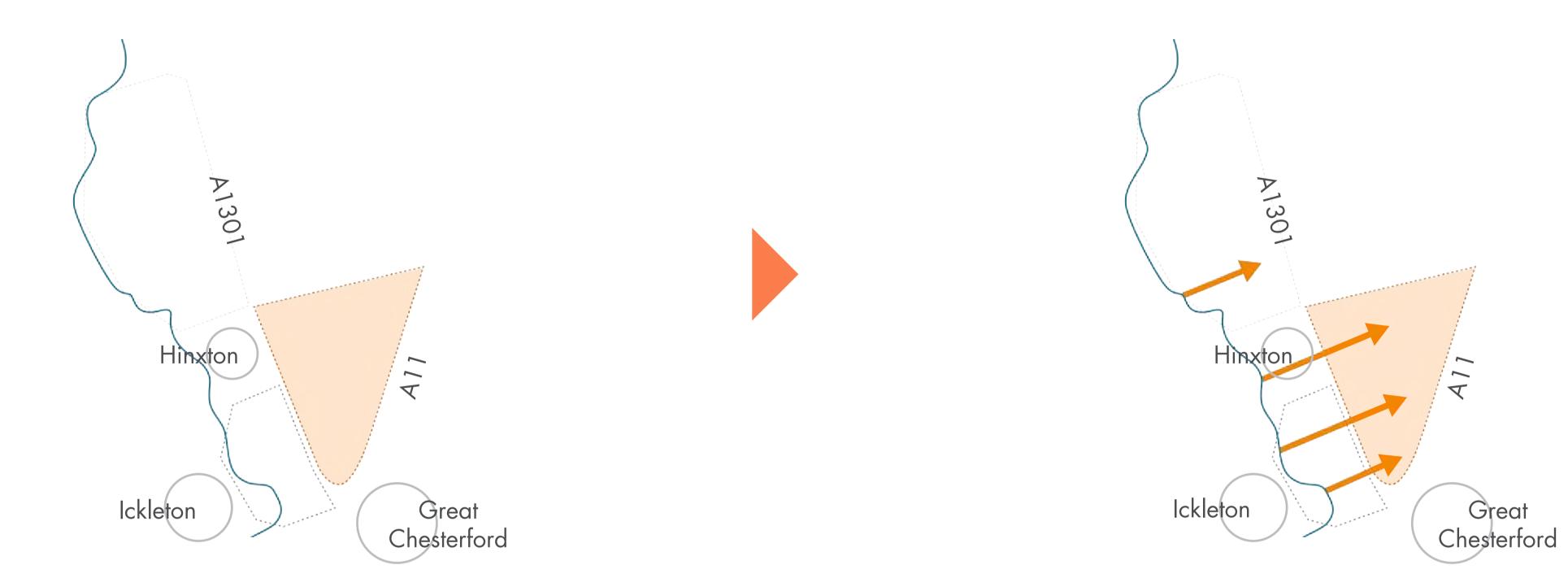
1. Respond to the site's landscape quality and character





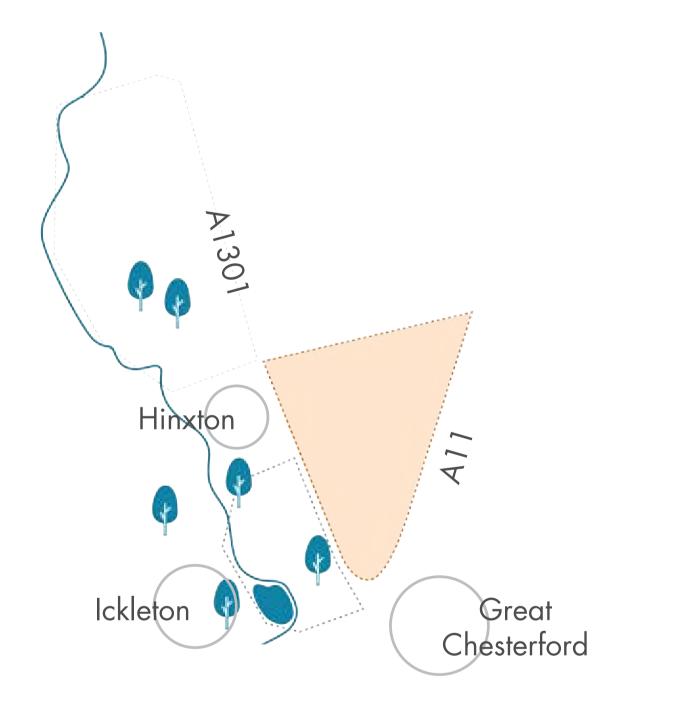
The landscape character is dominated by open agricultural land as well as the River corridor and its banks. The wetland reserve on the existing Campus is a key benefit and amenity but appears to be minimally used by Campus and public. With its history of agricultural use, there is the potential to consider the productive use of landscape in the Masterplan for allotments, food production, and to improve soil quality through long-term stewardship to enable carbon sequestration.

