

Water Circular economy

Wetherbrook is part of a wider region of the country that suffers from water stress, where the available water at times fails to meet the need for the local ecology as well as for potable water supply. The Greater Cambridge Integrated Water Management Study makes it clear that any new development needs to be water neutral to be deemed sustainable.

Wetherbrook will implement a Water circular economy to address the water scarcity locally, the proposals will deliver a scheme that provides a new source of potable water for the proposed development while protecting and enhancing ecological habitats. The proposed water circular economy can be summarized under 4 key stages:

Water Supply

Harnessing the River Cam and surface water runoff to create a new supply of water. Onsite lakes will hold harvested water from the River Cam during higher rainfall periods to be used to support the needs during drier periods. The lakes will be designed to be integrated with the sites Sustainable Drainage Strategy assisting in balancing and controlling the quantity and quality of surface water runoff.

Water Treatment

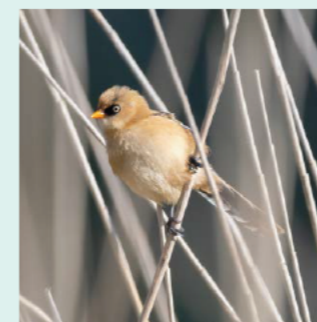
The potable drinking water for the proposed development will be provided from a new, local, onsite water treatment works drawing water from the lake system making Wetherbrook self-sustainable in terms of potable water.

Water Reuse / recycling

The use of water within the development will follow the principles of reduce - reuse - recycle. The residential water efficiency at the development will better current building regulations standards and look to ensure all toilet flushes are made from a recycled source of water.

Waste Water Treatment

After treatment and use by the new community the waste water from the development will be collected in a traditional sewerage network. This will then be treated onsite with the clean waste water being discharged back to the river Cam downstream from where it was originally harvested. This water will then re-enter the natural environment via existing water networks, recharging the local water balance and maintaining water flows for sensitive habitats.

