

Gonville & Caius

**GREATER CAMBRIDGE CALL FOR SITES
DUXFORD**



The Greater Cambridge Planning Authority is to embark on the preparation of a new Local Plan and is to consider where new infrastructure, homes and jobs should be located. Imperial War Museum Duxford (IWM) and Gonville & Caius College Cambridge (G&C) are working together to scope the benefits of a sustainable mixed-use development in the Duxford area. Our focus is on the delivery of local benefits along with the enhancement of IWM as a major visitor attraction with international reach and substantial economic impact, as well as ensuring that Duxford remains the top UK centre for historic flying.

We present the reasoning behind the proposals, the aspirations and the benefits the development will bring to Duxford.

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a vision for Duxford

IWM has exciting plans to enhance the museum and exhibition facility to provide a better visitor experience. Many more visitors will be able to enjoy the museum and the nationally-renowned flying and display activities.

Alongside this, G&C is planning a mixed-use development to the east of the M11. This will include homes, jobs, open space and new services and facilities. The approach is for the development to bring benefits to Duxford village, to support its existing facilities and provide new ones. It can provide new homes within a wide housing mix and tenure types to offer more opportunities for people to be able to live in the home they want to.

The new jobs will be largely within a proposed centre of excellence for UK aviation research and development, building on the existing group of companies around IWM and the wider science and technology cluster around Cambridge. This will support IWM's plans to improve the museum by shared use of facilities, new revenue opportunities and cross-funding.

The development can bring funding and improvements to the local transport network. There are various consultations being undertaken by the local authorities on potential transport improvements in the local area. The development could support these proposals and help bring about further improved pedestrian and cycle links through the village, to Whittlesford Parkway and IWM. IWM and G&C are well-established institutions with a legacy in the Cambridge area. Their commitment to the proposal is for the long-term and to deliver a high-quality place, where people enjoy living and working and bringing benefits to the existing community alongside the enhancement of a nationally important museum.

This Vision will explain a comprehensive and joined-up approach to a proposal that can bring about huge benefits to Duxford.

An aerial photograph of Cambridge, UK, showing the city center and surrounding agricultural fields. The city center is a dense cluster of buildings and streets, surrounded by a mix of green and brown fields. The surrounding area is dominated by large, rectangular agricultural plots in various shades of green and brown. The River Cam is visible winding through the city.

cambridge city centre

imperial war museum

duxford

context

The west bank of the crook in the River Cam at Duxford has probably been settled from at least Roman times. Aspects of its long and unusual history are visible in its built form: its two mediaeval parish churches and hospital; its traces of manor house moats and intricate network of narrow lanes; its prominent 18th century non-conformist chapel; its pubs; its industries; its airfield and its war monuments. Once one of the most populous settlements in the area – there were over 100 separate landowners in the village at the end of the 13th century – Duxford and the local area has again become increasingly attractive as a place to live, to set up business and to visit.

Greater Cambridge's Call for Sites provides the opportunity to consider how sustainable and coordinated growth in Duxford could help to generate the best in local jobs, homes, civic amenity and transport infrastructure over the next plan period and beyond.



John Barleycorn public house, Duxford



St John's Church, Duxford



Duxford Green



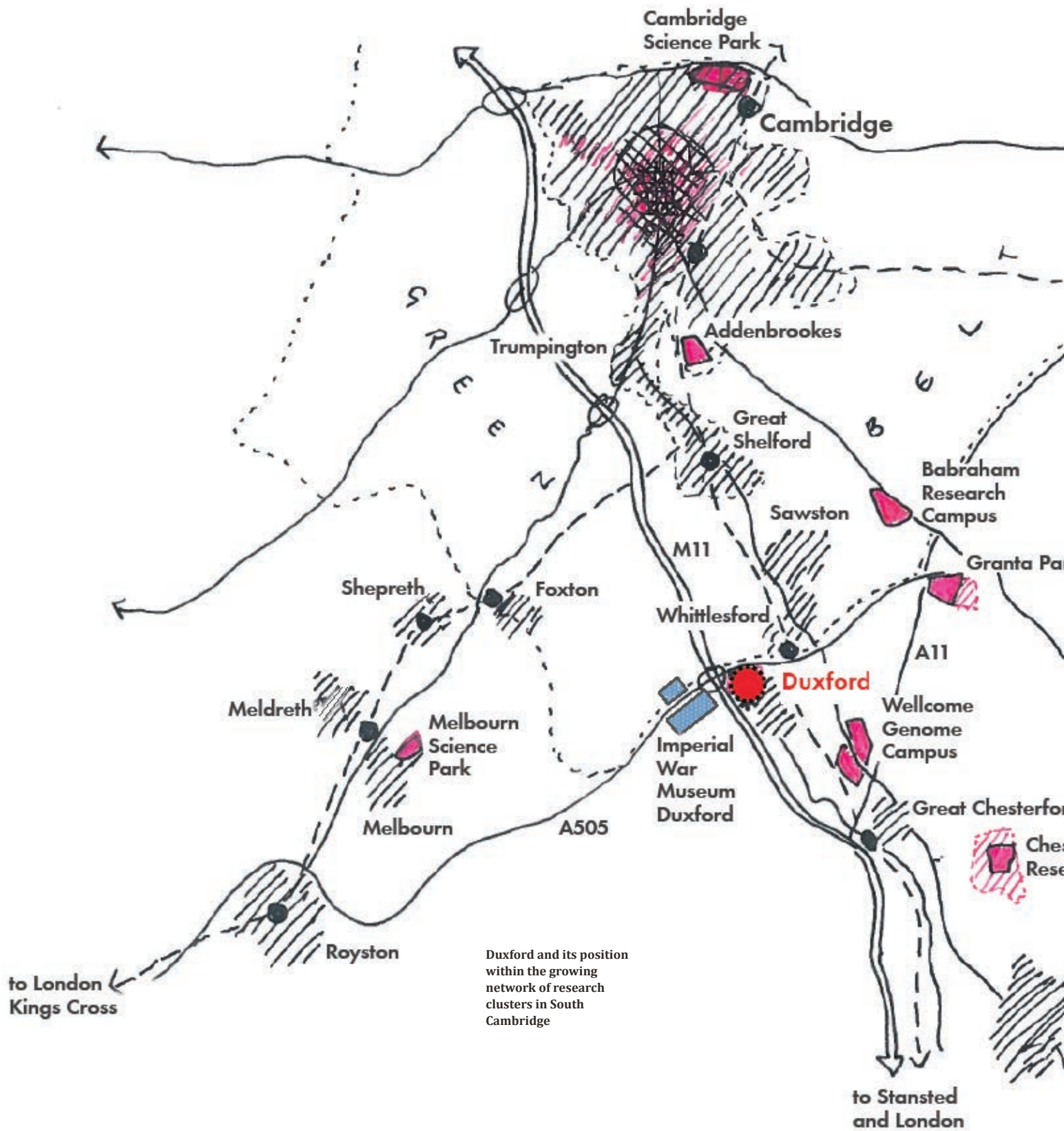
River Granta from a private garden in Duxford



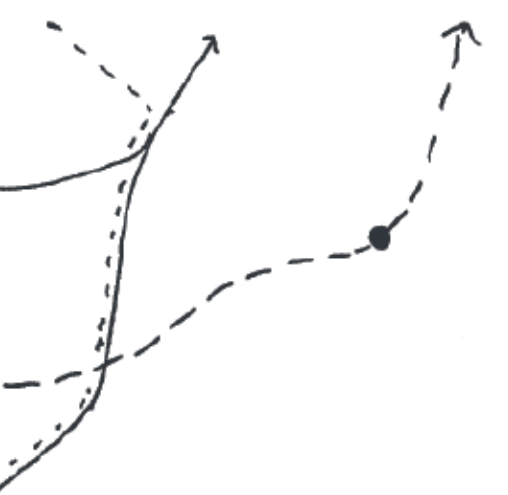
Airshow at IWM Duxford



Informal airshow viewing from Duxford village



Duxford and its position within the growing network of research clusters in South Cambridge

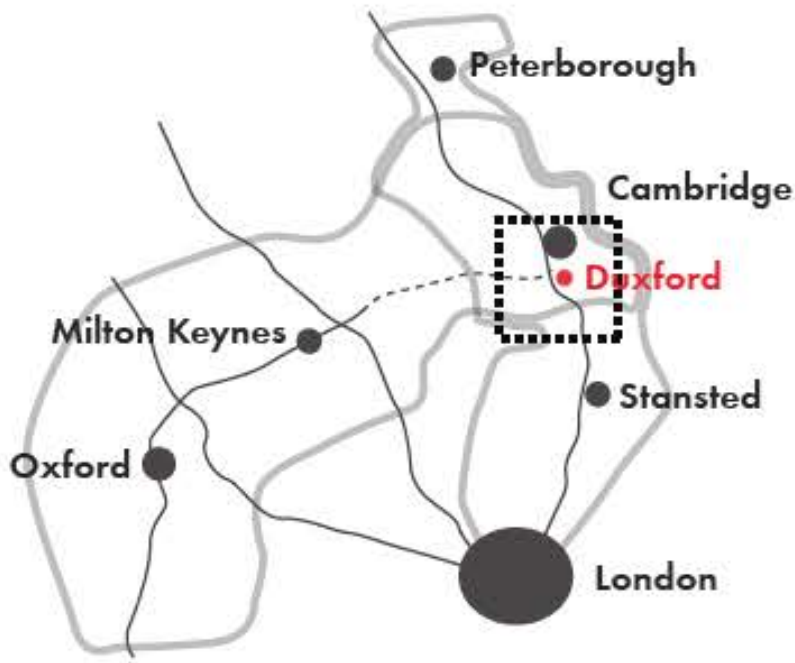


south Cambridge

Duxford sits within a growing constellation of major developments and proposed developments which are transforming the profile of the area and will continue to transform it for years to come. Initiatives within 3.5 miles of the centre of Duxford include:

- IWM masterplan for new display areas and facilities
- Whittlesford Parkway rural hub and associated mixed-use development
- Unity Research Campus (consented redevelopment)
- Babraham Research Campus, Sawston (consented major expansion)
- Granta Park (consented major expansion)
- Wellcome Trust Genome Campus expansion (planning application submitted)

Other major development sites within 4 miles but situated in the neighbouring district of Uttlesford are the North Uttlesford Garden Village (in consultation) and the consented expansion to Chesterford Research Park.



Duxford is situated at the intersection of two Strategic Growth Corridors, and within the UK's "Golden Triangle" of research excellence between London, Oxford and Cambridge

integrated development

We have taken these transformational initiatives into account when preparing our proposal. These projects are helping to address pressure for new jobs and homes and have the potential to bring about wide-ranging and sustainable benefits by helping to fund and support strategic physical, social and cultural infrastructure.

But they also represent significant change for the area, and we are aware that incumbent residents and businesses are concerned by the scale and speed of this change, and the threat of disruption it can bring. The College has owned this land for over 300 years and will retain it: we will take a long view on development. Unlike a developer, we own the land free of debt and are not beholden to the requirements of short-term investors. Any change must be deeply sensitive to the surrounding area and its existing community.