2. Strengthen links to the River Cam and Commons



The River Cam forms the western boundary of the existing Campus site as well as the entire Wellcome land holding to the north. There is an opportunity to design the riverside space as a public commons, taking advantage of the existing wetlands and associated amenity, strengthening links to the full site and enhancing access to surrounding communities.

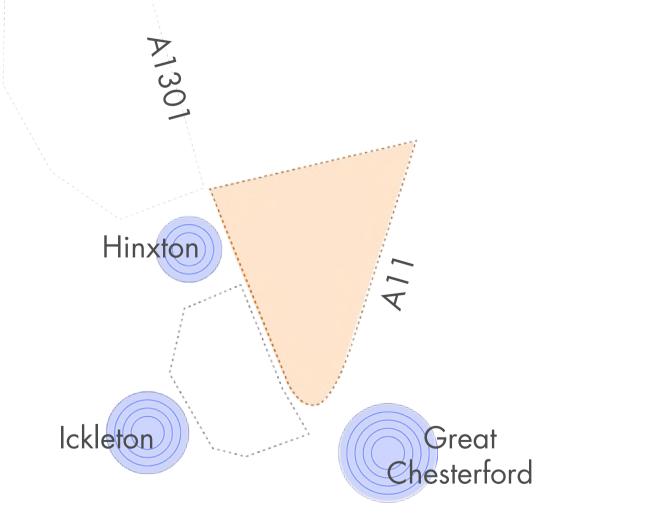
3. Promote health and well-being of land, people, and planet



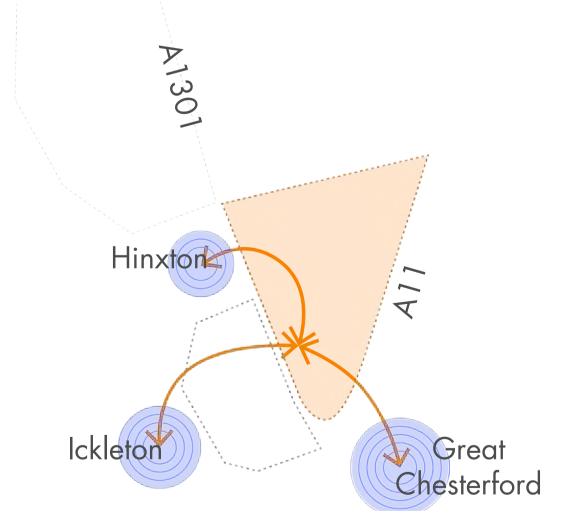
Hinxton Ickleton Great Chesterford

Interviews with Campus users have shown that they like the rural Campus setting and the many opportunities available for the enjoyment of nature. The setting of the Campus along with the mission of the Wellcome Trust to improve health for all provides guidance for the Masterplan to promote health and well-being for the site, its users, and the planet. Among other sustainability objectives including carbon reduction, there is an opportunity for the future Campus to be designed in line with the emerging WELL community pilot programme (by the International WELL Building Institute).

4. Be part of the wider community



There are three villages in close proximity of the Campus - Hinxton, Ickleton, and Great Chesterford, much of which are covered by a conservation area designation.