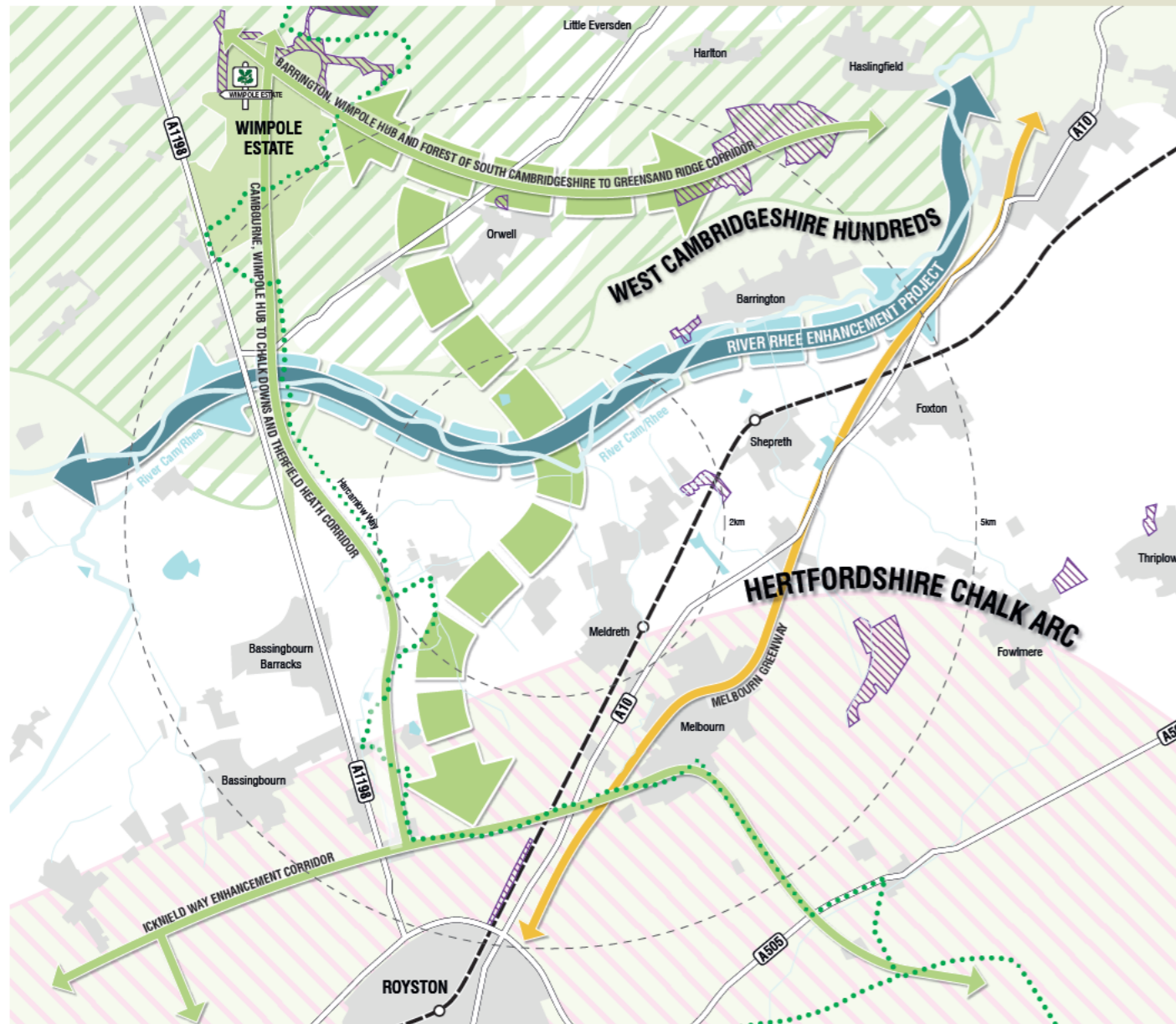


The lakes align with the design narrative for Wetherbrook with a series of mixed-use residential neighborhoods set within environmental infrastructure that contributes to sub regional nature networks and supports a sustainable and water resilient new community. In order for these waterbodies to provide wider benefits, over and above water neutrality, they need to be considered as a resource for multiple means, not just storage capacity. This will include provision of active and natural edges to the lakes and areas that will be inaccessible to people to support creation of resilient wetlands habitats.

Blue & Green infrastructure

Wetherbrook lies in a strategic position where it forms an integral stepping stone between Cambridgeshire and Hertfordshire Strategic Green Infrastructure Network, providing the opportunity to contribute and strengthen the Green Infrastructure initiatives of both counties.

Strategic Green Infrastructure Corridors
This drawing shows the inherited conditions within and beyond Wetherbrook, including the Wimpole Estate, Harcamlow Way, River Cam/Rhee and strategic green infrastructure corridors.



The northern part of Wetherbrook is located within the West Cambridgeshire Woodlands Green Infrastructure target area (Cambridgeshire Green Infrastructure Strategy 2011). This area is characterised by clusters of ancient woodland known as the Cambridgeshire Hundreds. The southern part of Wetherbrook is located within the Chalk Arc, part of the Hertfordshire Strategic Green Infrastructure Plan (2011). Central to Wetherbrook is the River Rhee, a tributary of the River Cam.

Recognising the strong landscape environment, Wetherbrook will support and promote the aspirations for the strategic green infrastructure initiatives and will be able to;

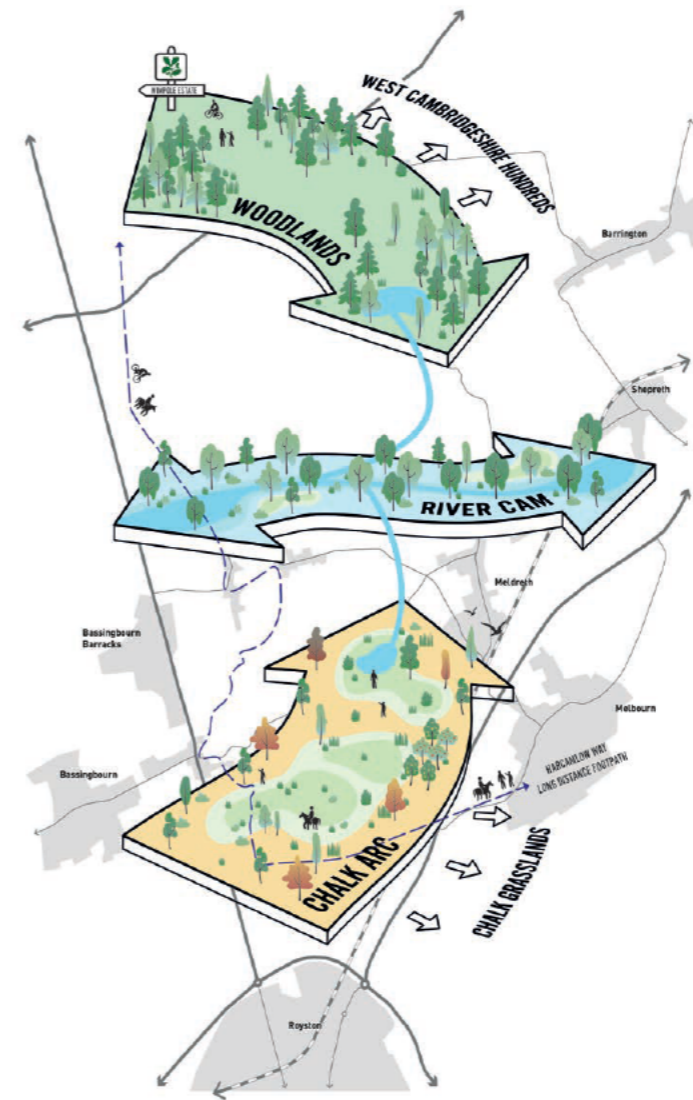
- » Reinstatement tree cover, link woodland and hedgerows and enhance the existing semi-natural habitats, by delivering an interconnected nature recovery network;
- » Enhance the chalk streams and restore natural floodplains;
- » Expand the flower-rich chalk grasslands, introduce shelter belts and occasional beech hangers, as part of the chalklands character in the south