It is essential that new development coalesces naturally within the legible local structure of thriving historic settlements set within the area's beautiful agrarian and riverine landscape. But to truly integrate with its past, present and future, it will also need to work well in the context of the other nearby specialist research clusters that continue to grow and thrive.

We believe that the interest the area is attracting and the investment it brings can ultimately be a force for good. But there is a need to be sensitive and respectful with the land available, and to strike a sustainable balance between new development and protecting the integrity of the countryside and the identity of existing places. While we wholeheartedly believe in the importance of co-locating new workplaces and homes, we also believe that all major development proposals should be intelligent about the location, quantity and purpose of the new employment clusters they support in order to avoid over-saturation and the dangers associated with monocultures.

The area has become known for its biomedical and biosciences campuses, including Babraham Research Park, Granta Park and Wellcome Genome Campus, all of which are expanding substantially, or have plans to expand in near term.

Duxford has something different to offer. Building on the presence of the Imperial War Museum, Duxford Airfield, and the thriving aeronautic materials research and manufacturing base established in Duxford village in 1934, Duxford is poised to extend the reach of Greater Cambridge still further by building something unique and vital to the local and UK economy: a centre of excellence for General Aviation at a scale that is complementary.

Growth without diversification is a bubble. Growth that nurtures the existing assets of a place is simply good planning that can benefit all.



Duxford village today

Population trend

In 2017 the population of Duxford ward was estimated to be 2,877 (ONS), but its current rate of growth is less than half that of South Cambridgeshire as a whole. Between 2011 and 2017 the population of Duxford ward grew at a rate of 0.39% per year, compared to 0.83% for South Cambridgeshire, and Duxford's rate of growth is slowing down.

However, growth in South Cambridgeshire as a whole is accelerating. The population of South Cambridgeshire is forecast to grow from 148,755 in 2011 to approximately 190,000 in 2031 – an average rate of increase of 1.25% per year.

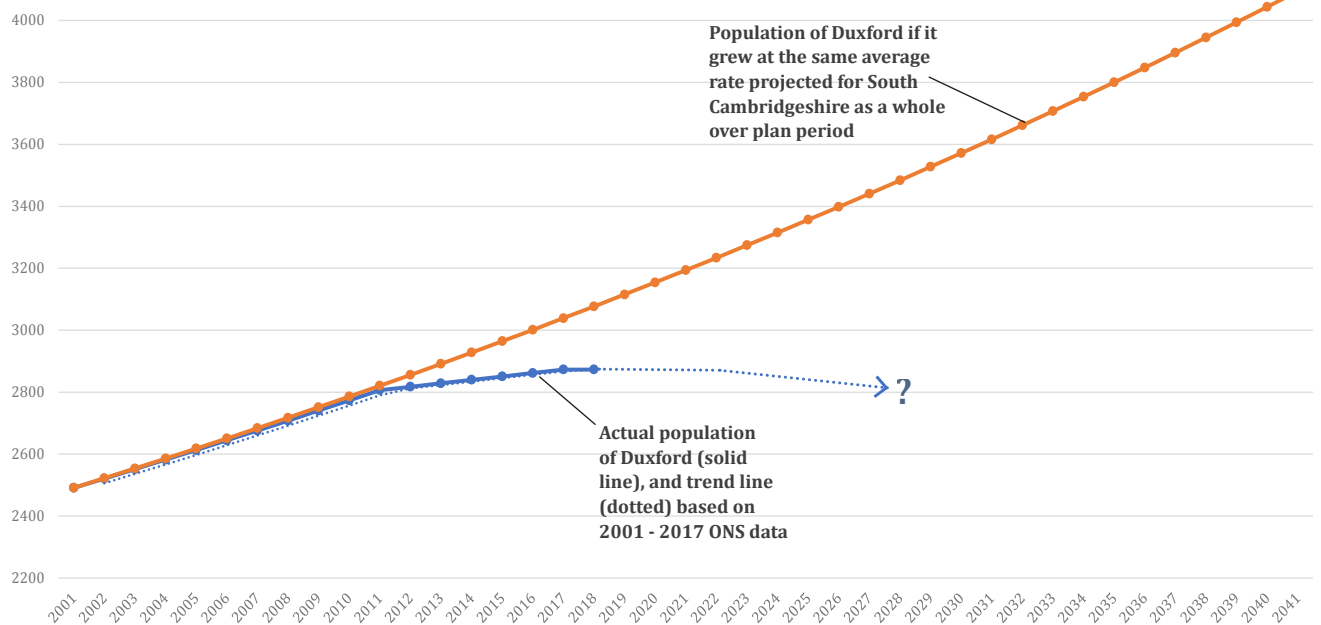
If population growth is tapering off in Duxford, its population is also relatively aged compared to South Cambridgeshire, the East of England and England as a whole. In Duxford 54% of the population is aged 45 and over, compared to 49.5% in England and Wales. In addition, there are fewer young adults living in Duxford.

Housing stock

In general, Duxford's housing stock features a small range of housing types and tenures. Typical of many villages, there is a relatively large number of detached and semi-detached houses, with relatively few terraced dwellings and flats. In terms of the spectrum of tenure, there are relatively few private rented dwellings and dwellings with intermediate forms of tenure (10.7% combined) – types which might appeal particularly to younger adults (this compares to 17.2% in Cambridgeshire, and 17.6% in England).

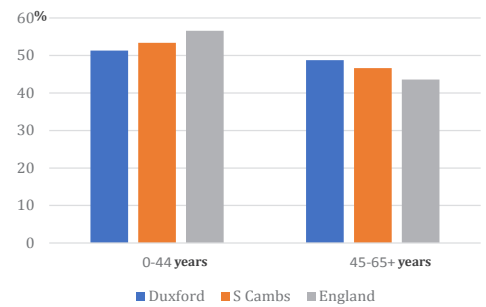
On average, Duxford's housing stock is made up of relatively large dwellings. Households in Duxford average 6.4 rooms/3.1 bedrooms compared to 5.4 rooms/2.7 bedrooms per household in England as a whole. The percentage of dwellings which are privately owned (69.6%) and social rented (18.7%) are both above average for Cambridgeshire (66% and 15.4%, respectively) and for England (63.4% and 17.7%).

Population: Duxford ward



Growth in Duxford's population has decreased over the last two decades, due to lack of development land, limited housing tenure choice, and reducing average household size. In line with other demographic indicators, such as the average age of it's residents, it is likely that Duxford's population will begin to decline in the coming years.

Age groups (%)



In the last 10 years we estimate that there has been a net gain of approximately 53 dwellings in the village, typically within infill sites arranged around extended culs-de-sac at the northern edge of the settlement. In Whittlesford a similar trend is visible along the southern edge of the settlement. The number of viable infill sites within the village has dwindled, and at this scale of delivery it is more difficult to substantially enrich the future range of dwelling types and tenures needed to sustain the next generation of inhabitants.

The combination of flat natural population growth, an aging population, the general trend toward smaller average household sizes, and the limitations on developing new housing stock in Duxford make it likely that the population of the village will begin to decline sometime in the next few years. There is also the challenge of attracting families and younger people to live in Duxford going forward.

The issues of new housing supply and population decline can and should be addressed responsively to need and incrementally over time, rather than as a short sharp shock to the system. If development is allowed to unfold gradually over the next 20 years, it is more likely that Duxford will meet its population growth expectations for South Cambridgeshire and enrich its housing stock with the most sustainable mix of types and tenures. Caius' landholdings are essential to achieving this end.



King's Head House in the village's historic core

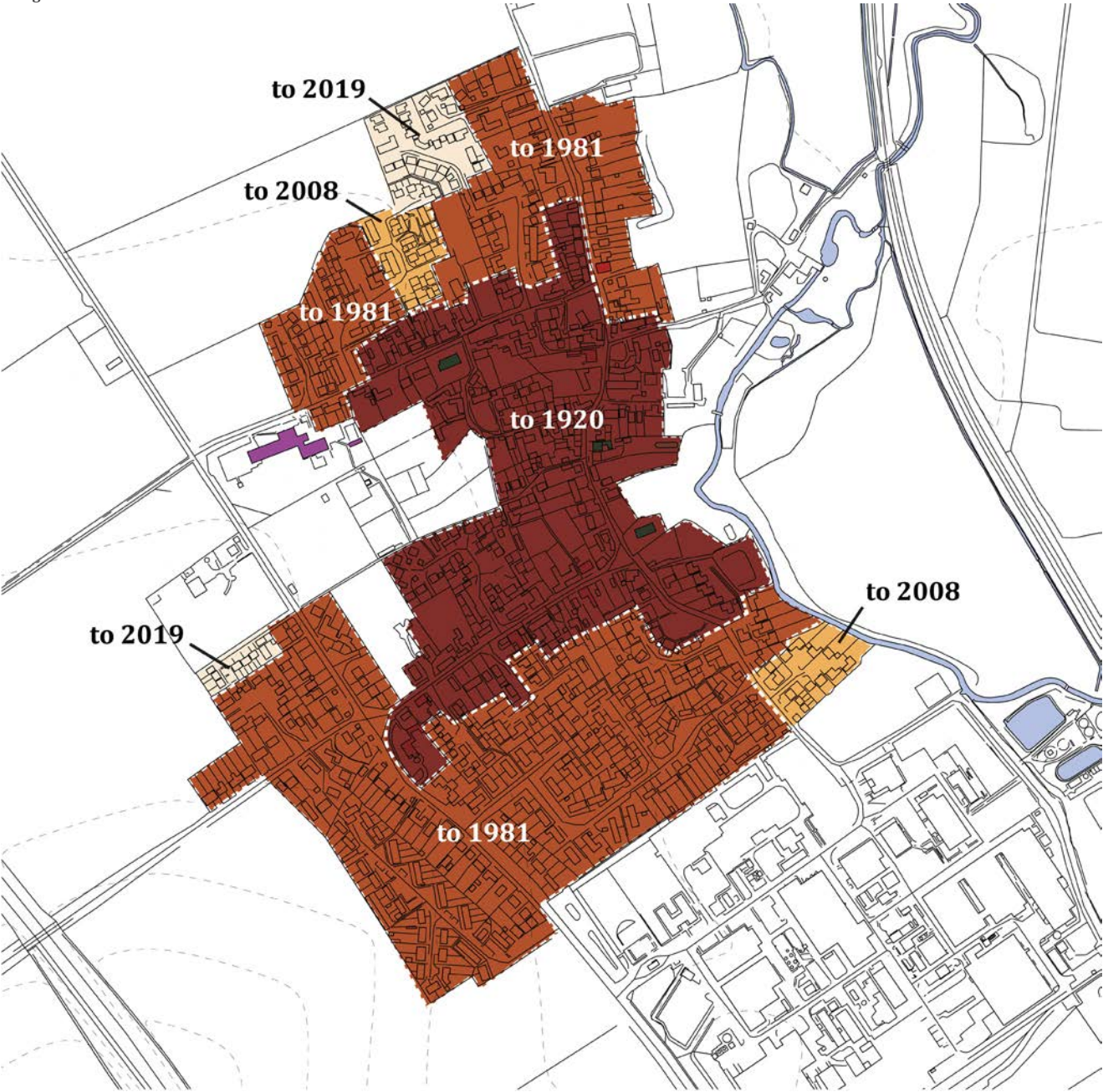


Post-war bungalows and houses in Rectory Rd



Newly-completed infill houses in cul-de-sac

growth of the built-up residential area of Duxford village, from ancient times to the present - further growth is limited by lack of development sites within the village



Employment

The rate of job creation in, and immediately adjacent to, Duxford has far outstripped the rate of new housing supply in the area.