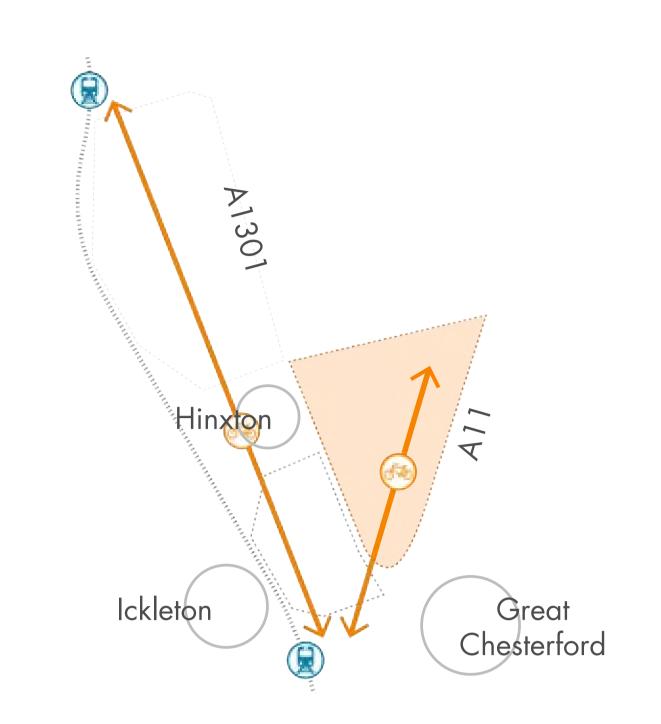
Expanding the Campus must be done in a way that delivers positive benefits to the surroundings, providing a model for a contemporary Campus community well integrated into the wider neighbourhood and south Cambridgeshire context.