Biodiversity enhancement and habitat creation is at the centre of the green and blue infrastructure approach for Wetherbrook. An analysis and understanding of the ecological assets, habitats and species of interest has been undertaken to inform a set of constraints and opportunities, which in turn has influenced the key moves that have shaped the emerging Green and Blue Infrastructure Framework

Through an evaluation of the ecological assets in conjunction with the ecology of the surrounding context, a strong nature recovery strategy can be developed, that contributes to the targets set within the Doubling Nature Vision, A Vision for the Natural Future of Cambridgeshire & Peterborough in 2050.

The emerging Green and Blue infrastructure Framework will deliver:

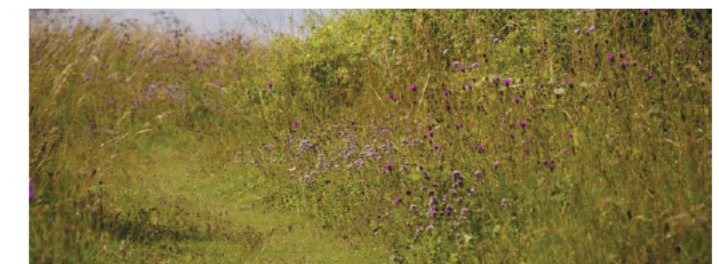
- » Protection and contribution of the barbastelle bat and area of importance (SAC), which is reliant on connected habitats to the primary roost and foraging grounds at Wimpole
- » Retention of significant trees and woodland, wet woodland and flood grazing marsh habitats along the River Cam/Rhee, including the Mel and Whaddon Brook, identified as a Biodiversity Priority Area and a wildlife movement corridor
- » Opportunity to restore natural floodplains and improve functions of riparian corridors to provide natural flood management, improve water quality and recharge the ground water
- » Retention of habitats and corridors that provide important connectivity and the provision of new habitat linkages between key green infrastructure features



Claylands



Riverside meadows



Chalklands

Blue & Green infrastructure

The proposed Green and Blue Infrastructure Framework will:

Prioritise Nature Recovery

Protect, restore, enhance and create nature-rich habitats through a connected multifunctional habitat mosaic, which embraces Wetherbrook's landscape, ecological and historical assets

Deliver Nature Recovery Networks by

- » Drawing reference from the West Cambridgeshire Hundreds to reinstate tree cover;
- » Enhancing the chalk streams and reintroduce floodplain grazing marsh along the River Cam/Rhee as part of a new ecologically led Riverside Parkland;
- » Creation of significant wildlife corridors linking to off-site wildlife corridors facilitating recovery networks;
- » Expanding the flower-rich chalk grasslands to support the Hertfordshire Chalk Hills
- » Delivery of at least 10% biodiversity net gain and onsite habitat creation

Create Climate Resilient Landscapes

Maximise planting (nature-based solutions) for carbon sequestration and storage by delivering a multi functional habitat mosaic which will include extensive areas of retained and new trees and woodland, hedgerows, wet woodland, flood grazing marsh and species rich grasslands habitats for wildlife and enjoyment by new and existing communities;

Prioritise uninterrupted pedestrian and cycle movement, reducing car dependency by putting pedestrians first via safe, dedicated and uninterrupted movement through the Green Infrastructure Network;