In addition to the village itself, four existing employment areas lie adjacent to the village which employ more than 100 people each; the largest, the aeronautics research and materials manufacturing site at the southern edge of the village, employs approximately 800 people. The number of jobs supported in each of these employment sites has grown in recent years, and can be expected to continue to grow in future. As a result of IWM's masterplan, day-to-day employment on the airfield site is expected to rise by 34% over the next 20 years to over 300 (FTE).

The types of jobs in the local area cover a wide spectrum ranging from professional services, research, and cultural industries to manufacturing, distribution and farming. This rich mix and range of job opportunities should be protected and enhanced through future development.

Duxford's residents enjoy a high level of employment and a greater proportion of jobs within highly skilled and professional occupations. Compared to other rural villages, a relatively high proportion of people work in the immediate local area, with 15% of Duxford's residents in employment either working from home or walking to their place of work .



Hexcel's Innovation Centre in Duxford



Furniture restoration from a barn in Duxford



Conservation work on Zero Fighter at IWM

major employment sites in and adjacent to Duxford - employment opportunities are increasing in each of these areas



Civic amenity and social infrastructure

The village currently supports a general store, two pubs, a cafe-deli, a hotel-restaurant, two beauticians, a scouting centre, as well as a number of small businesses, including a garage and funeral service. It has two recreation grounds, allotment gardens and assorted village greens. Currently there is very little direct access to the open spaces and countryside which lie adjacent to the village.

The parish council is actively working to extend the village's community facilities. They are currently in the advanced stages of securing a new multi-purpose village hall and a new landscaped community garden for the benefit of residents. All new development should work alongside and complement existing initiatives. By helping to fill gaps and address shortcomings in current provision, new development will generate opportunities within the existing village for long-term residents and businesses rather than competing with or threatening the viability of facilities.

Duxford's Church of England Primary School (1 form entry) currently has 11 spare places out of 240. Its catchment area extends over 12 square miles and includes the villages of Hinxton and Ickleton, as well as some residential properties in Heathfield adjacent to IWM Duxford.

IWM Duxford is a popular and unique cultural and leisure attraction closely associated with the village. Day to day annual visitor numbers to IWM Duxford are forecast to rise by 67% (from 300,000 to 500,000 annually) over the next 20 years, and visitor numbers to its three annual air shows are expected to rise from 90,000 to 200,000 over the same period.

The airfield and museum have national and international reach. Around two thirds of visitors were residents from outside of the East of England region, and 12% (around 47,000 in 2017-18) were from overseas. According to IWM's records 1 in every 11 overseas visitors to the region visited IWM Duxford.

As visitor numbers rise, there will be increasing demand for more accommodation, hospitality services and better links between local destinations, all of which could benefit the economy of Duxford village if it can embrace the opportunity.












Duxford village: non-residential land uses and principal publicly accessible open spaces.

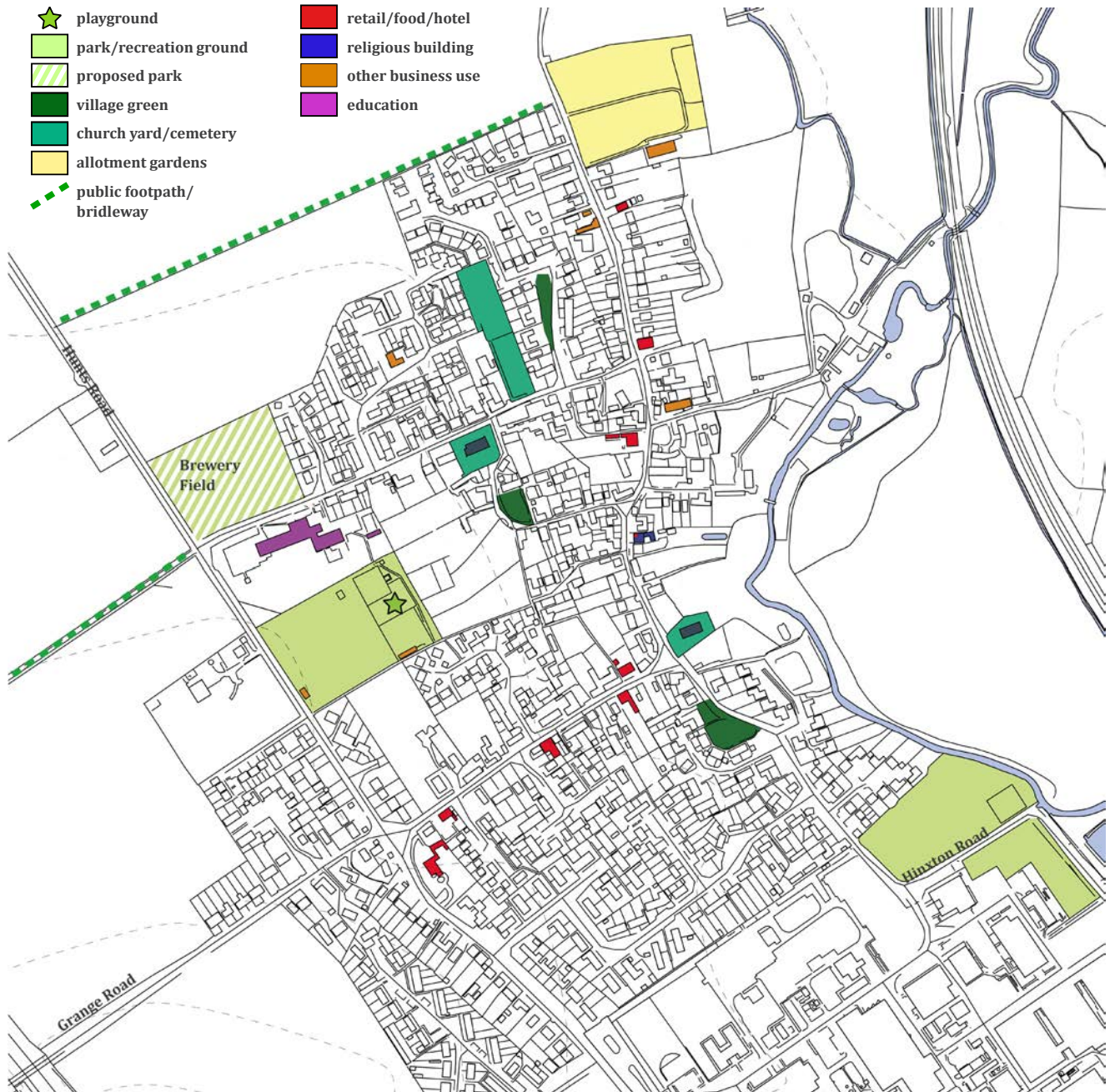
Not shown on this plan is the large number of cottage businesses and industries operating within residential premises. Activities include furniture restoration, photographic and ceramics studios, podiatry/chiropractic, various building and gardening trades, hairdressing, cake making and decorations, pest control services, as well as IT, recruitment and management consultancies.

The Parish council has received permission for a new community park and garden at Brewery Field (shown hatched green), and are also in the advanced stages of planning and funding a multi-purpose village hall for a site within the recreation ground adjacent to the primary school.

Currently, access to the open spaces and countryside immediately outside the village is limited to two public footpaths and two country lanes, Grange Road and Hinnton Road.

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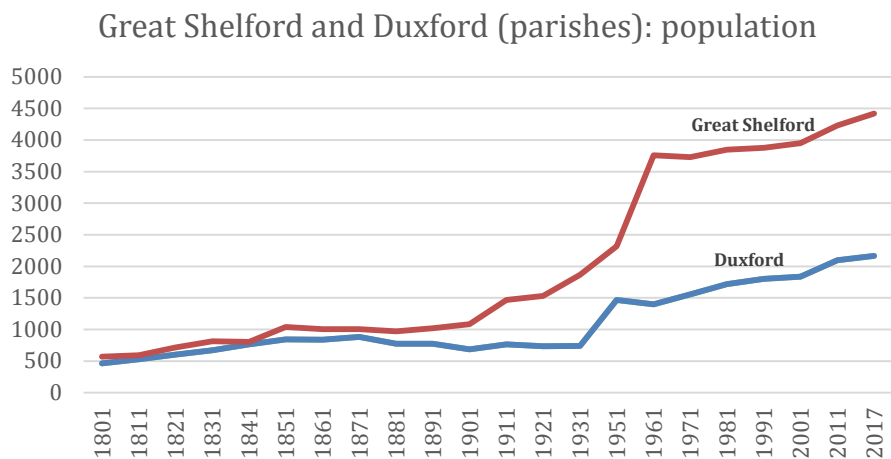
- | | | | |
|--|-------------------------------|---|--------------------|
|  | playground |  | retail/food/hotel |
|  | park/recreation ground |  | religious building |
|  | proposed park |  | other business use |
|  | village green |  | education |
|  | church yard/cemetery | | |
|  | allotment gardens | | |
|  | public footpath/
bridleway | | |



Sawston Village College is the closest secondary school, a little over three miles away.

Until the start of the 20th century, Duxford and the nearby village of Great Shelford had approximately the same population. Today, Great Shelford (population: 4,233; 2011 census) is approximately twice the size of Duxford, and supports a range of local services significantly which is deeper and wider than Duxford's, including a library, a music and arts centre, a sports hall, a variety of shops, banks, cafés and restaurants, a farmers' market, two primary schools, a retirement/care home and a medical practice.

Not all settlements need to have – or ought to have – the same facilities as their neighbours, but the gradual expansion of Duxford would allow for a greater range of services and opportunities to be supported within the village, providing additional choice and convenience for residents and visitors.



Because of its larger resident population, Great Shelford supports a more extensive range of local services and facilities than currently found in Duxford, including a music and arts centre, a newly-enlarged public library and a variety of shops, both old and new



Duxford and aviation

Why Gonville & Caius?

G&C is one of the oldest and largest colleges of the University of Cambridge. Founded in 1348, the College combines the best of Cambridge tradition with 21st century teaching and research.

We have produced fourteen Nobel Prize winners (more than any Oxbridge College bar Trinity College, Cambridge), including Sir James Chadwick, discoverer of the neutron, Sir Howard Florey, co-discoverer of penicillin, Francis Crick, co-discoverer of the structure of DNA, and the economist Joseph Stiglitz.