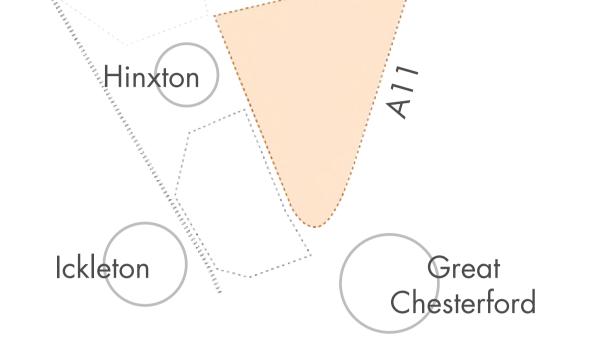


INITIAL PRINCIPLES FOR GROWTH

5. Enhance links to the railway stations

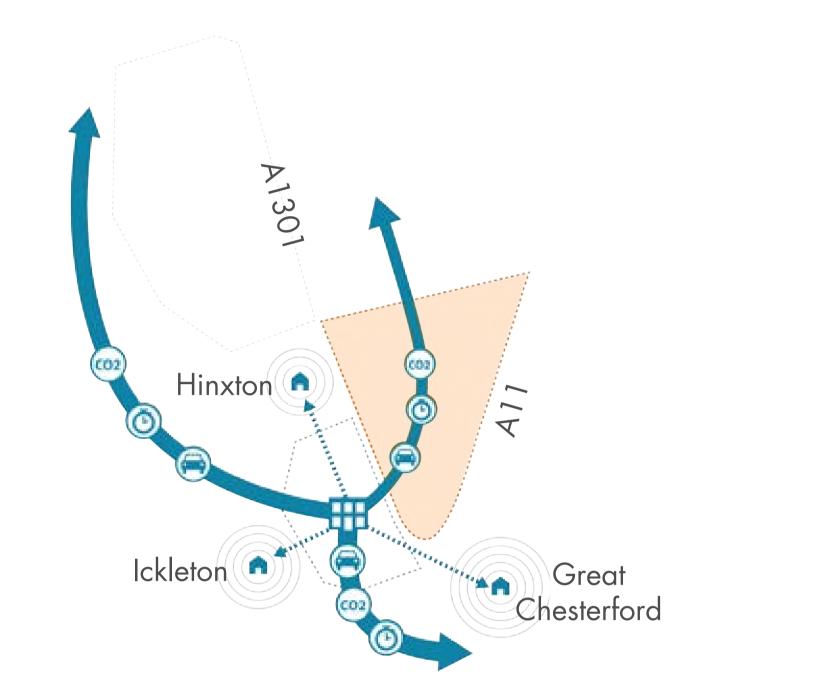


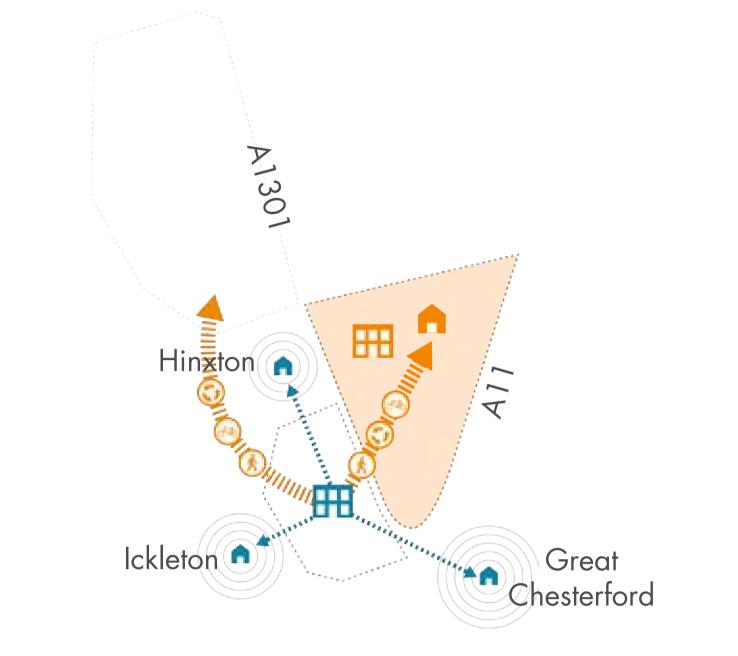




There are two rail stations in proximity to the site. Whittlesford Parkway Station is approx. 4.7km away, and Great Chesterford Station is approx. 2.7km away.. Options for improving connections to the site should be considered. Convenient methods of access will need to be provided to make a difference to how people travel.

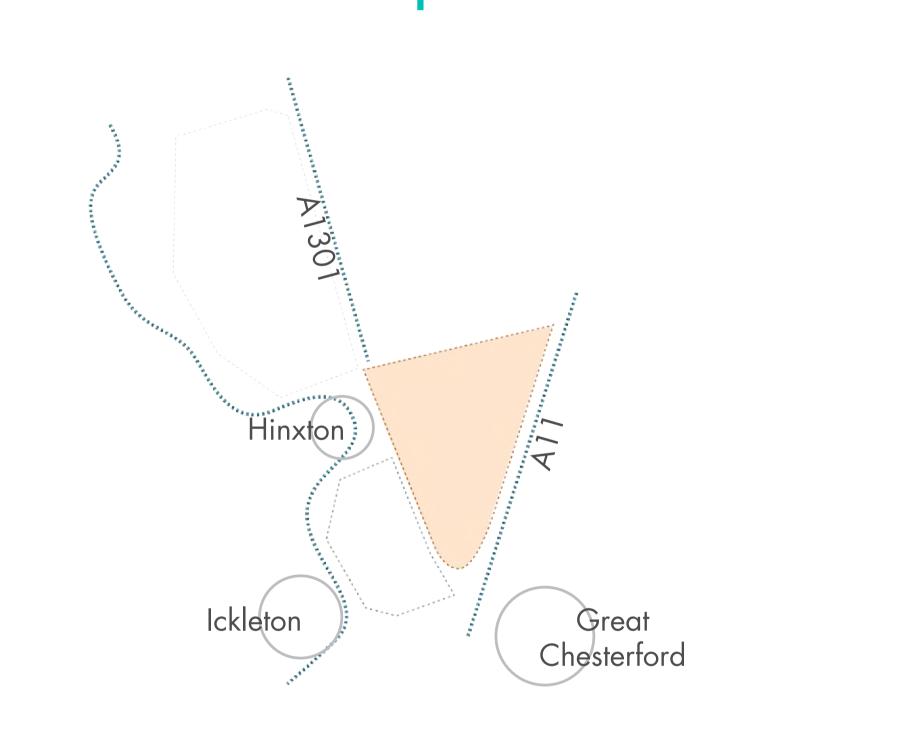
6. Provide sustainable and convenient mobility choice for all