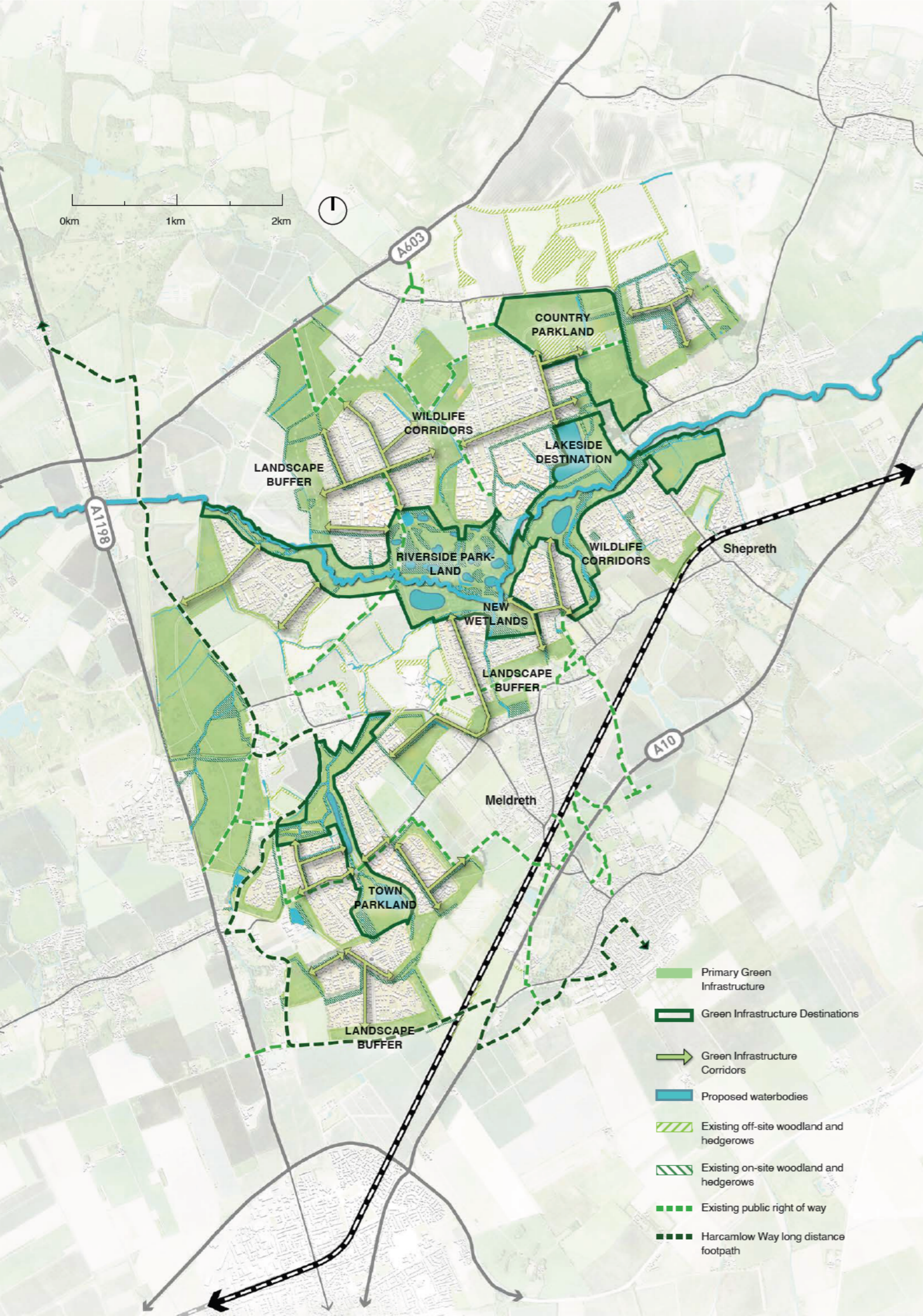
Use and manage water responsibly via a water circular economy that addresses water scarcity within the region and delivers a water neutral development. Harvesting excess storm water and storing in several lakes placed in strategic locations throughout the Green and blue Infrastructure Network.