Notable members include Kenneth Clarke, MP; David Frost, broadcaster; Stephen Hawking, physicist; Robin Holloway, composer; Simon Sebag Montefiore, historian; Jonathan Sacks, Chief Rabbi; and John Venn, inventor of the Venn diagram.

Current Fellow Prof Rob Miller is Chair in Aerothermal Technology at the Cambridge University's Whittle Laboratory, which is the global leader in research into modern jet engines and propulsion.

We plan to continue our tradition with innovation and research by developing a new aviation research campus on our land at Duxford.

What is our idea?

We plan to develop a new centre of excellence for General Aviation on G&C owned land at Duxford. This is to bring together the skills and investment required in a single campus located at the world-renowned Duxford airfield.

The Government have recently published Aviation 2050: the future for UK aviation (December 2018). This is a consultation document about the future for aviation: currently worth more than £22 billion to the UK economy and supports 230,000 jobs in 4,500 businesses.

One key theme is general aviation, which the Government plan to support through the encouragement of innovation and new technology. We plan a centre of excellence for general aviation (GA) at Duxford.



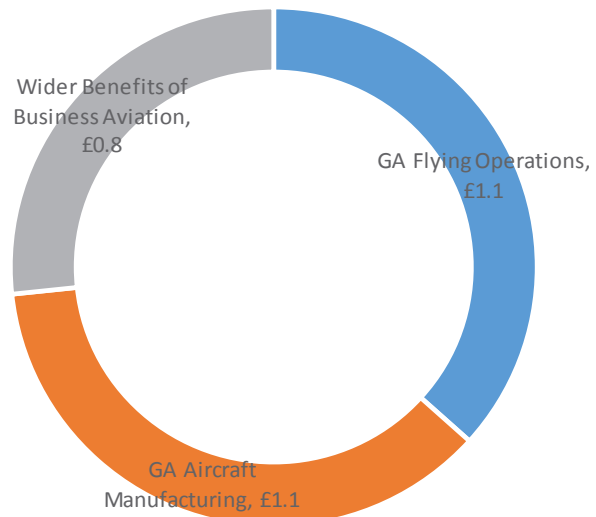
The GA sector covers all kinds of non-scheduled civil aviation. It includes business jets, aerial photography, pilot training, emergency service flights and air displays as well as private flying. The aircraft involved include single and multi-engine fixed wing aeroplanes, helicopters, gliders, balloons, microlights, paragliders and model aircraft.

GA activity falls into two main types:

- commercial aviation, predominantly represented by business aviation
- non-commercial activity, predominantly covering sport, recreational and personal transport aviation.



There are some 20,000 civilian aircraft registered with the Civil Aviation Authority in the UK of which approximately 1,000 are operated by airlines. The vast majority of aircraft are engaged in GA activity. Government data indicate that the sector is responsible for contributing some £3 billion to the overall worth of aviation in the UK, and is responsible for employing 38,000 people, either directly or indirectly. GA is a flourishing sector of aviation in the UK that encompasses business, training, personal transport, leisure activity and engineering.



The economic impact of GA in the UK in 2015 (£ billion)

source: York Aviation



Blackfly test e-VTOL



Airlander test prototype



Amazon commercial drone

The GA sector is important to the UK. It provides a much-followed recreational activity both for the pilot and aviation enthusiast whilst being recognized as the key nursery ground for those entering the aviation sector and the military from pilots and engineers to air traffic controllers and ground managers. The business sector enables the corporate world to operate efficiently and contribute to the overall success of the UK economy. More importantly, GA is an energetic part of the UK transport system.

The future scope for GA is substantial:

- single-engine turboprop operations (SETops) for air taxi style flights, potentially into unlicensed or grass airfields;
- flight sharing platforms, which connect private pilots with potential passengers could benefit the GA sector as well as the travelling public and take more cars off the road;
- passenger carrying hybrid and electric aircraft, many of which will have vertical take-off capabilities (electric Vertical Take Off and Landing or e-VTOL) and will be far quieter and more environmentally friendly. Larry Page, founder of Google, has commenced test flights with the 'BlackFly'. Similarly numerous UK start-ups across the country, such as Vertical Airspace, are developing vehicles both within current regulation and innovating to change the way we operate;
- airships: the Airlander project is a good example. The Airlander 10 aircraft, which combines features of aeroplanes, helicopters and airships with the latest innovations in materials, is now being developed for commercial purposes, such as freight, remote access, aid distribution, advertising, surveillance, communications and luxury passenger transport. The developer Hybrid Air Vehicles UK was granted CAA Production Organisation Approval in January 2019 and will start commercial manufacture of Airlander craft;

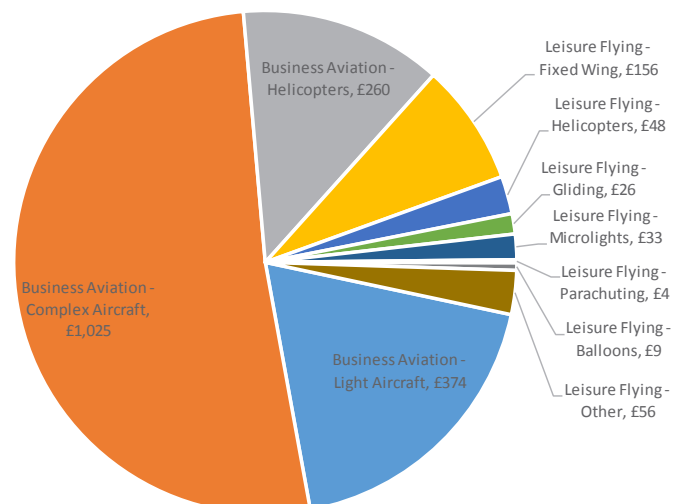
- commercial drones are increasingly being used for building and site inspections, emergency services surveillance and detection, and the transport of goods, including medical supplies. A recent report by Price Waterhouse Coopers has estimated that, by 2030, there could be a £42 billion increase in UK gross domestic product from drone activity, There are 76,000 drones operating in the UK's skies, 628,000 jobs in the drone economy, and £16 billion in net cost savings to the UK economy; drones require a hub from which to operate and such hubs could eventually be a vital part of a strategic network.

The skills and employment generating aspects of GA are now well recognised, alongside many challenges. The government's General Aviation Strategy (March 2015) sets out a vision that aims to make the UK "the best place in the world for GA as a flourishing, wealth generating and job producing sector of the economy". The foreword to the 2015 GA Strategy document noted:

"GA's role in training future pilots and engineers, and employing skilled workers. GA still accounts for nine tenths of our aircraft and over half of our pilots, it directly supports almost 10,000 jobs and indirectly nearly 30,000 more. These are skilled careers, including aerospace engineers, those involved in advanced avionics and those training the next generation of pilots. And it is worth £3 billion annually to the UK economy."

The economic value of GA sub-sectors in 2018 (£ million)

source: York Aviation



Why at Duxford?

There is a long list of reasons why a new centre of excellence for GA is ideally suited to be located on G&C land at Duxford:

- heritage and brand of IWM Duxford: one of the world's leading centres for heritage flying which will attract talent and investment
- access to special aeronautical skills: G&C, Cambridge University and IWM people are world leaders in the specialist skills required
- GA industry support: SME cluster supported by Government policy and end user businesses eg Google and Amazon
- airport and facilities for testing: IWM Duxford adjoins and despite being a historic airfield is equipped with state of the art lighting and navigation systems whilst its personnel are experienced and skilled in supporting specialist airframes, aircraft testing and specialist requirements
- Protecting and sustaining air infrastructure: National airspace is under constant pressure from development on the ground. IWM Duxford's airspace will be supported into the future through complementary development and usage of surrounding land thus supporting a historic site categorised as of 'International Importance' by Historic England
- opportunity to live and work in Duxford: this is linked to G&C plans to expand Duxford Village with new homes within walking distance of the proposed GA campus that will provide a range of jobs within high-value companies
- excellent links to strategic road network and planned expansion of train services from Whittlesford Parkway, with scope to link IWM Duxford, GA campus and Duxford Village to the station via light rail
- Long term commitment: G&C land to be developed for the GA campus will be retained long term to control scope and quality of development

- traffic management: the project will contribute to infrastructure funding for A505 improvements and other essential road improvements
- cross-funding: the project will support IWM Duxford and speed up the delivery of their masterplan.

IWM's 20-year masterplan to build new facilities and capacity dovetails perfectly with the delivery of our vision





What will the development achieve?

We plan to develop a campus at Duxford which will be a centre of excellence for general aviation (GA). This will bring together the entrepreneurs, research, manufacturing, testing and training skills in one place.

At present the inventors and manufacturers are spread far and wide across the world including single-engine turboprop operations, flight sharing platforms, passenger carrying hybrid and electric aircraft, airships and commercial drones. UK is regarded as the world leader in a number of these projects including design and research, materials, testing and electric aircraft.

Our plan is to develop buildings in phases to bring together key business and people. Many of these are small organisations who need a shared platform with quality work space, administrative support and opportunity to share ideas.

The government is investing £1.95 billion in aerospace R&D from 2013 to 2026. The industry has committed match funding which will bring the overall 'pot' to £3.9 bn.

The government wants “to provide an agile regulatory landscape which not only keeps pace with technological development , but enables and supports new opportunities, helping to bring innovations to market where benefits can be realised sooner. This has to be done in line with maintaining a safe aviation sector and protecting the environment. This is true both for increasing automation and electrification in the sector, but also for emerging areas such as artificial intelligence”.

We plan the Duxford campus to play a key role in this process.



How will we bring the project forward?

G&C will work up the proposals in co-operation with adjoining land owners and experts, starting with IWM Duxford.

In due course a development partner will be selected to bring forward to detailed scheme and co-invest in the project with G&C. The College and the development partner will decide on the best approach to funding and delivering the buildings, and long-term management of the GA campus.

G&C will retain a long-term land interest to protect the GA objectives, quality of development, commitments to adjoining land owners (including flight paths) and long term management.

Who could be our project champions?

We are at an early stage but discussions have been commenced with:

- General Aviation All-Party Parliamentary Group
- Department for Transport
- Civil Aviation Authority
- Aerospace Technology Institute
- Cambridge University
- Royal Aeronautical Society
- Lockheed Martin
- York Aviation
- Hexcel
- Arpas: UK Drone Association
- Hybrid Air Vehicles
- Sky Demon

transport and connectivity

Current situation

With the M11 lying along its western boundary, M11 junction 10 (J10) at its north-western corner, and the strategic A505 east-west route to the north, the site is very well connected in terms of road access. More locally, Hunts Road and Moorfield Road provide access to Duxford and destinations further southwards including Saffron Walden. 1.5 kms to the east, the A1305 north-south route provides access to Cambridge to the north and the A11 / M11 to the south.