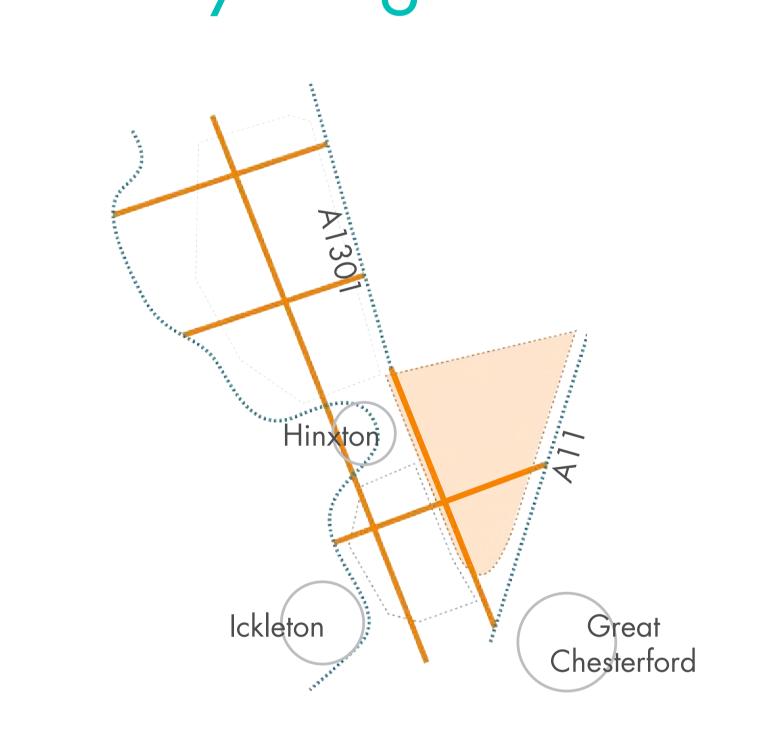




The current movement and commuting pattern to the site is dominated by car use and the employee coach service run by the Campus. Existing village communities primarily use the car for most needs. There is an opportunity to explore an innovative and integrated network of mobility choices for Campus users (as well as surrounding villages) that allows a range of options to be provided and combined to fit individual needs.

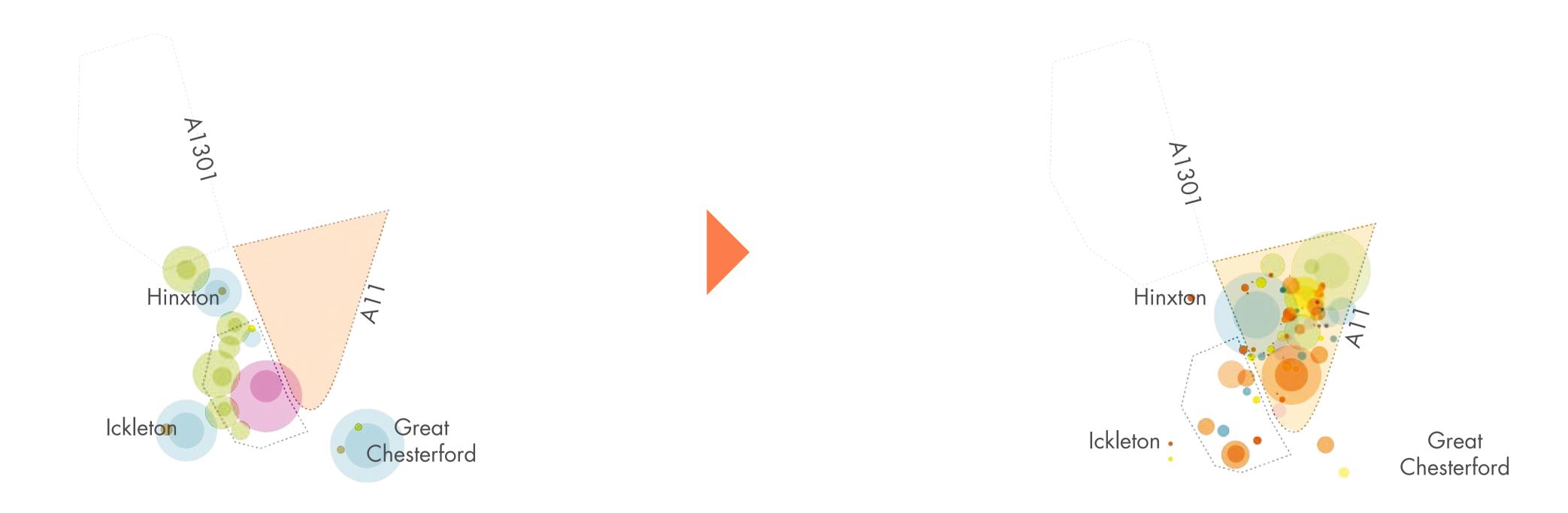
7. Grow the Campus around a walking and cycling network





The current cycling network around the site is primarily recreational with many gaps in provision. Cycling routes from Sawston to Cambridge are good but to the south get severed by the A505. There is an opportunity to create well connected cycle (and walking) routes that provide better accessibility to the site as well as connect facilities in the existing and future Campus areas promoting a sustainable and active movement network.

8. Develop the right infrastructure to support the Campus Vision



The Campus has few amenities provided on site to support it's already growing population, which means relying on travel to use facilities outside of the area. As part of future growth, there should be a focus on providing sustainable infrastructure, amenities and facilities for the benefit of the Campus and the wider community, to support both living and working in the area.