Grow zero carbon communities

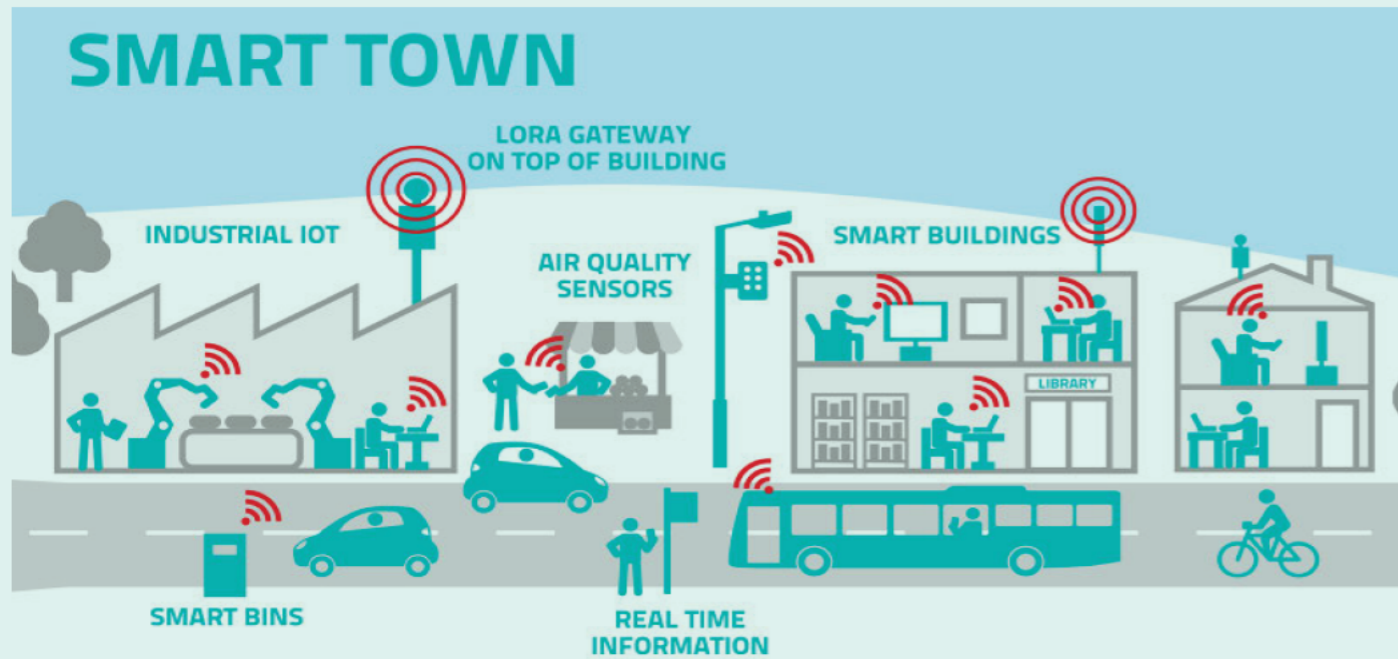
Create walkable communities with nature on your doorstep through a new sustainable movement network within Wetherbrook, opening up access along the River Cam/Rhee, creating new multifunctional green infrastructure corridors referred to as Velolines;

Address regional deficit in accessible natural green open space through the delivery of three new strategic parklands – Riverside parkland, Country parkland and Town parkland for the benefit of existing and new communities to use and enjoy;

Deliver a high-quality landscape setting to support sustainable settlement growth.