The A505 corridor is an important east-west route and is subject to congestion. Studies to relieve the corridor are under way and include the section of the A505 east of J10 fronted by the site. M11 Junction 9 (J9) to the south, is limited in terms of the turning movements offered, with its 'Y' shaped form not providing for right-turning northbound movements from the east (A11), or southbound M11 traffic wishing to turn left onto the A11 eastward. These limitations place further demand on the A505 in providing for those 'missing' J9 movements.

Notwithstanding the present shortcomings in current highways arrangements, when judged in traditional highways terms, the site is very favourable, offering convenient connections to existing local and strategic links.

The site also benefits from its proximity to Whittlesford Parkway, only 1km to the north east across the A505. Its identification as a pilot Rural Travel Hub recognises its key future role in contributing to supporting growth in the surrounding area. Lying on the West Anglia Main Line, it provides a connection between Cambridge to the north and London, Liverpool Street to the south, with other services to Cambridge north, Ely and King's Lynn (via Cambridge). Traditionally a commuter station, Whittlesford Parkway is viewed by the Greater Cambridge Partnership as a future destination station providing, "...a strategically important interchange and gateway to facilitate sustainable local economic growth".

National Cycle Route 11 passes north-south along Moorfield Road and on to Duxford and Hinxton, and ultimately, connecting the Bishop's Stortford area to the south to Cambridge to the north, and onwards to Ely.

Reflective of the area's generally open and rural landscape, walking facilities are generally absent in the site area, whether on the main A505 or local road network, such as on Hunts Road and Moorfield Road. As to be expected, conditions are markedly better in Duxford village itself with footpaths and crossings more readily available.

Duxford connections by numbers:



by road

direct access to A505 and M11
25 minutes to Cambridge
1hr 15 minutes to London



by rail

short walk to Whittlesford Parkway
7 minutes to Cambridge
1hr 3 minutes to London Liverpool Street



by cycle

National Cycle Route no.11
8.5 miles to Cambridge
8 miles to Saffron Walden

Future

The overarching Access Strategy for Duxford is to make full and best use of existing transport infrastructure through sensitive development land use planning and the comprehensive application of forward-looking sustainable movement principles. As such, land uses will be situated to make best use of existing connections, with public transport services supplemented and new links made wherever needed. Movement by sustainable means will be the mode of first choice by those living and working in the area, enjoying convenient, safe and high-quality walk, cycle, bus and rail links.

As noted, the A505 corridor is subject to congestion. The proposed employment site's location in the elbow of the M11 / A505 therefore offers the prospect of facilitating the easing of movement along that c.1km section of site frontage through localised road widening and related highway measures. Siting the research cluster and its associated vehicle parking to the north of the site, close to the M11 junction and A505, will serve to separate that access traffic from the residential-led activity to the south.

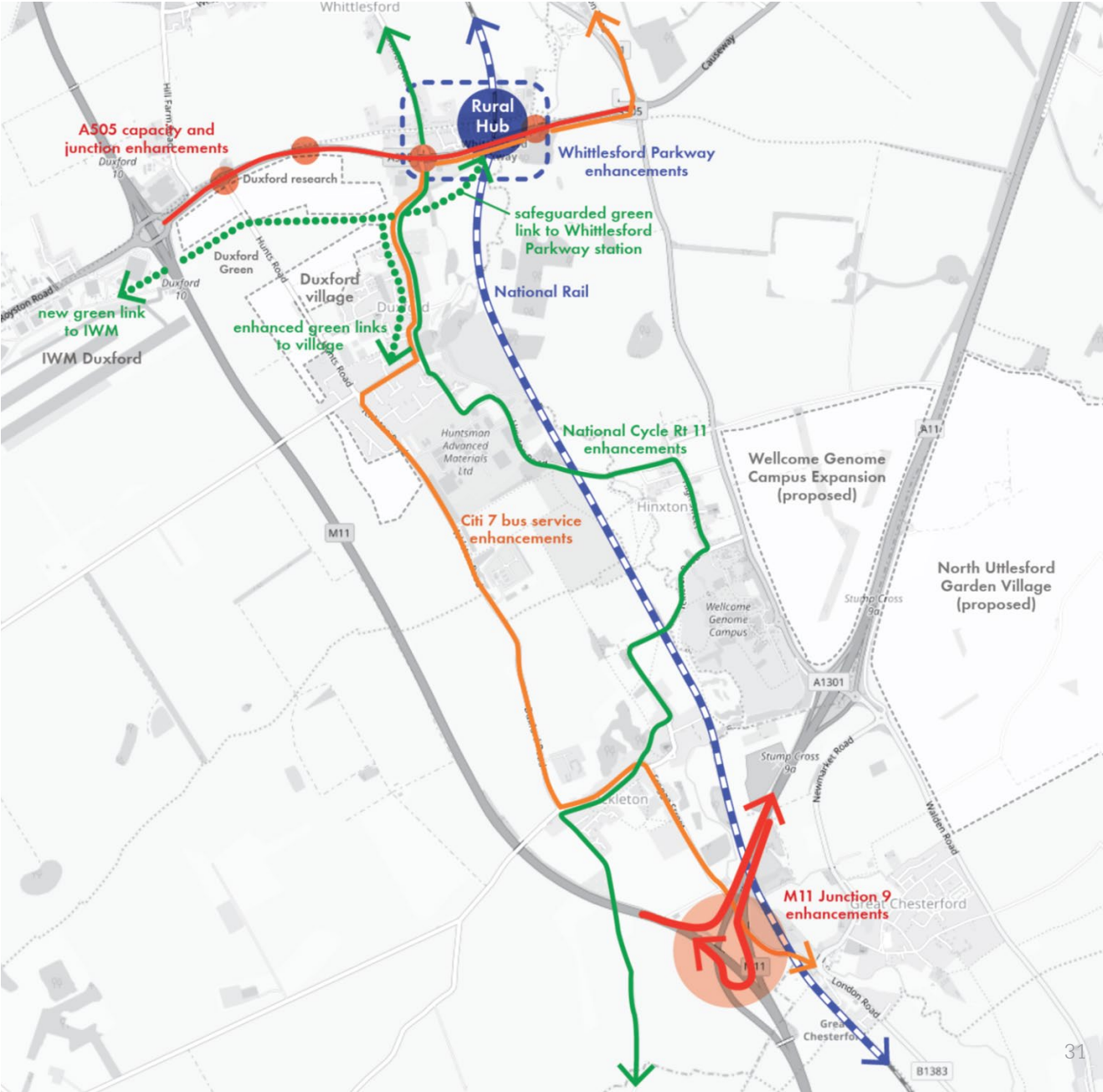
Looking more widely, the site would look to support the strategic ambitions to relieve the A505 through initiatives such as highway improvements to M11 J9 to add the 'missing' turning movements needed to increase local and strategic routeing options.

Substantial junction improvements to the A505's junction with Moorfield Road, which runs through a northern portion of the site, are proposed as part of Whittlesford Parkway proposals. These improvements, along with a variety of station improvement initiatives, are also intended to improve the A505's operation and address the corridor severance.

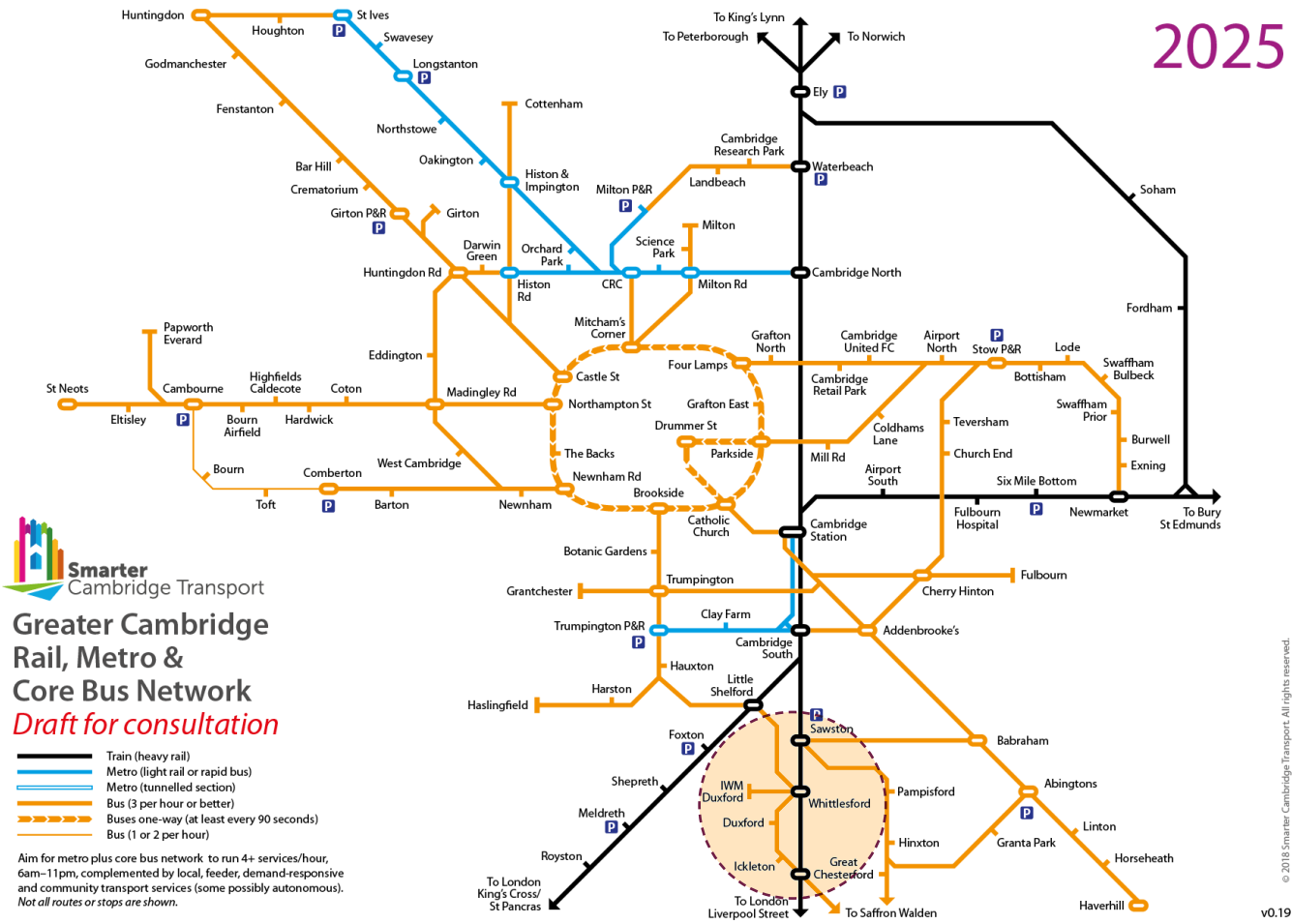
The site's location along the southern side of the A505 can therefore assist in achieving desired highway improvements along the corridor. We plan to provide segregated walk and cycle facilities along that section to Whittlesford Parkway station.