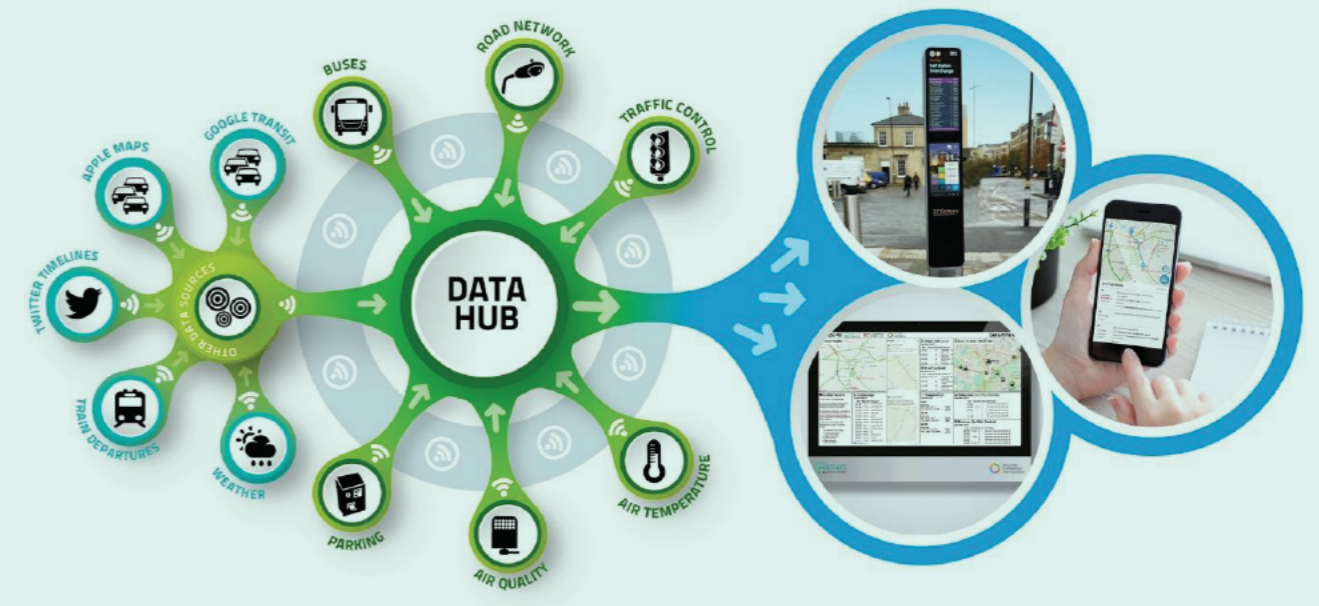


Digital Innovation



How will digital connectivity help the community?

Thakeham has a strong track record in delivering Smart Homes, Net Zero and ESG. We seek to combine smart infrastructure delivery, place-making, smart stewardship and smart ESG delivery to help establish and connect buildings, places and spaces which Wetherbrook is ideally placed to deliver. This can be achieved through:



Digital connectivity

Digital connectivity permeates through all facets of society and is no longer simply about an internet connection. Through the increased advancement, availability and use of technology, people are increasingly reliant on digital connection for health, finance, leisure and business uses.

At Wetherbrook, there is an opportunity to partner with the Government's National Digital Twin programme and Cambridgeshire technology stakeholders to provide digital infrastructure for now and future generations.

Opportunity to create a Digital Twin project

Given the scale of Wetherbrook, there is an opportunity for utilising connected digital twin projects as an exemplar of helping deliver and grow a connected new community. Thakeham, working with delivery partners, is keen to use carefully curated digital twins to plan and deliver the infrastructure, buildings and places which make up the new community, alongside an opportunity for a Stewardship and ESG data trust. This presents the opportunity to integrate with digital planning and digital connectivity initiatives across the Cambridge sub-region.

This will all be created in a 3d platform to help visualise the spaces, places and buildings and their relationship on their surroundings, and make necessary changes to the virtual model without any real-world impacts.

Transport – real-time feedback on public transport infrastructure linking through to live timetables and phone apps with information used to ensure seamless on-ward connections.

Travel options – as well as assessing usage of active travel uses such as e-bikes and e-scooters, there will be future opportunities for autonomous pods as well as movement through the built-up areas.

Utilities – assessment of energy and water usage within individual houses or wider blocks allowing for smart power management.

Waste – more efficient waste management for collection and disposal using modelling to predict waste streams, optimal routes and processing, sensors to optimise collections and re-use of processed material.

Flood management – ability to identify any flood risk issues through detailed modelling and provide appropriate solutions, as well as the ability for flooding infrastructure to learn and predict future events.

Digital health – Ability to provide support for older residents that may not be technically proficient.

Connection availability – ensuring the ability to connect to super-fast broadband or 5G anywhere throughout Wetherbrook, and not just within a home or office environment.

Ability to link to the **IoT** 'Internet of Things' across all spaces (residential, commercial, leisure)

Transport & connectivity



In addition to prioritised active travel, Wetherbrook will deliver a holistic suite of transport options, including public transport, mass transit and Mobility as a Service (MaaS).

Rail

Wetherbrook is well located close to three local rail stations in Shepreth, Meldreth and Foxton, and is within a cyclable distance of Royston station. These stations provide regular services between Cambridge and London, and a range of intermediate stations. Wetherbrook has the potential to connect with the central section of the proposed East West Rail link via Cambridge to the new stations at Cambourne and Tempsford and on to Bedford and Milton Keynes. This link together with the proposed Cambridge South station will further enhance connections Wetherbrook has with the employment, education and leisure opportunities across the wider region.

Super Green Highways

A dedicated network of low carbon transport corridors, accommodating Future Mass Transit (AV shuttles), quality cycling via Velolines and walking.

Mass Transit

The Cambridgeshire Guided Busway currently runs to Trumpington Park and Ride at its southern extent, and, in the future, could run to the Cambridge South West Travel Hub at M11 J11. This high quality segregated bus link would thus be accessible 6km to the north-east of Wetherbrook via the A10 Cycle Route, providing regular connections to destinations across Cambridgeshire, including Cambridge, St Ives and Huntingdon.