We plan an east-west Green Link between Imperial War Museum Duxford to the west of J10, running beneath the M11 slip roads to the south, and eastwards through the site towards Whittlesford Parkway. Such a link will cater for walk

Summary of the benefits to strategic road, rail, bus, walking and cycling networks that development at Duxford could help to bring about



and cycle trips, and looking a little further ahead, the prospect of electrically powered autonomous multiple occupancy shuttles, too. The Green Link could also run southward into the heart of the site benefiting Duxford Village and beyond. This will provide a valuable and sustainable alternative route for east-west movement between the presently severed communities either side of the M11 and afford convenient access to Whittlesford Parkway.



The link southward from the A505 comprising Hunts Road / Ickleton Road / Duxford Road presently offers a parallel north-south routeing to the M11, Moorfield Road / Ickleton Road, and the A1301. Although of limited width and variable quality, it currently offers an alternative routeing for some medium to longer distance traffic, as well as local access traffic. This link could be transformed from its present condition as a rural standard road without footways into a calmed local access street environment, clearly associated with the local community and prioritising convenient local movement, whether by car, bus, walk or cycle. Although still available to through movements, such traffic would be discouraged by the active street environment, replacing the present 'open road' environment.

The provision of bus services in semi-rural areas is often problematical given the geographically dispersed passenger catchment. Community-scale proposals such as this encourage greater frequencies and it is anticipated that the present Citi 7 service would be enhanced to serve the greater passenger demand.

Smart Cambridge are advancing the prospect of an autonomous mass-transit link serving Cambridge from outlying areas, including Duxford. These early-stage proposals would entail surface-running vehicles in extra-urban areas before going underground at the city's periphery. If realised, this ambitious and forward-looking proposal would transform access in and around Cambridge and contribute significantly to providing high quality sustainable access.

Consultation plan and illustrative concept image for future upgrades to public transport in Greater Cambridge, including new services to Duxford, IWM and Whittlesford Parkway.



The site would be predicated on a sustainable, flexible and responsive approach to parking provision. Given the nature and scale of the proposal, and the attendant time scale in delivering such a multi-phased development, then there are a range of scenarios relating to the quantum and type of associated movement demand. The ambition is for a highly sustainable community with minimal demand for conventional car-based personal travel. But that change will inevitably be incremental and therefore the provision of parking needs to respond to that change in demand over time; reducing that supply as sustainable alternatives are provided and taken-up.

Site servicing and deliveries would be substantially rationalised too, planned around single- point consolidated servicing hub principles to minimise vehicle movements to, from and within the site. As with travel mode type and the options presented (mass transit, autonomous vehicles, etc), the nature of deliveries is changing too, and during the course of the development's planning and delivery, much may change to benefit the community and the achievement of truly sustainable living. This need for flexibility and responsiveness to change needs to be recognised in all aspects of site planning.

More generally, the site's co-location with the existing Duxford village offers the potential to extend the local amenity on offer, whether in terms of local shopping, leisure, medical services, etc. meaning those living and working in the area have less reason to leave it, by any travel mode. Managing travel demand at source is the most effective means of managing movement.

Benefits

- Excellent connectivity to existing transport infrastructure assets including the M11, A505 and local links, minimising the distance travelled and time spent on the local road network.
- Ideally situated to contribute to the substantial development of rail facilities and services at Whittlesford Parkway station.
- Well placed to provide a much-needed Green Link between the station, Duxford, the aviation research campus and IWM, helping to connect communities, businesses and amenities throughout the local area.
- Further argument for connection to Smart Cambridge's proposed autonomous mass-transit link serving Cambridge from outlying areas, including Duxford.
- Co-location with Duxford village offers the potential to extend local amenity provision and encouraging those living and working in the area to stay local.



We would contribute to Cambridgeshire's on-going studies into green transport, including the use of autonomous electric shuttles along new green links in Duxford

the opportunity

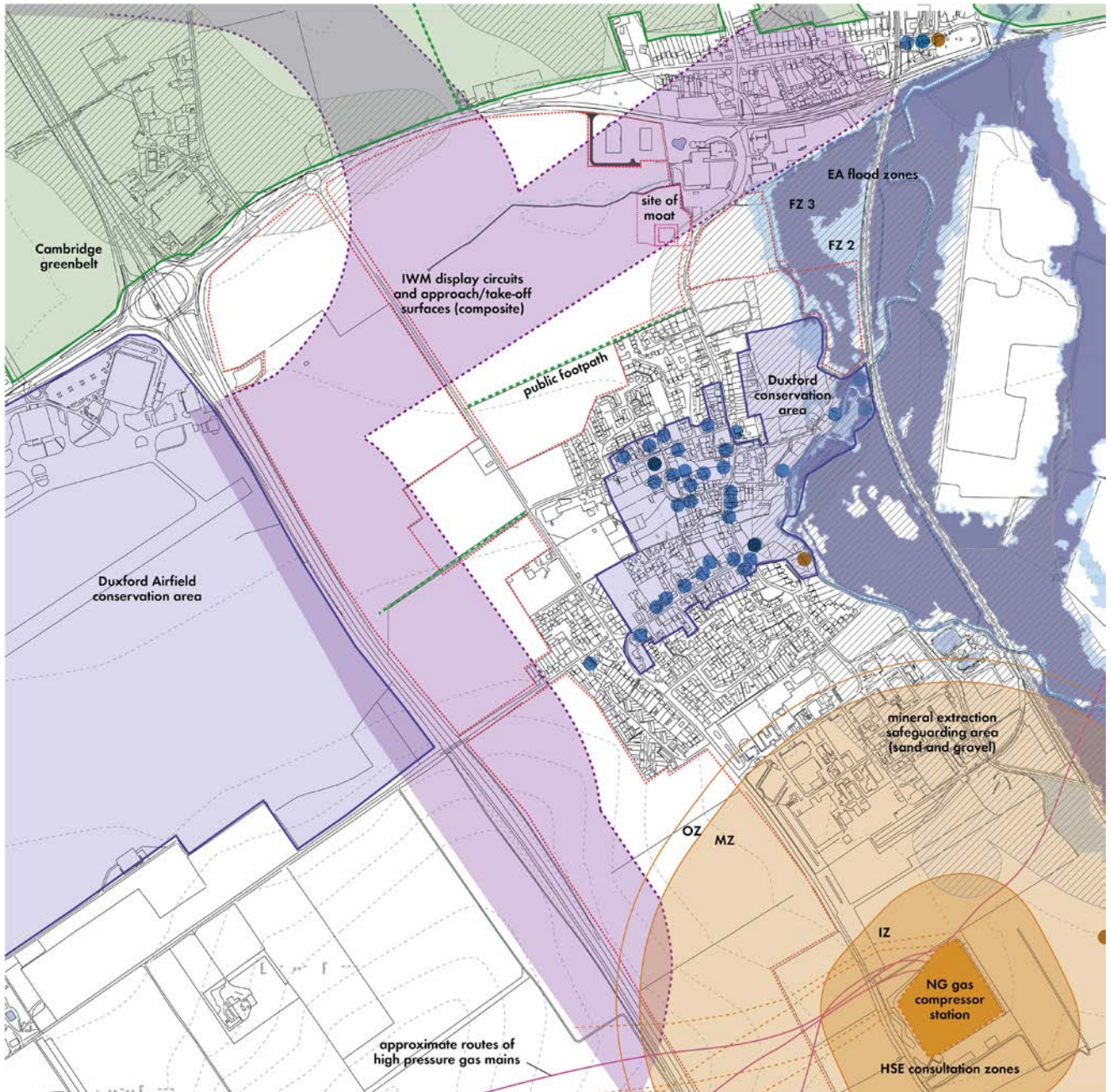
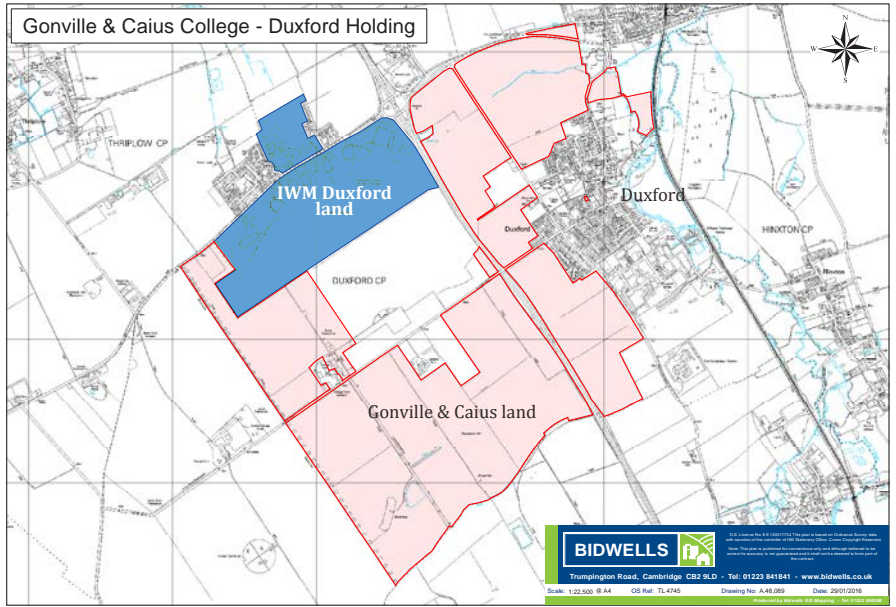
We believe that a comprehensive approach to growth in Duxford has the potential to yield far more benefits than no development or piecemeal, uncoordinated development could deliver. We own the majority of land to the west and north of the village and are able to manage the process of incremental development in partnership with local stakeholders.

Our approach would be to identify development sites in which the risk of delivery has been mitigated through rigorous design and technical testing. In our experience a masterplan only has value if it acts to attract and retain the interest and investment needed to create excellent new homes, workspaces and public spaces. In Duxford, this is likely to mean prioritising development which lies near existing infrastructure, and away from the most sensitive historical, cultural and ecological assets, amongst many other considerations.

Our illustrative proposal for Duxford is based on high-level assumptions regarding the principal opportunities for development. It is underpinned by our on-going studies of potential constraints, summarised in the composite plan opposite, which indicates the locations of:

- the Cambridge Green Belt, and special ecology and habitat designations
- existing public footpaths and rights of way
- Environment Agency flood zones
- heritage designations, including conservation areas, listed buildings and archaeology (scheduled and unscheduled but of local importance)
- IWM flight display circuits and approach/take-off surfaces
- mineral extraction safeguarding areas
- Health and Safety Executive consultation zones

The implications of specific constraints on development will be developed in more detail following the council's site selection process.



The site is located within the chalklands habitat area. We will work closely with specialists to protect and integrate features of biodiversity value into the design, and to increase the range and quality of habitat on the site.

The Agricultural Land Classification is Grade II. We will work to strike a balance between land kept in agricultural use, land used for development, and land used to provide more diverse and publicly accessible open spaces and habitat.

There is evidence of prehistoric and Roman activity in the area. Coldham's Moat, a non-statutory archaeological site, lies within the open space of the proposals and is likely to date from the 17th century. Immediately to the north of Coldham's Moat, a post-medieval garden feature and ditches of Roman date are believed to exist under the present field. We will work with heritage specialists and the County Archaeological Service to ensure that all historic features on (or under) the site are studied, recorded, protected and, where feasible, restored to view for the enjoyment of residents and visitors.

Noise (other than airfield-related). There is ambient / diffuse traffic noise in the area due to its proximity to the M11 and A505. This will influence the design, layout and orientation of buildings, planting and earthworks within the proposals with a view to mitigate these effects, particularly on current and future residential premises. We will thoroughly investigate all noise threats and constraints, including commissioning a full noise assessment. With the right approach, we believe that the form of development proposed will lead to an overall improvement in ambient road noise for most people living in the village.

We are aware of the limitations on current utilities capacity and provision in and around the village, and would use the opportunity to upgrade services where appropriate.

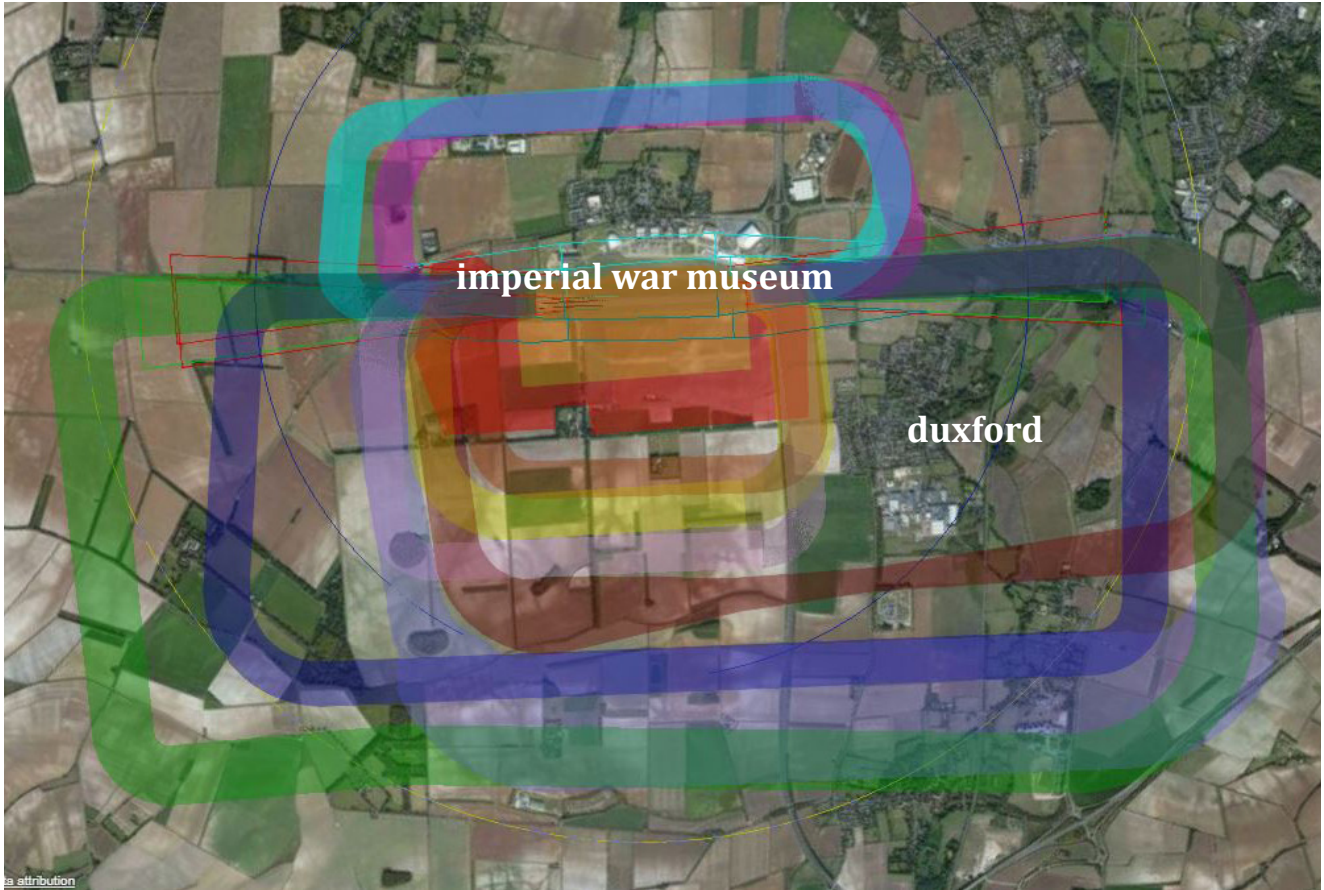
It is essential that IWM's activities are not impacted by development in Duxford. We will work closely with IWM to ensure that future development does not threaten its operations and we will comply with all directions in relation to the safeguarding of the aerodrome.



Above and right. Traces of Coldham's Moat and other archaeological features are clearly visible in a recent aerial photograph of the site, which match the position of these features on the Ordnance Survey map of 1888.



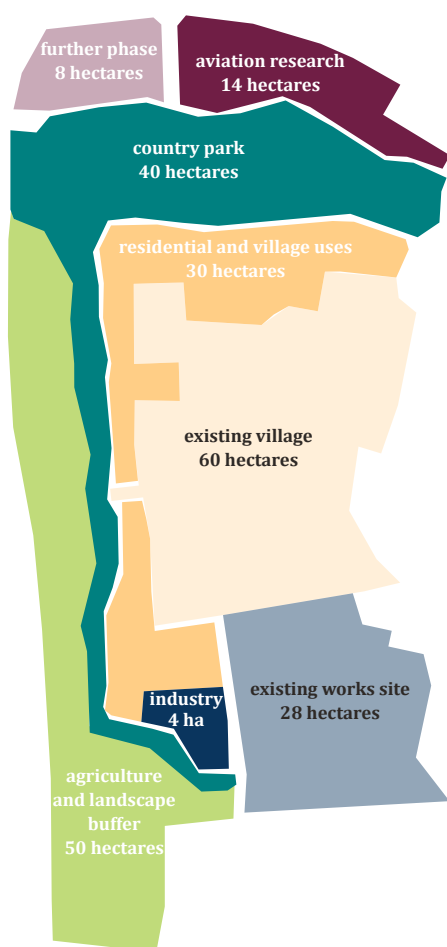
Below. Plan of all flight circuits used for airshows at the Duxford Aerodrome superimposed on an aerial photograph (image supplied by IWM).



development potential

There is a substantial amount of land in and around Duxford that must be ruled out for the development of future buildings and certain other uses. However, we believe that a real opportunity remains on land holdings adjacent to the A505 and to the north and west of the existing built-up area of the village. The constraints to development provide a logic for the proposals:

- Although residential buildings cannot be placed under IWM's flight circuits, we believe commercial buildings up to approximately 10m high (2.5 lab storeys) are feasible, including under parts of the approach and take-off surfaces in line with the runways, subject to detailed analysis and discussions with IWM. The location of the flight paths suggests that a cluster of research buildings would be feasible at the northern end of the site. This location also provides favourable access to businesses from the M11, reducing journeys to this destination along the local road network.
- Likewise, only a small number of dwellings can be built within HSE's middle consultation zone associated with the gas compressor station and pipelines at the southern end of Duxford; workspace up to two storeys in height would ordinarily be acceptable in this zone. This would allow for a variety of businesses to be located adjacent to the established works site at the southern edge of the village.
- The areas directly adjacent to the village north and west could be used for residential development and a mix of community-focussed uses, housed within buildings of a scale, density and character more similar to those in the historic core of the village than to those of its post-war additions.
- The open fields between the augmented village to the south and the new aviation research cluster to the north would be transformed into a large common or country park, easily accessed through the new development from all parts of the village. This park would tie into National Cycle Route 11 at Moorfield Road, and to a new green link between Whittlesford Parkway Station and IWM Duxford.
- In the south, new houses would front onto a flowing landscaped corridor, providing a car-free walking and cycling route along the western edge of the village to local places and points beyond.



Altogether, we believe there is scope to develop c.14 hectares of land along the A505 for research and associated mixed use purposes. Depending on the form of development, we believe this could yield up to 110,000 sq.m of commercial space for the aviation research cluster. A future phase of 8 ha will be located in the site directly adjacent to the M11.

In land alongside the existing settlement, there is scope to develop c.30 hectares on our land for residential and mixed village uses, including a doctors' surgery, arts centre, crèche/nursery, community spaces, shops and, eventually, a new primary school. Depending on the amount and type of other uses the Local Authority and the community feel are appropriate, we believe the extension could provide up to 800 new dwellings, which would be constructed in small phases over the whole plan period, coordinated to avoid widespread disruption while maximising benefits.

There is scope to develop some light industrial or maker-spaces on land opposite the existing works site on Ickleton Road, subject to further consultation with the Health and Safety Executive.

Duxford opportunity by numbers:



research

14 hectare campus
110,000 sq.m gross floor area
up to 1,500 new jobs



dwellings

30 hectares for village growth
up to 800 new homes
a wide range of affordable tenures



open space

40 hectare country park
50 hectares retained fields along M11
new green links and spaces throughout

proposal

G&C proposes a long-term commitment to sustainable development in Duxford to create jobs, homes and community uses that would enrich the village and help to secure its vitality for generations to come.

Our approach will be coordinated with stakeholders from the outset in order to maximise local benefits and to avoid duplication of local services and competition with existing uses and businesses. We are prioritising sites closest to the M11 junction 10 and Whittlesford Parkway station to minimise traffic impacts on the village core.

We seek to make future development in Duxford open and outward turning, rather than inward-looking, engaging with its landscape along all edges of the village so that it can reinforce and extend walking and cycling links within the village, its research cluster, and to Whittlesford Parkway station and neighbouring settlements.

We will provide early public access to the new country park and village heritage assets currently out of bounds on private land.

The masterplan, views and estimated quantum of uses shown in this section are intended to illustrate aspects of the type of development and open spaces which might be appropriate in this location. The proposals are intended to be starting point for discussion with the Local Authority, the community and other stakeholders, rather than a fixed design.





Illustrative view of Hunts Road as it enters Duxford from the north, transformed to a local access street environment and prioritising local movement.

The landscaped western edge of the development provides a publicly accessible green corridor between retained agricultural fields and the village. Planting and landforms will mitigate ambient noise from the M11 and provide car-free access to the country park and aviation research cluster.



our design approach

It is clear that the site provides a rare opportunity for the future of Duxford and Greater Cambridge, but initiating any new development brings with it great responsibilities. When the new development is substantial in relation to the established community, and takes in existing fields, topography and heritage sites, the responsibilities are even greater for everyone involved. Resolving these responsibilities with sensitivity to the environmental, social and economic conditions intrinsic to Duxford and all of the pre-existing businesses and settlements which will be impacted is essential. If based on sound principles, with long-term stewardship provided jointly by the council, landowner and local stakeholders, Duxford will provide for future generations an inspiring model of sustainable development.