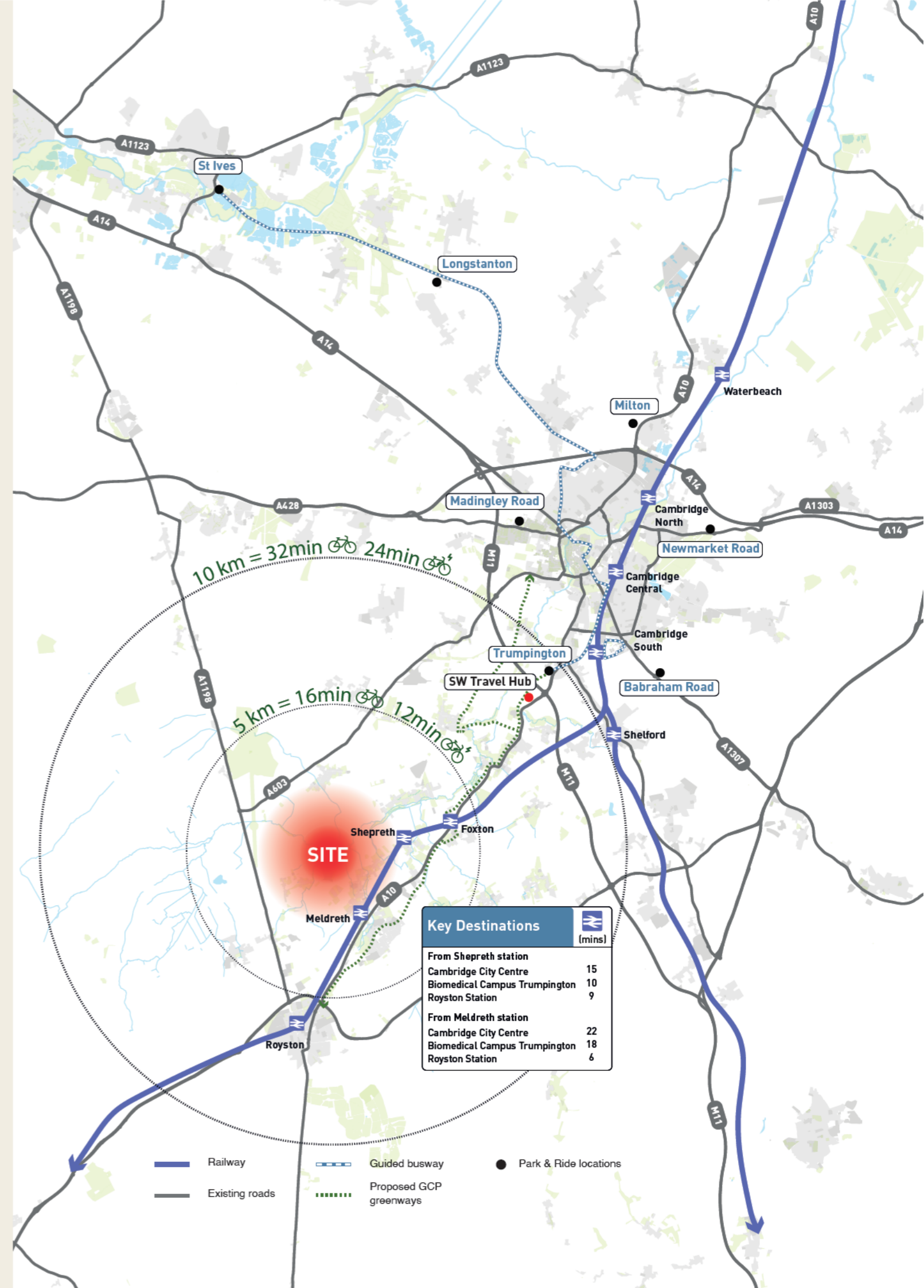
Future Mobility

Smart Cambridge is exploring how Mobility as a Service (MaaS) solutions could offer more sustainable travel options and improve people's lives in Greater Cambridge. Building on the work of Smart Cambridge, MaaS would be integrated into Wetherbrook from the start, with the aim of combining different transport options into a single mobile service, removing the hassle of planning, and providing one-off payments for future users.

Servicing and Private Vehicles

Wetherbrook has excellent links to the highway network, being located proximately to the A10, A1198, A505 and A603 which connect to Cambridge, London and destinations within the Cambridgeshire region and beyond via the M11, A1 and A14. Planned improvements to the A505 and A1 corridors, and the potential development of the Foxton bypass on the A10, will further add to the connectivity of Wetherbrook.

Wetherbrook would be served by a hierarchy of Logistics Hub that would act as freight consolidation centres for Wetherbrook. Here, 'last mile' deliveries would be delivered to community parcel hubs by a fleet of cargo bikes and Zero Emissions Vehicles.