To integrate landscape and ecology within a village extension on this scale, representing as much as a 90% increase in the population of Duxford over 20 years, would be a very special opportunity. It presents the perfect forum to work with an existing community and to provide new places for everyone that are just as attractive for what they are like to live in as for how they look.



Of its place

While it is imperative that new development in Duxford is not similar to the generic, sprawling subdivision which is seen in far too many places, it is also important that new development in Duxford is not the realisation of an artificial 'vision' which might sound impressive in a brochure or presentation, but which might be anathema to the real character of the established place.

The site is beautiful. Our start and end point will be to understand and work with its landscape, long views, and characteristic features, to preserve and enhance wherever possible its ancient hedges, buildings, rights-of-way, heritage and ecology. This land has been cultivated for centuries in accordance with the complex topographies and orientations intrinsic to its very particular setting, and we believe that it is through respecting the delicate and ancient balance which exists between natural and man-made interventions that a true sense of place will be sustained and nurtured, even as the area is transformed through future uses and opportunities.

Both Duxford and the site will be profoundly altered by development. All aspects of this change will need careful consideration; for example, a new system of water resource management will be needed, but this could add to both the visual and environmental value of the place. There will also be a need to develop an intricate strategy for connections within the site which accept the use of cars but facilitates cycling and walking and access to a public transport system that is linked to the wider local and regional networks.

We have a pragmatic view about what makes places successful and believe that the most attractive places in which to live and work are ones that support a range of genuinely useful amenities close to everyone's doorstep. This requires a certain 'critical mass' of people living and working together as a community. This does not need to be car-dependent. When shops, schools, services and public transport are within easy walking and cycling distance, people spend less time in cars and car parks, highways infrastructure does not dominate the landscape and the social life of the village can flourish in the spaces between buildings.

Initially we would propose a compact extension to the village, building in small, discrete phases on as little land as possible and test the optimum mix of dwelling types, public spaces, uses and building layouts in response to best practice. The new homes will anticipate the changing nature of household sizes and individuals' increasingly demanding expectations about the proximity, variety and quality of local opportunities in their choice of home and workplace.

In Duxford the future intermeshing of landscape and village will help to promote active lifestyles and reduce car reliance. The layout of new streets and open spaces, the increase in choice of dwelling types and in the variety and quality of workplaces, the forward-looking transport and energy strategies – all of the individual components that make up a place – will be designed with what is good for people and good for the planet foremost in mind.

A sustainable place is one which provides the conditions necessary to maintain happy bodies and minds while at the same time maintaining a light footprint on the ground.

In the masterplan for Duxford we promote a best practice approach to biodiversity and green infrastructure, energy and water resources, walking, cycling, public transport accessibility, recreation and leisure opportunities.

Illustrative view of new houses facing onto the edge of Duxford country park. New development will allow the village to face outwards to embrace the landscape and increase access to the centre of the village on foot and cycle.



Illustrative view from within the Duxford Aviation Research Park. A mix of uses will support the research clusters, bringing animation and social functions to the heart of the new employment area.



We are also keenly aware that the new development must strike a balance between establishing its own viable mix of attractors, including acting as a destination for new residents, businesses, leisure and cultural draws, and retail opportunities, while not threatening the economic and social livelihood of existing initiatives in Duxford and neighbouring settlements.

Executed appropriately, new development at Duxford will complement local existing community facilities, helping to address shortfalls and deficiencies in service, and it will augment Greater Cambridge's increasing number of attractors and international reach. If the identity and purpose of Cambridge's city centre, its established settlements, and the purpose and remit of new developments are kept in balance, wide-ranging benefits and future opportunities can accrue to both existing and new residents and businesses. Development of this sort will help Duxford to remain a locale in which the whole really is greater than the sum of its parts for those who live there and work there, while at the same time adhering to the ambitious intentions that its enviable position within strategic growth corridors implies.



While the masterplan would seek to build where it is most feasible and viable to implement new infrastructure, and would be sensitive to the needs, form and character of the existing village, it would also seek to address attributes of the site which inhibit value and suppress community cohesion. This is likely to include the creation of new public recreational spaces around the village, increasing access and permeability from the existing village to adjacent landscapes, villages and local destinations, providing a greater depth and breadth of services, and 'civilising' the use and character of the A505 and Hunts Road-Ickleton Road. These roads will be transformed from places of severance that divide neighbourhoods, into links that bring them together by providing convenient and safe access to the new and existing facilities which will lie to either side.

Ultimately, the success of the project will be judged on the scale and quality of new opportunities it stimulates, both inside and outside the masterplan area and the enhancement it makes to the health and well-being of the existing community.





The environment in which we live and work has a profound effect on our health and well-being. Reciprocally, the way in which we live and work has a profound impact on the environment.

The masterplan proposes to gradually provide new workspaces and jobs at approximately the same rate as new homes. Of course, not everyone who lives in Duxford will work in Duxford, but an increasing number of people will choose to live and work locally, and they will spend more of their time in the local area, when it caters more directly to their daily needs.



benefits

This document has explained why the proposal is put forward and the logic to an enhanced IWM along with new homes, jobs and infrastructure.

The proposal at Duxford includes a number of opportunities to bring benefits to the area and make a positive contribution to the health and well-being of the existing and future community.

summary of the opportunity

A Single Promoter for the long-term

- Gonville & Caius College will be the long-term promoter and will retain a long-term interest in the development. We have a long association with the local area and will ensure the development makes a positive and lasting legacy.
- We are a single landowner that can make decisions that are in the interests of the wider village.

Working Together

- We will work collaboratively and be able to coordinate development and infrastructure across the local area and not just within the development site boundary.
- We will bring forward a single proposal that can make long-term and coordinated plans for Duxford, rather than a series of smaller developments that are delivered over a number of years that cumulatively add more housing, but without any new facilities because smaller developments lack the size to be able to afford it or to have the land available to do so.
- We will engage with the local community – to work with the community to shape the proposals over the course of the Local Plan process.

Sustainability and Quality

- We will commit to a green and sustainable agenda delivering homes that are built to the highest environmental standards.
- We will also commit to a high-design standard prior to any construction, which we will achieve by retaining the site and controlling delivery of the project in detail.
- Our development is not in the Green Belt.



Illustrative view of new village facilities which could be provided as part of the masterplan including GP surgery, additional nursery/ crèche, and local farmers' market.



Green Infrastructure

- We will create a new country park allowing the whole village to enjoy a public open space an order of magnitude larger than anything currently available in the local area.
- We will create new green links to and upgrade existing cycle and walking provision in and around the village.
- We will create new habitat and natural areas, preserving and enhancing biodiversity, and employing a best-in-class approach to sitewide water management.

Transport

- We will create a place where the community is not reliant on the private car with improved pedestrian and cycle access to Whittlesford Parkway. We will plan for transport innovations such as autonomous vehicles or shuttles. And we will maximise the opportunity for people to use Whittlesford Parkway to travel by train, rather than by private car.
- Our project is a major opportunity to support transport infrastructure improvements:
 - The A505
 - M11 junction
 - Whittlesford Rural Hub
 - Greenways
 - Links to Whittlesford Parkway

The Village

- We will commit to:
A considerate approach to local facilities – to work with the local community to establish what services and facilities the development could introduce or support; such as open space, play space, sports facilities, health care and education.
- Investment into the village – we will maximize benefits for the greatest possible number of local residents. Development will bring significant investment into the village; we aspire to a development that enhances the health and well-being of the locality. We see this as a real opportunity to target investment onto areas of improvement prioritised by the community.

The masterplan will deliver a new country park and green infrastructure for the benefit of the whole village



- A scale of development that can afford to deliver benefits – the proposal could deliver in the range of 800 new homes and some 110,000 sq.m of employment floorspace. Our proposal is a scale of development that can afford to provide and support additional services and facilities in the village.
- Providing new development at Duxford that relates to its historic settlement pattern to respect its character and heritage.

Economy and Jobs

- Our proposed development will introduce new jobs and add to the range of jobs available – giving people a better chance of living and working in the same area. Our project will reduce the need to travel and give people more time to enjoy life outside of the working day.
- Our project will contribute to and complement the science and technology cluster around Cambridge, not least the ‘Southern Cluster’ comprising Cambridge Biomedical Campus, Wellcome Genome Campus, Babraham Research Campus and Granta Park. It will add to this cluster with a new centre of excellence for aviation technologies that will support IWM and strengthen its role at Duxford. Initial research shows that there is a strong market and appetite for a general aviation centre and we will commit to these focus and theme.
- Underpinning the findings of the Cambridgeshire and Peterborough Independent Economic Review we will build on the success of the Science and Technology cluster to provide jobs and homes together, create high-quality places and improve mental health such as reducing commuting time and providing pleasant open spaces for people to enjoy from their home or place of work.
- Our proposals will strengthen the science and technology sector that underpins the Cambridge to Oxford Corridor and the significant investment being made from Central to Local Government.

Supporting the Imperial War Museum

- Our proposals do not hinder the flying activities of IWM and provide homes to give more opportunities for its workers to live locally and provide new aviation-related jobs to strengthen the aviation context at Duxford.

We will commit to cross funding support for IWM's masterplan and the project will provide key funding for improved linkages by public transport and car.

Our general aviation centre of excellence will bring many opportunities to support the work of IWM at Duxford including bringing new business who will wish to share ideas and facilities, including the runway.

Housing

- We wish to shape the development around local housing needs, including a commitment to affordable homes. We plan for a housing mix with a variety of house types and tenures to give people real choice in the housing they wish to live in, to allow as many people on different incomes as possible a chance to own their own home or live in the village they want to. This could include:
 - Institution-owned private rented housing – rented housing of quality with secure tenancy agreements.
 - Housing for the elderly – from adapted homes, to over 55s accommodation, to supported care through to care homes with full care.
 - Apartments – offering smaller and more affordable homes.
 - A variety of affordable house types across shared ownership and social rented.

conclusion & next steps

This proposal is not just for the allocation of new housing and jobs. We plan a new development at Duxford that will bring positive economic impact to the region as well as enhancing the health and well-being of the existing community.

Our development will benefit from the transport infrastructure (including Whittlesford Parkway), within the Science and Technology Southern Cluster and in the corridor of the proposed East-West Rail. It will be of a scale and contain uses that can add to the transport infrastructure, bolster the Southern Cluster and add to the services and facilities at Duxford.

Our proposals will deliver benefits through the long-term involvement of Gonville & Caius College as the single landowner, with a reputation and legacy in Cambridge to create a place that everyone will be proud of.

We submit these proposals to support the Greater Cambridge Local Plan process and in accordance with its timetable. The first formal Local Plan consultation is expected to be in Autumn 2019, with further consultations in Autumn 2020 and 2021; followed by Examination in Public in 2022 and adoption of the new Plan in 2023.

We will consult with local stakeholders leading up to the formal Local Plan consultation in Autumn 2019 to ensure that the local community can shape and refine the proposals.

This is a unique opportunity for the future of Duxford as a place to live and work as well as to develop the Imperial War Museum as a world leader for aviation.