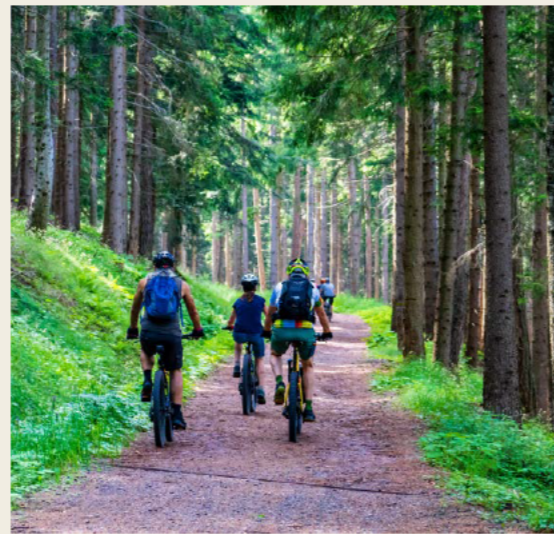
Active Travel

c62%

of trips will be internalised within Wetherbrook

c85%

of internalised trips using sustainable modes



Our approach to transport has a pivotal role to play in helping to realise the full benefits of zero carbon placemaking, ahead of the UK target of Net Zero by 2050.

Setting a forward-thinking Innovative transport strategy for our proposals at Wetherbrook is therefore critical. The proposals will need to deliver much needed infrastructure, supporting non-car modes of transport, in order to positively influence behaviour early on.

A focus on people is central to our approach to movement at Wetherbrook. Understanding how citizens and businesses make decisions and how they will interact with technology provides an opportunity to place the user at the heart of an integrated system.

We will design our built environment and its transport system around users, and allow technology to improve the lives of individuals and society, also supporting healthy communities

- » **Active travel** is the focus of our strategy for movement between residential neighbourhoods and local centres;
- » **Velolines** will provide links within Wetherbrook and to Cambridge and other surrounding areas to enable 46% of trips in the AM peak hour to be by bike;
- » **Pedestrian and Cycle Safety** is essential to encouraging greater levels of activity, and Wetherbrook will be an exemplar of the standards set in Gear Change and LTN 1/20. We will deliver a first-rate public realm and user experience.
- » **New technology** will be key to provide long term transport strategy adaptability;
- » **Data and smart technologies** will inform the design of the public realm and improve transport efficiency;
- » A rich network of demand responsive **AV shuttles** will be serving Wetherbrook;
- » State of the art **mass transit** with bespoke vehicles to meet our specific local requirements will support our commitment to a zero-emission, connected development;
- » The system will link into **mobility hubs** providing a truly integrated approach and create seamless interchange to sustainable modes for external trips.
- » Connectivity to a network of **multi modal mobility hubs**, will allow for smooth interchange to sustainable options for longer journeys;
- » c62% of trips will be internalised within Wetherbrook, with c85% of those using sustainable modes;
- » c60-70% of external trips to work and leisure will be provided by **sustainable modes** to support carbon neutrality;
- » Key cycling and **mass transit interventions** will be delivered to support excellent rail opportunities.

Health & wellbeing



Community empowerment is at the heart of our vision for sustainable placemaking.

Whether creating jobs, homes, or school spaces, we believe that well-planned community-creation has the power to change lives. Wetherbrook is our chance to improve community wellbeing in the district for generations to come.

This community would be a gateway to healthy lifestyles and well-being; from walks across the Cambridgeshire Fens to new cycle routes connecting Cambridge, Royston, Meldreth and Bassingbourn - all integrated with local and regional public transport. There will also be abundant opportunities for healthy, outdoor recreational activities on and around the proposed lakes.

Guided by the NHS Healthy New Town principles and a commitment to zero carbon place-making, we would create a healthy and connected community with integrated and high-quality services without the need for car dependency – delivering a boost to both mental and physical wellbeing. Our legacy would be an inspirational blend of health, wellbeing, productivity and a new benchmark of what sustainable placemaking can provide.



Putting health & wellbeing at the heart of the community.

We will deliver:

- » Acres of new country park, providing a large open green space for recreational use and featuring pedestrian and cycle links to the surrounding footpath and cycle path network with an eco-route connecting to Cambridge City.
- » Working in partnership with Plunkett Foundation, a number of community hubs, set within landscaped areas accommodating community shops, co-working spaces, and other facilities such as community cafés, pharmacies, libraries and health centres.
- » Active travel infrastructure – networks supporting opportunities for cycling and walking across and beyond the site, making it easier and greener for people to get from A to B.
- » New amenities - including new sporting, healthcare, allotments and education facilities.

For further information, contact: info@thakeham.com

Head Office:

