

Monteshire District Design Code

Design Code for Net Zero and Nature Recovery





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This document has been prepared and checked in accordance with ISO 9001:2015

Image 2 on Cover © Mikhail Loskutov

This illustrative design code has been produced to demonstrate how design codes can maximise planning's contribution to delivering net zero and nature recovery, which are essential to tackling the intrinsically interconnected climate and ecological emergencies.

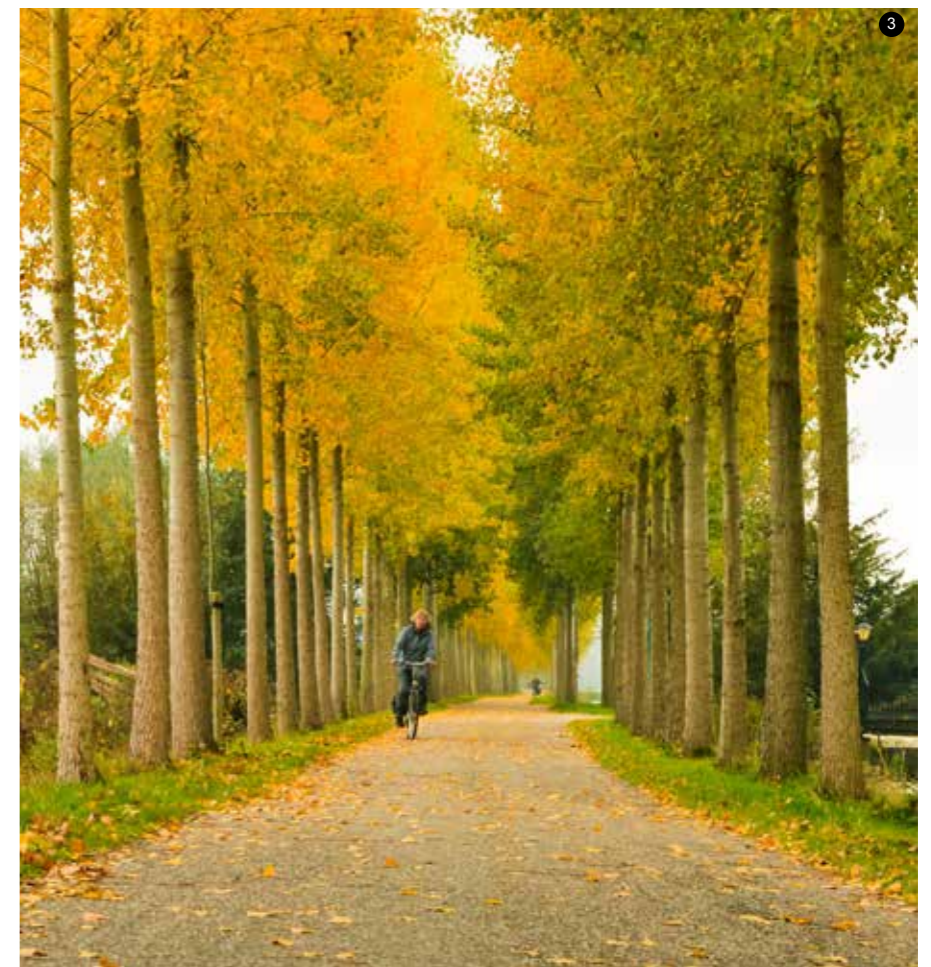
It is written about a fictional place, with data taken from a real-life city and region in England.

The approach is in line with the structure of the National Model Design Code - setting out the analysis, vision and a set of design principles for the District.

Crucially, we introduce a set of Critical Success Factors that demonstrate what good design outcomes looks like - they break down the vision into a set of requirements that should determine site selection at this District scale.

We have not included every recommended element of the National Model Design Code. The analysis and principles focus on Nature Recovery and Net Zero rather than on aesthetic design quality.

In these boxes, you will find key learning points and explanations of the process that sits behind the code.



¹ Countryside accessible for sustainable activities, recreation and engagement with the natural world

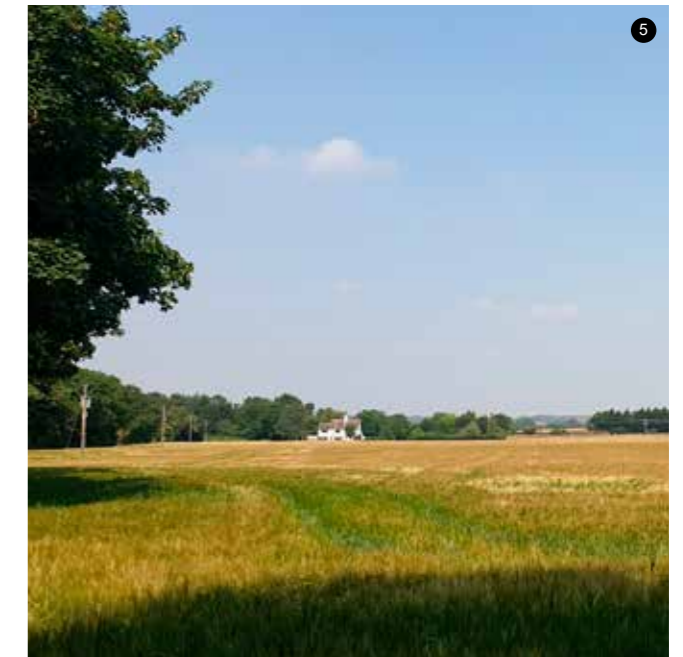
² Our public spaces are vital to community cohesion and our quality of life

© Claire Borley

³ Cycle routes across our urban and rural areas are vital to reducing our carbon footprint but our network is limited

⁴ Rural Montshire has some fantastic landscapes that provide valuable habitats for a range of flora and fauna

⁵ Arable farming is important to the district but intensive land management practices do not contribute to biodiversity



1.0 Scope and Purpose of the Design Code

Monteshire is ambitious for the future. Our officers and elected Members wish to leave the District in a better state than we have inherited. We have worked with our communities, our service leaders and our elected members to create a vision for the future that enhances biodiversity, reverses nature's decline, and achieves net zero carbon emissions. The investment required to make this transition will be funded through sustainably located and well designed growth.

The vision set out in this design code is a shared responsibility. Everyone can help us to achieve it by making daily choices that prioritise the environment and our natural world.

But the policies we set at a District level must enable people to make the sustainable and healthy choices - to walk instead of drive, to power and heat their homes through clean, renewable energy and to live with nature on their doorstep.

In 2019 we declared a climate emergency. Our intention is for the District to be Net Zero by 2040. In 2020 we declared an ecological emergency, recognising the decline in biodiversity across the district.

As the Local Planning Authority, our policies and model for growth will present a unique opportunity to deliver on these ambitions. The changes required to meet these targets are transformational and we have thought carefully alongside our communities about the kind of places we want to leave for future generations.

The vision set out in this design code helps us to achieve the legally binding requirements related to climate and nature recovery whilst also ensuring a resilient, equitable and prosperous society for all.

Our District-wide design code is important because it provides a framework for creating this sustainable, prosperous District with a rich, diverse natural environment. This design code forms part of the Local Plan and sets out the overarching spatial parameters for development in the District.

In developing the code we have taken account of community engagement, neighbourhood plans, and deliverable growth sites put forward by landowners. We have sought to balance sustainable growth with environmental protection by putting in place strict requirements for what development needs to deliver up to 2040.

This code can be used by our communities, officers and Members to assess development proposals and by applicants to guide their approach to delivery of allocated sites.

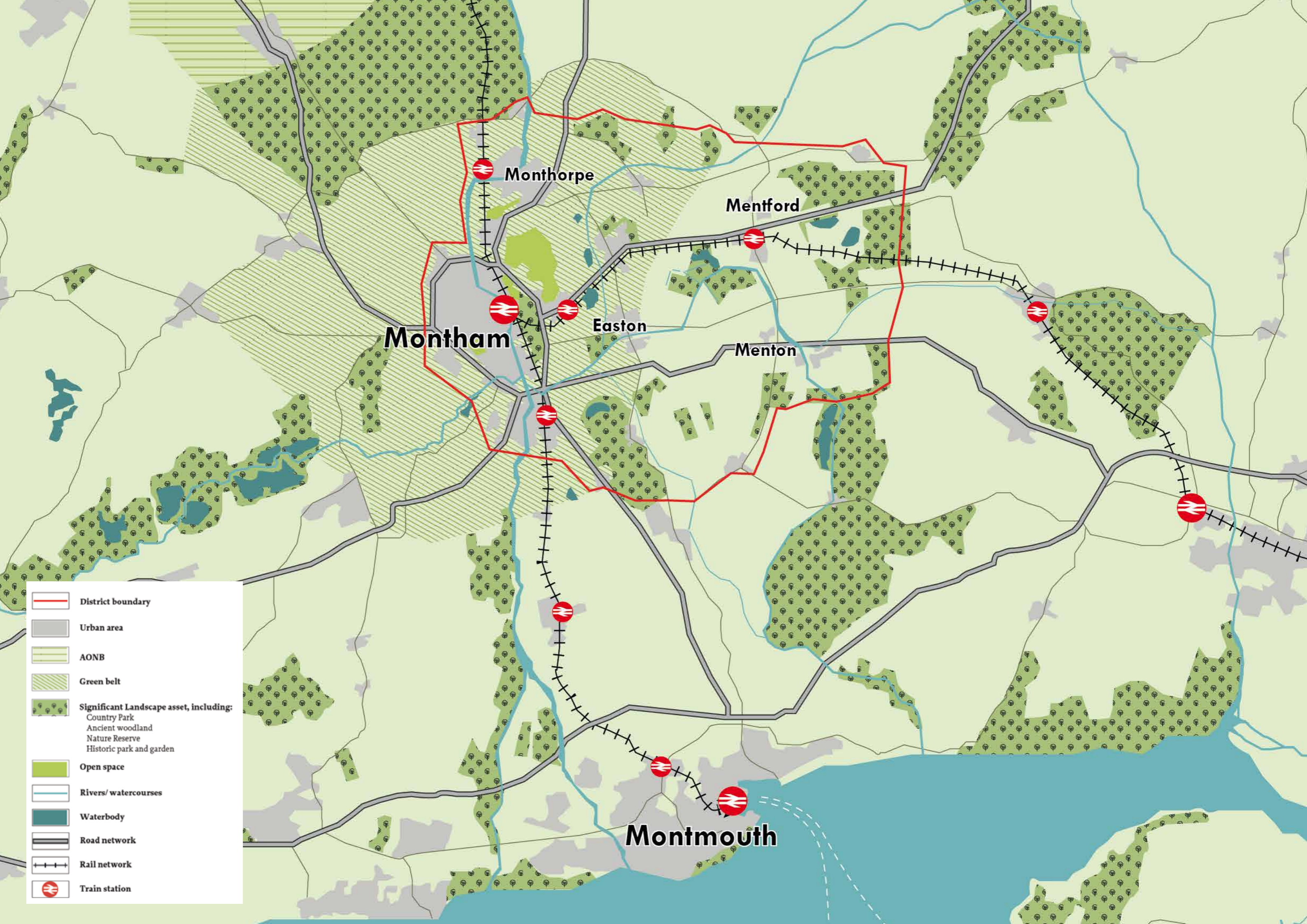
The code identifies growth areas alongside new opportunities for infrastructure and nature recovery. It sets out clear parameters for the local authority and communities to ensure that development is happening in the right place and meets our aspirations for high design quality that delivers against statutory Net Zero and Nature Recovery targets.

It sets out an analysis of baseline conditions that is crucial to identifying the challenges facing the district and enables us to address these challenges through an ambitious vision and a systemic approach to design coding.

The 2040 vision is backed by a series of critical success factors that set out the outcomes required to achieve our vision. These will inform the detailed design of development proposals and regeneration and investment strategies across the district.

The code identifies several strategic growth locations where major development is appropriate. These were identified following a criteria based assessment. Reducing carbon and securing nature recovery were central to this process, and sites that did not achieve these aims were ruled out through the assessment. Each growth location is accompanied by a series of design principles that should be adhered to in the development of individual site design codes and planning applications.

A series of parameter plans set out spatial guidance and design requirements for development across the district. This code is specifically focused on guidance that supports our Net Zero target and Nature Recovery strategy and has been written to integrate these with other planning considerations.



Monthorpe












Mentford

Easton

Menton

Montham

Montmouth

-  District boundary
-  Urban area
-  AONB
-  Green belt
-  Significant Landscape asset, including:
 - Country Park
 - Ancient woodland
 - Nature Reserve
 - Historic park and garden
-  Open space
-  Rivers/ watercourses
-  Waterbody
-  Road network
-  Rail network
-  Train station

2.0. Strategic Context

2.1 Monteshire Today

Monteshire is a large, predominantly rural district characterised by its dispersed settlement pattern of historic towns and villages set within an agricultural and wooded landscape. The district includes national-level designations to protect landscape character and sites of ecological importance, which has enabled the District to retain its rural feel.

The city of Montherley, to the west of the district is a major driver of economic growth, employment, and service provision. The western most part of the district is designated Green Belt to check the unrestricted sprawl of large built-up areas and to assist in safeguarding the countryside from encroachment. Despite this protection, the district in proximity to these urban areas has a more varied character influenced by the incremental expansion of villages throughout the 20th and early 21st centuries, and a legacy of extractive industry, notably gravel and building sand.

Monteshire has a population of approximately 100,000 people, with most settlements between 5,000 and 25,000 people. However, the population has grown strongly in recent years, driven by the strength of the regional economy and proximity to the larger towns and cities to the west. Housing growth has primarily been met through low density urban extensions to existing settlements. However, the district suffers from a chronic shortage of housing and particularly housing that is affordable and meets the needs of all sectors of society. The continued growth of nearby cities and the limited capacity of existing towns and villages to grow further without significantly changing their rural character will put increasing pressure on the district to find new ways of delivering growth over the next 20 years.

The district's rural, dispersed settlement pattern and reliance on larger towns and cities to the west for jobs and services has resulted in a 'hollowing out' of many traditional village centres. There are very high levels of movement across and out of the district to access work, education, healthcare and other amenities. A small number of towns and larger villages continue to thrive and retain small-scale retail, leisure and cultural amenities, drawing on the quality of the historic built environment and architectural vernacular to attract visitors from the local area and outside the district. However, most towns and villages in the district are no longer self contained and do not meet the basic needs of residents outside of the home.

The district's rural, dispersed settlement pattern has also resulted in a weak public transport system, particularly in the centre and east of the district. A cross district bus network provides connections between towns and villages and links these to the larger towns and the city of Montherley to the west. However, services are slow, infrequent, and do not provide the basis of a modern, dependable public transport system. Movement across

the district is therefore defined by high car ownership, and the majority of the journeys are undertaken by private vehicle. This car dependency undermines the quality of the historic urban fabric within villages and has led to pressure on the rural road network and key junctions.

High levels of car ownership, high levels of movement across and out of the district to access work and services, and the poor thermal efficiency and high energy requirements of historic buildings and structures in the district have left Monteshire with a high-carbon footprint.

Annual per person CO2 emissions are 12 tonnes, which is 4 tonnes higher than the national average. Emissions have declined by only 30% since 2005. Based on a 'simple extrapolation' of the annual trajectory of around 2.8% between 2018 and 2019, if nothing changes, Monteshire would achieve net-zero emissions in around 2125 – eighty-five years later than its target of 2040 and seventy-five years later than the UK's legal deadline in 2050.



- | | | | | | |
|--|-------------------------------|--|------------------------|--|----------------------|
| | City, town and village centre | | Secondary road network | | Airport |
| | Urban area | | Cycle routes | | Shopping centre |
| | Green belt | | BRT Route | | Hospital |
| | Woodland | | Local Bus Route | | University |
| | Open space | | BRT Station | | Cathedral |
| | District Boundary | | Park & Ride | | Cultural destination |
| | Primary road network | | Rail network | | Sports ground |
| | Secondary road network | | Train station | | |

2.2 Baseline Maps

Carbon

Montshire has made limited progress in reducing carbon emissions. Based on current trajectories, Montshire will achieve net-zero emissions around 2125 – eighty-five years later than its target of 2040 and seventy-five years later than the UK's legal deadline in 2050.

Character Areas

The District is rural in character with an economy centred around the city of Montham. The dispersed network of towns and villages are desirable places to live, but increasingly fail to meet the housing needs of a growing population and are constrained from further growth by environmental and infrastructure challenges.

Habitat & Nature

Montshire has a range of isolated protected sites and high quality habitats within a wider agricultural landscape. Habitat connectivity is poor. The creation of bigger, better, more resilient and connected habitats is the only way to deliver nature recovery on a landscape-scale and ensure Montshire contributes to nature recovery and species abundance targets in the Environment Act.

Mobility & Transport

Montshire's transport network is uneven. Historic market towns are connected by bus and rail to Montham. However, the majority of rural settlements have limited choice and there is a high proportion of out commuting by private vehicles. Significant trip reduction and mode shift is needed to create more sustainable mobility patterns.

Key Local Amenities

Many High Streets are failing with high vacancy rates in all main towns and villages and the city of Montham. Rural services and amenities are becoming increasingly expensive to provide and in many cases uneconomical to maintain, leading to increased trips by private vehicles.

Topography & Water

Montshire's river courses and valleys have strongly influenced historic development. Investment in the District's drainage and hydrological networks has been limited and favoured agricultural needs. Flooding and pollution incidents are common across the river catchments, with the water quality in many watercourses classed as 'poor'.

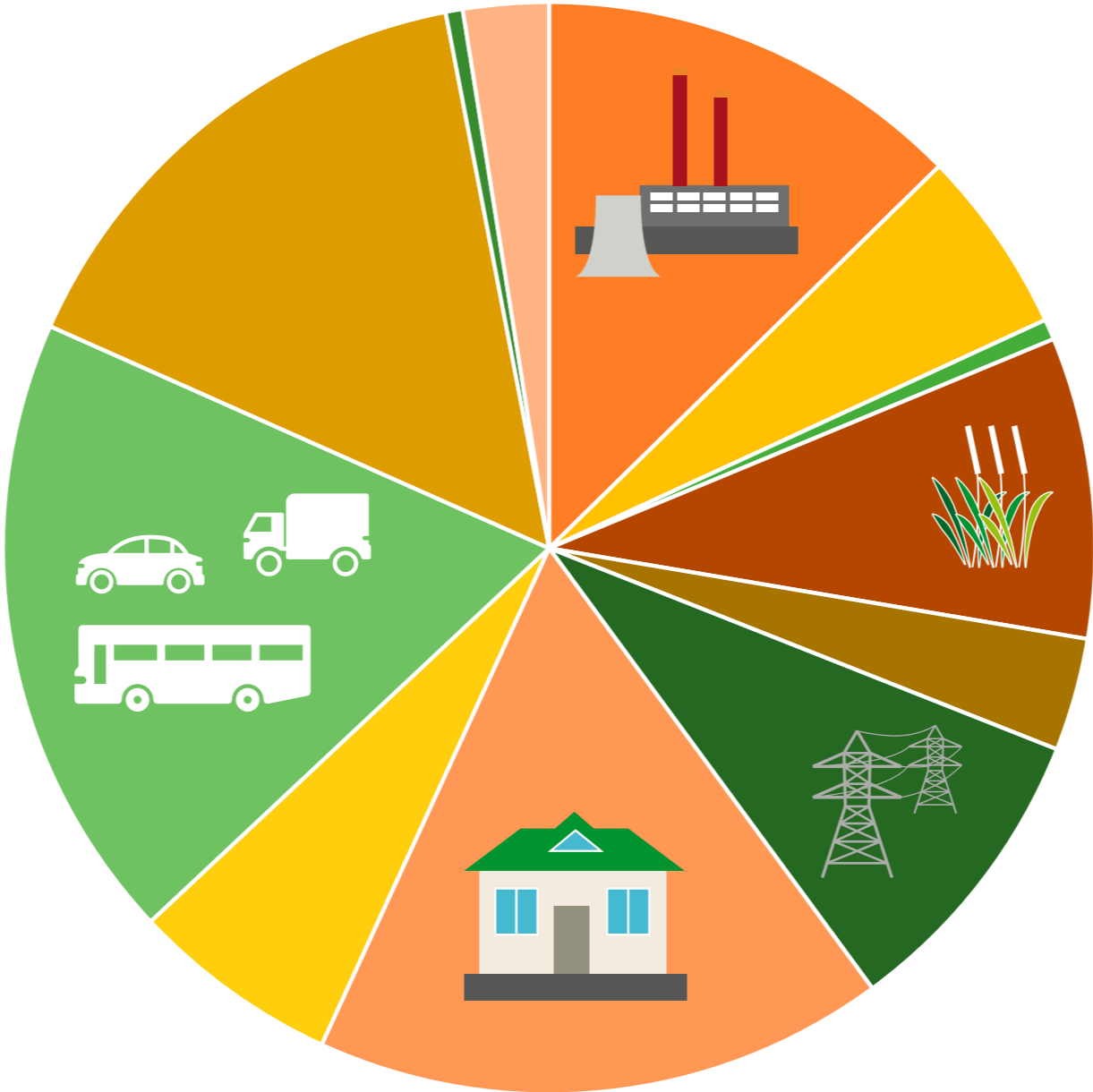
Public Transport Accessibility

Public Transport Accessibility Level (PTAL) ratings have been used to assess accessibility to public transport networks. The majority of the District are unable to reach key public transport nodes on foot or by bike. This indicates significant expansion of public transport networks and connecting walking and cycling infrastructure is required to achieve significant mode shift in support of net zero transport emissions.

Energy, Heat & Power

Only 2% of the energy used in the District is generated locally and only 20% of our total energy mix is from sustainable sources. A historic lack of investment in infrastructure and suitable sites for large-scale generation will mean that growth sites must lead the way in delivering new decentralised renewable energy networks that are viable.

Carbon



- A. Industrial and Commercial Electricity: 12.5%
- B. Industry and Commercial Gas: 5.4%
- C. Large Industrial Installations: 0.6%
- D. Industrial and other Commercial 'Other Fuels': 8.8%
- E. Agriculture: 3.3%
- F. Domestic Electricity: 8.8%
- G. Domestic Gas: 16.7%
- H. Domestic 'Other Fuels': 6.1%
- I. Road Transport (A Roads): 18.4%
- J. Road Transport (Motorways): 0.0%
- K. Road Transport (Minor Roads): 15.1%
- L. Diesel Railways: 0.5%
- M. Transport Other: 2.5%

Key Characteristics

In 2018, Department for Business, Energy & Industrial Strategy (BEIS) data indicates Monteshire's territorial carbon emissions totalled around 550 kilotonnes (kt) of CO₂. The largest emitter is transport which is responsible for around 39% of total emissions, with 90% of these emissions originating from road transport given the district's heavy reliance on car use. Energy use from commercial and industrial buildings (29%) as well as domestic buildings (34%) also make up a sizeable proportion. Monteshire's natural landscape only absorbs around 5% of what is emitted.

Total emissions have decreased by around 30% since 2005, however, the rate of decrease has reduced since 2017 to around 3% per annum only. The largest reductions since 2005 have occurred in the industrial, commercial, and domestic sectors where emissions have declined between 33% and 54%.

Emissions from transport over the same period have only reduced by around 4% and have been rising steadily since 2012 (pre-COVID-19). Forecasting suggests that with no national or local decarbonisation policy action, emissions from transport could continue to rise by a further 10% between 2020 and 2030.

The Centre for Research into Energy Demand Solutions (CREDS) place-based calculator, which estimates non-territorial emissions across all activities per person, indicates that average emissions per person in Monteshire is around 12 tonnes. This is around 4 tonnes higher than the England average.

Monteshire Council has declared a Climate Emergency and is committed to being a carbon neutral organisation by 2030 and to achieve net zero across the whole district by 2040.

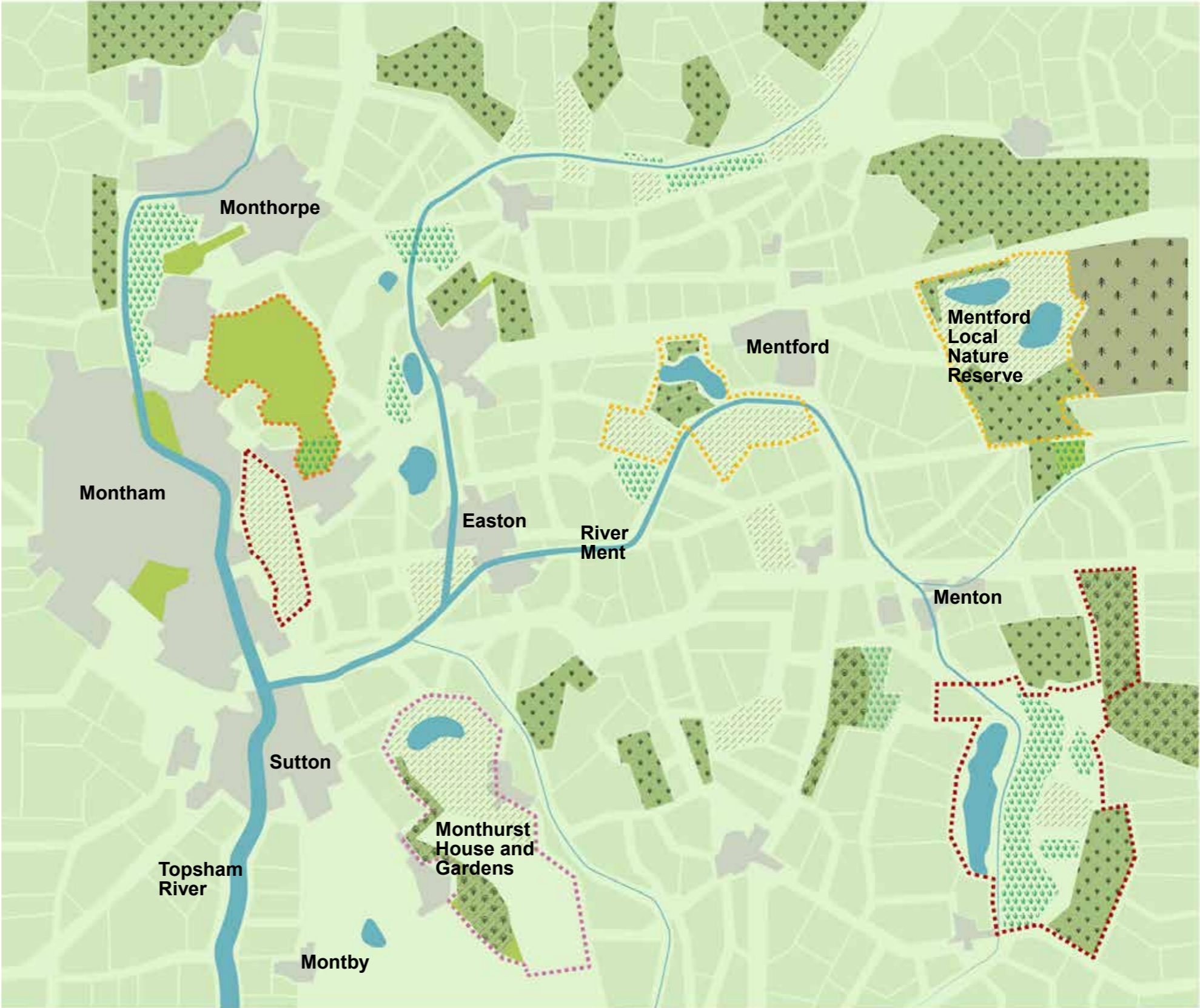
The council has also adopted a Carbon Action Plan to set a framework for the council's priorities in responding to the climate emergency. This includes setting methodological parameters for the assessment of carbon emissions, and considering the role of planning and maximising its contribution to net-zero emissions. The plans are the first stage of an iterative strategy to help Monteshire reach net-zero emissions by 2040, and will be subject to review every 5 years. The next update is due in 2025.

Analysis by the Tyndall Centre for Climate Change Research indicates that Monteshire should stay within a maximum cumulative carbon dioxide emissions budget of 3.7 million tonnes of CO₂ for the period 2020 to 2100. This would require annual emissions reductions from energy of at least 14% to achieve its 2040 target.








Key Challenges

- Annual reductions in carbon emissions have been significantly below what is required to meet the districts' decarbonisation targets
- The average carbon emissions per person generated is 12 tonnes which is 4 tonnes higher than the England average
- Emissions from sectors including transport and agriculture are continuing to rise
- The impact of development and land use planning on Monteshire's carbon emissions and emerging net zero pathway is not fully understood
- The district does not have a preferred methodology for calculating the carbon impacts of development and considering optimal approaches to mitigation

Habitats & Nature



Key Characteristics

-  Mixed Deciduous Woodland
-  Ancient woodland
-  Commercial woodland
-  Grassland
-  Priority Habitats
Marsh / wetland
-  Open spaces/parks
-  SSSI
-  Local Nature Reserve
-  Historic parks/Gardens
-  County Wildlife Sites

Monteshire comprises a typical suite of habitats including designated sites, national and local priority habitats, irreplaceable habitats, and common and widespread habitats of agricultural land, urban environments and commercial forestry. The district's Local Nature Recovery Strategy (LNRS) has been prepared with neighbouring authorities and is based upon the principles set out in the Lawton Review: the creation of new, bigger, better, and more joined up habitats. The LNRS divides the district into Core Nature Areas, Nature Recovery Areas and Other Nature Areas.

Core Nature Areas are already rich in biodiversity and wildlife and must be protected. They include designated sites and priority and irreplaceable habitats. Monteshires' Core Nature Areas include:

Two Sites of Special Scientific interest (SSSI) - comprising species-rich floodplain meadows, open water and marsh, fen and wet woodland habitats associated old former sand and gravel ancient broadleaved woodland. Of these, 90% of the SSSI units are considered to be favourable or unfavourable but recovering condition. The remaining 10% are considered to be in unfavourable condition due to lack of appropriate grazing management and commercial poplar plantation.

Two Local Nature Reserves – comprising a traditional floodplain grazing marsh and a complex of plantation poplar woodland, open water and grassland on a former sand and gravel quarry.

Fifteen County Wildlife Sites – comprising floodplain meadow and marsh, a stretch of the lower middle river, neutral meadow, ancient species-rich hedgerow, remnant heathland and acid grassland, acid oak woodland and ancient broadleaved woodland. Of these 70% are in good condition and appropriate management, 30% are unmanaged or in inappropriate management.

Priority habitats include replanted coniferous ancient woodland, floodplain grassland and marsh, acid grassland and heathland, open water, ancient species-rich hedgerow, unimproved and semi-improved neutral grassland.

Nature Recovery Areas (NRA) cover a larger area and offer scope for landscape-scale habitat creation and restoration that can contribute significantly to nature recovery, including through expanding and connecting Core Nature Areas. They should be protected and enhanced through strategic interventions to improve land management and create and restore habitats. The LNRS identifies three NRAs: Lower Middle Heights, Lower Middle Marshes, and Adder Hill.

The remaining landscape of the district is designated as 'Other Nature Areas'. These areas are not the most wildlife rich habitats and have more limited potential to enhance habitat connectivity. However, they still contribute to the overall biodiversity resource and can be enhanced to support the wider objectives of the Nature Recovery Strategy.

The Nature Recovery Strategy sets quantitative and qualitative targets for habitat restoration and creation for priority habitats and species.

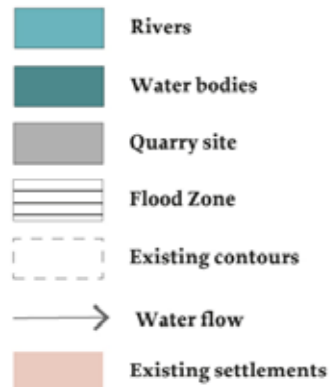
- ### Key Challenges
- Monteshire has lost a significant proportion of its biodiversity resource and is nature depleted
 - Existing wildlife-rich habitats and designated sites are fragmented, with poor habitat connectivity on a local and regional scale
 - 10% of SSSI's are in unfavourable condition with limited monitoring, resulting in incomplete knowledge of the nature baseline in the most sensitive habitats
 - 30% of County Wildlife Sites for ecological protection that continue to be monitored are unmanaged or inappropriately managed
 - Development, agriculture and destructive land management continues resulting in habitat loss
 - Successful delivery of LNRS requires integration of outcomes with statutory planning and development frameworks



Topography & Water



Key Characteristics



There are two main rivers and their tributaries that flow through the district. The majority of the district is in the catchment of the Topsham River, which flows north-south through the District and includes modified stretches through the urban area of Montham.

Its tributaries include the River Ment which flows through a wide, flat valley running east-west across the centre of the district connecting the villages of Mentford and Menton.

The rivers have strongly influenced the development of the district. Most settlements are located along the river valleys. However, some smaller historic settlements are located on the hilltops. The majority of land within the flood plain and the wider river catchment is comprised of agricultural fields. Historic clearance of upland vegetation and woodland for agriculture has created fast draining catchments areas with increased risk of surface water and fluvial flooding.

The drainage system across much of the district is antiquated and not responsive to modern ecological concerns. At times of heavy rainfall, discharges of untreated sewage and agricultural runoff contribute to poor water quality in watercourses across the river catchments. In recent years, both have failed to meet water quality directive targets and have experienced significant water pollution incidents.

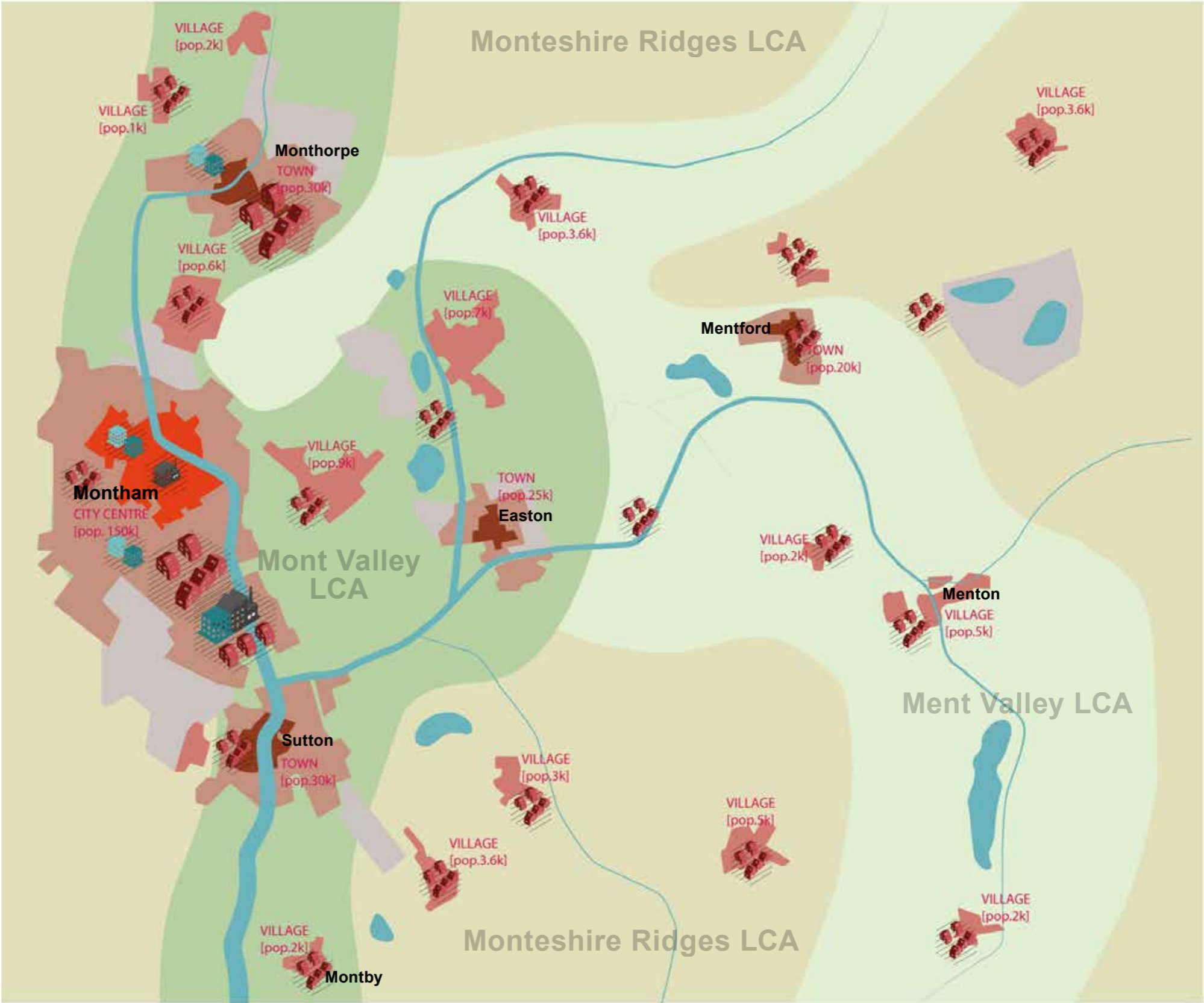
A former quarry in the east of the district has left a legacy of artificial deep ponds and lakes. The LNRS has identified these as potentially valuable resources for habitat creation. However, they currently present a danger to life due to limited understanding of underwater currents and potential contamination.

Key Challenges

- Poor water quality in rivers and watercourses due to discharge of untreated sewage and agricultural runoff at times of heavy rainfall
- Fast draining river catchments lead to increased risk of surface water and fluvial flooding
- Legacy of contaminated lakes and ponds in former quarry workings require remediation and investment to realise ecological potential
- Frequency and severity of flooding and water pollution incidents expected to become worse due to climate change and associated extreme weather events



Local Urban Character Areas



Key Characteristics

-  City Centre
-  Town Centre
-  Suburbs
-  Villages
-  Landscape character areas
-  Industrial

The density and built form of Montshire reflects its largely rural character and historic concentration of growth and development in the west of the district, close to Montham. Montham has a thriving mixed-use centre, focused around the train station which connects the city with the wider region as well as local towns and villages.

Montham grew substantially from the 1950s to the early 2000s with a series of low density urban extensions. These suburbs are characterised by uniform densities and loosely defined local centres with a limited mix of uses. A preponderance of cul-de-sacs and private estate roads result in a 'closed' character that has little relationship with the rest of the city. Street frontages and enclosure ratios in newer developments continue to be defined by car parking and utilities infrastructure, resulting in a 'nature free' streetscape and a poor environment for walking, cycling and play.

Montshire's network of smaller market towns and villages are focussed on their historic high streets, with dense, compact centres containing a mix of uses within walkable distance for most residents. However, smaller towns and villages are struggling with high street decline, with high vacancy rates and a loss of services to larger towns and the city of Montham.

Many towns and villages have a small industrial edge, historically linked to agrifood production and support for the wider agricultural hinterland. Much of this land is derelict or under utilised, providing opportunities for redevelopment to address local housing need and avoid further loss of undeveloped land and habitats. However, some long-vacant sites have been identified as having potential biodiversity value.

Key Challenges

- Legacy of modern development that is low density and has not considered how character, urban form and mix of uses contribute to carbon emissions or delivery of nature recovery objectives
- High street decline in many towns and villages is increasing the need to travel to access shops, services and facilities, with negative impact on carbon emissions
- Limited capacity of villages to grow putting development pressure on previously developed sites that are of biodiversity value

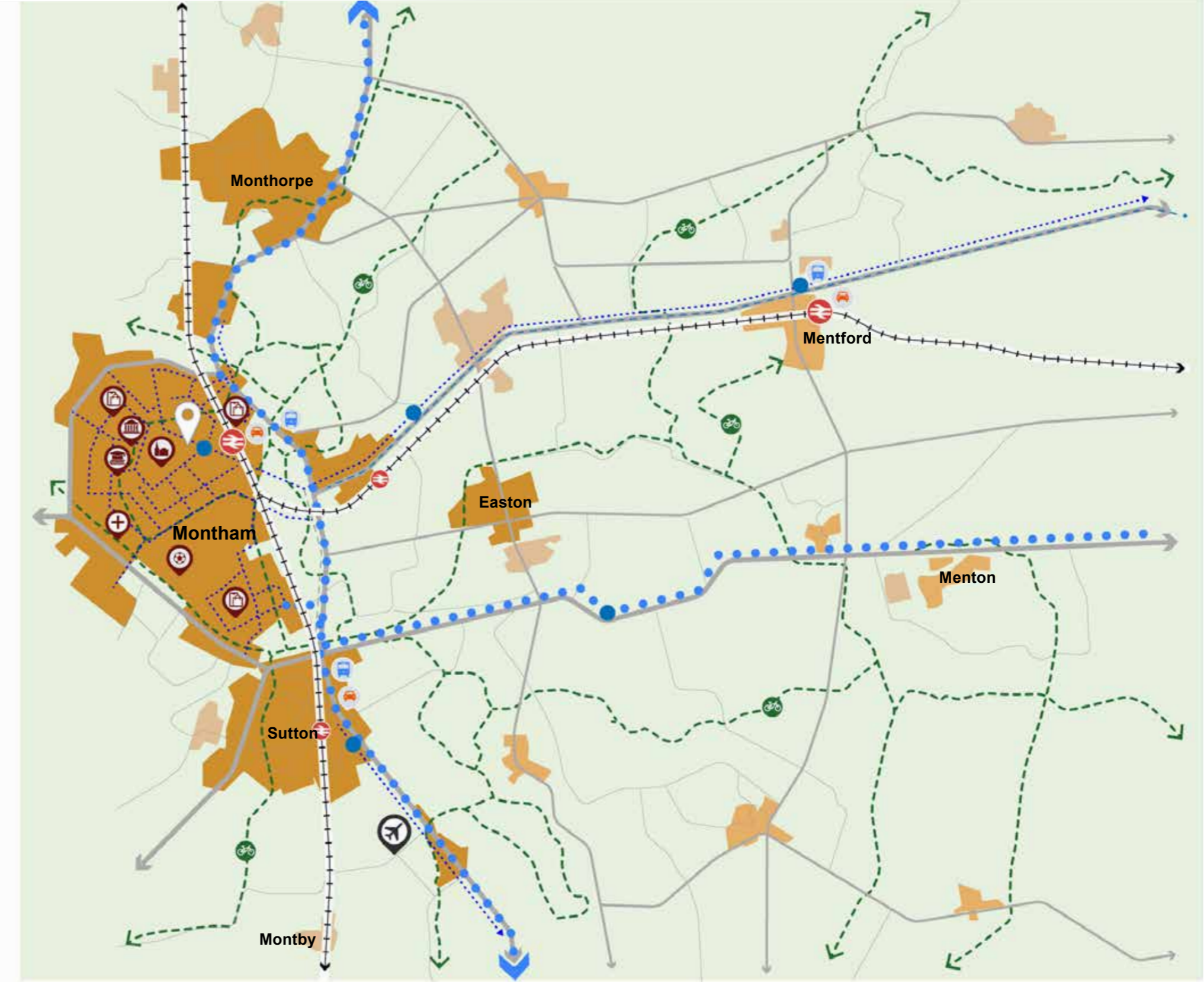
Top Tip


















This is a simplified version of character area mapping. Defining character areas is a great opportunity to engage communities and officers from across a Local Authority to understand the social, historical, aesthetic and cultural boundaries that define a certain 'character' of development that is prevalent to your District.



Mobility & Transport



Key Characteristics

-  High accessibility to cycle routes
-  Medium accessibility to cycle routes
-  Low accessibility to cycle routes
-  City Centre
-  Urban and suburban bus network
-  Primary road network
-  Secondary road network
-  Tertiary road network
-  Cycle routes
-  BRT Route
-  BRT Station
-  Park & Ride
-  Rail network
-  Train station
-  Airport

Montshire historically developed around the rural road network that connects small market towns to the growing city of Montham, and it has a dispersed settlement pattern.

Montshire has a weak public transport system and relatively low patronage levels with census data suggesting only around 7% of people choosing to commute by bus or rail. Most settlements are not served by railway stations. A cross district bus network connects towns, villages and the city of Montham, but services are slow, infrequent, and unreliable. This is particularly the case for those who live furthest away from the main east/west and north/south arterial corridors.

Away from arterial corridors, most towns and villages are poorly served by public transport due to the limited frequency and poor reliability of services. The lack of good quality provision coupled with high street decline and suburban development have contributed to heavy reliance on private cars for most journeys for work and leisure.

Provision for walking and cycling is limited, and the proportion of journeys made by active modes is below the national average. Only around 4% of people choose to cycle to work, and 11% walk. Local surveys indicate that safety is a key barrier to increasing cycling, and more people would cycle if safe infrastructure was provided. There is currently no district-wide integrated cycle network connecting major trip generators with service users, and the majority of routes outside the city of Montham are 'on road', without segregated cycleways or adequate shared path provision.

Movement across the district is therefore heavily car dependent, with around 90% of homes having access to at least one car and around 76% of commuting journeys undertaken by private vehicle. Electric vehicle charge infrastructure is limited to a small number of town centres. Department for Transport (DfT) car registration data suggests only 1.5% of registered cars in Montshire are classified as Ultra Low Emission, which is broadly aligned with the national average. The district's car dependency has negative consequences on carbon emissions, congestion, road safety, air quality, and the promotion of alternative travel modes.

Key Challenges

- Transport emissions are the largest single contributor to CO2 emissions in the district, representing around 40% of total territorial CO2 emissions
- 90% of territorial transport emissions are from road transport, reflecting the very high proportion of journeys undertaken by private car
- High street decline and poor digital connectivity in many towns and villages contributes to high levels of out commuting and trips to access work and services
- Walking and cycling infrastructure across the district is poor, with safety a major barrier to increased uptake of cycling
- Many areas of the district are not served by public transport
- In areas with public transport, the poor frequency and reliability of services means it is not a credible alternative to the private car for most journeys
- Limited public electric vehicle charging provision and low levels of registered Ultra Low Emission Vehicles






Public Transport Accessibility



Key Characteristics

-  Road network
-  BRT Route
-  BRT Station
-  Park & Ride
-  Rail network
-  Train station
-  Airport

Public Transport Accessibility Level

-  Low
-  Moderate
-  High

Public Transport Accessibility Level (PTAL) ratings demonstrate the patchy provision of public transport across Montshire, with areas closer to arterial corridors and railway lines served best.

Most areas of the district have low PTAL scores, reflecting their distance from the nearest train stations and bus stops. Analysis has shown that increasing public transport provision and enabling people to walk and cycle for the first and last mile to public transport stops could substantially improve PTAL scores across a wider area of the district. However, the district lacks plans for an integrated cycle network and safe, direct, off-road connections in rural areas are more difficult to deliver.

The low observed patronage of public transport indicates that areas with a high PTAL score do not offer credible public transport in practice. Local surveys suggest this is due to the poor frequency and reliability of services, and the high cost of travel.

Top Tip

Public Transport Accessibility Level ratings have been used to demonstrate in a simple, objective and visual way, people's access to bus and rail.

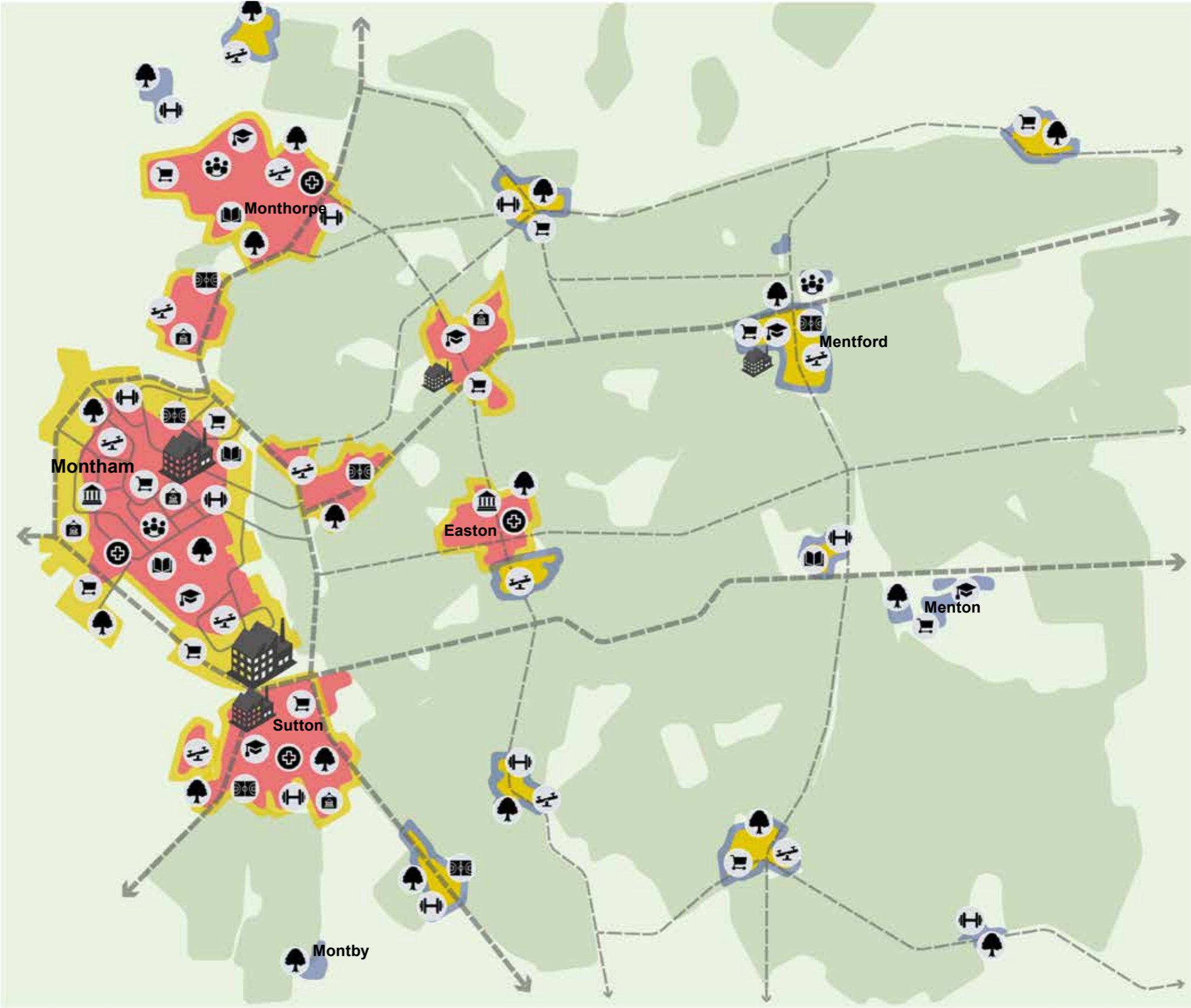





Key Challenges

- Limited public transport networks, with most areas of Montshire not accessible via bus or train services
- Lack of options for travelling sustainably over first and last mile to public transport stops and key transport nodes
- Low patronage of public transport, even in areas with a high PTAL score is largely due to poor frequency and reliability of services, and the high cost of travel



Key Local Amenities



-  Health centre
 -  School
 -  Community centre
 -  Fitness centre
 -  Public library
 -  Park
 -  Sports fields
 -  Museum
 -  Playground
 -  Exhibition centre
 -  Supermarket
 -  Key employment areas
 -  High walk score
(5+ amenities in 20 minutes)
 -  Medium walk score
(3-4 amenities in 20 minutes)
 -  Low walk score
(1-2 amenities in 20 minutes)
-  N
-  0 2 km

Key Characteristics

Monteshire's main towns and city centre are changing. Recent years have witnessed significant closures of shops and public services due to the rise of online and app based commerce, and a trend for consolidation of town centre uses in a smaller number of larger centres. The COVID-19 pandemic has exacerbated these trends, with significant uncertainty over the long term impact on town centres. Many centres are struggling with high long term vacancy rates, although the centre of Montham and larger towns continue to thrive.

Many smaller settlements and villages have lost all their retail and public service provision, and a number of leisure businesses such as pubs and guest houses have closed since the COVID-19 pandemic. Often, a single shop, garage, or pub is the last remnant of the high street and is considered vital to the continued identity of the village and the vitality of the local community.

Smaller settlements struggle to plan for the future of the high street as they lack the critical mass of people needed to ensure many services remain viable, but are constrained in their ability to grow due to environmental and infrastructure constraints.

The rural and dispersed nature of Monteshire results in longer trips to access key services where local provision is no longer available

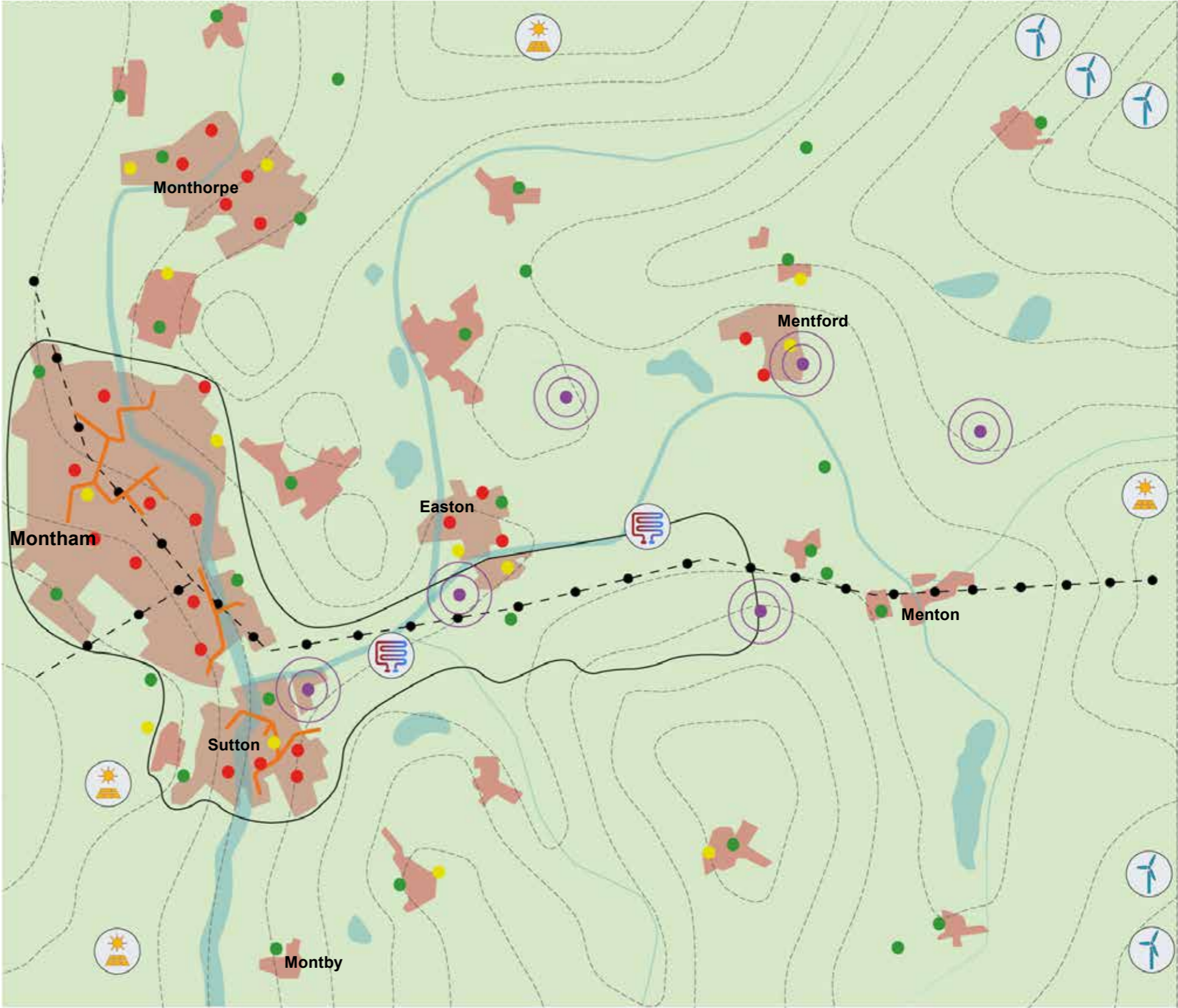
Top Tip

The type and range of public services is critical to understanding how sustainable a neighbourhood or community is. By ensuring that people can access their daily needs - supermarket or village shop, school, GP etc. - within a 15 min walk or cycle we can significantly reduce the amount of car journeys.

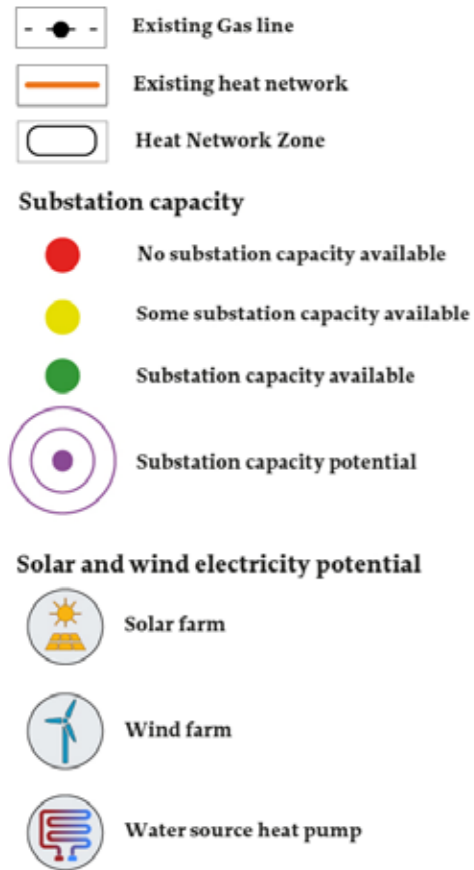
Key Challenges

- Significant loss of local service provision and retail has led to a hollowing out of many settlements
- People must travel further and for longer to access services when local provision closes
- The COVID-19 pandemic has accelerated the decline of some sectors and continues to create uncertainty in planning for regeneration and renewal

Energy, Heat & Power



Key Characteristics



There has been insufficient investment in renewable energy, heat and power infrastructure in Montshire over the last 20 years. A new wind farm has been built to the North East of the district, and small scale solar farms have further diversified the energy mix and started the process of energy decentralisation. Many have been supported by a community owned energy cooperative. However, the scale of these investments meets only 20% of Montshire's current electricity demand. Without significant additional capacity to meet the needs of new development, this percentage will decline further over coming years.

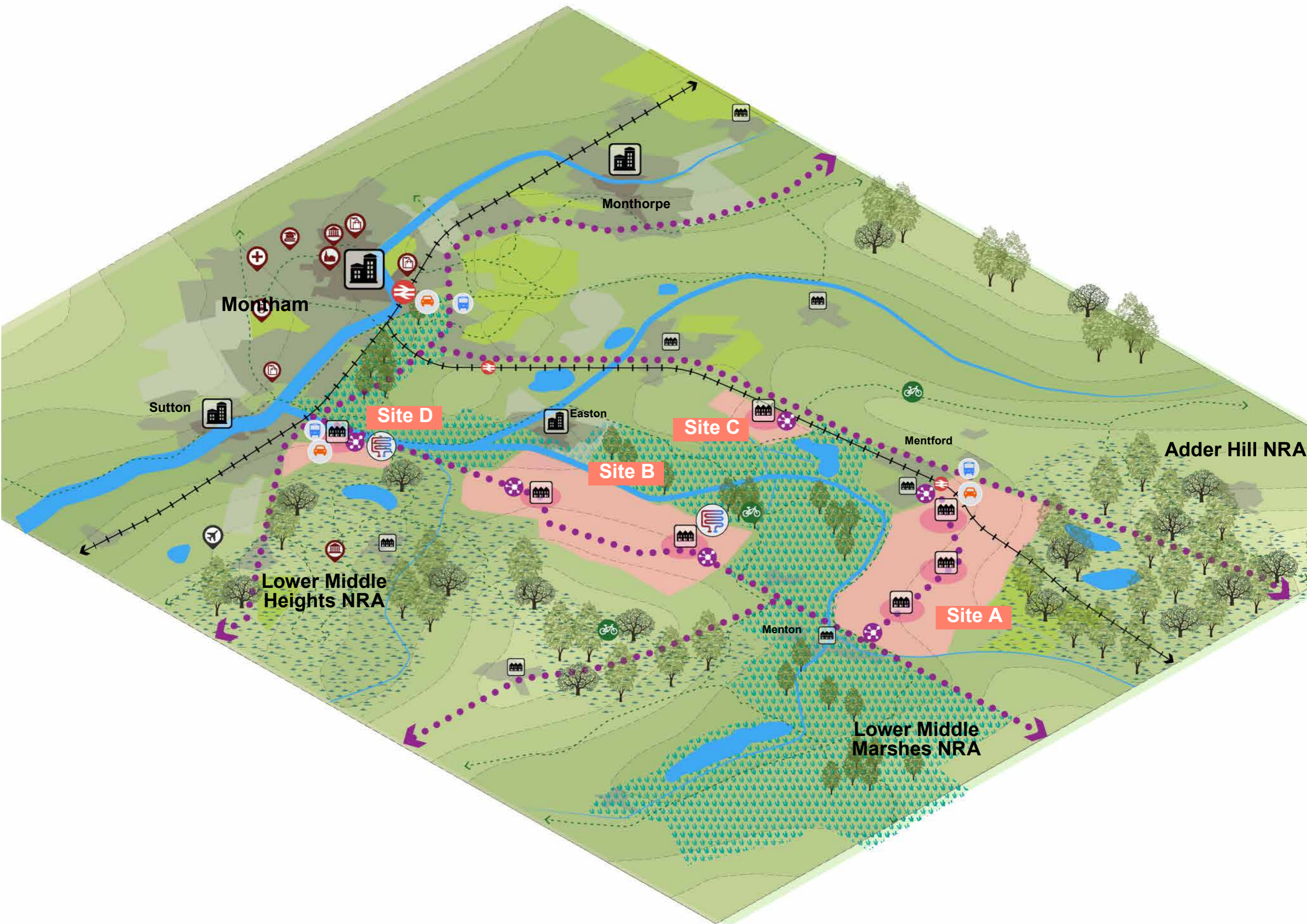
Most buildings in Montshire use fossil fuel-based heating sources such as gas boilers, with the most recent annual demand for gas equivalent to around 700 GWh. Partly due to the district's rural nature, there are also around 15% of properties which are off-grid. The majority of these properties rely on carbon-intensive sources of fuel for their heating, such as domestic heating oil, coal and timber. Although there is an emerging district heat network in Montham and a larger 'Heat Network Zone' has been identified in the Local Area Energy Plan', very few buildings within the district benefit from low carbon heating. This means that heating is currently responsible for a high proportion of carbon emissions.

There is currently limited capacity at substations in the local electricity grid to accommodate allocated growth and reinforcement works are planned. However, future rapid changes to accommodate both growth and additional demand from heating and transport will mean the network will struggle to cope unless a more proactive and co-ordinated approach to future network planning is pursued.

Key Challenges

- Montshire does not generate enough energy to meet its own needs and is reliant on energy imports from outside the district
- Majority of homes and businesses are heated via gas boilers or other non-renewable fuels
- The district's stock of buildings have poor thermal and energy efficiency arising from their age
- Substantial investment is needed in the electricity grid to accommodate rapidly increasing demand and the decarbonisation of the local energy network





Monkham

Monthorpe

Sutton

Site D

Easton

Site C

Mentford

Adder Hill NRA

Site B

Lower Middle Heights NRA

Site A

Menton

Lower Middle Marshes NRA

3.0

The 2040 Vision

By 2040, Monteshire will be a Net-Zero district and have succeeded in halting and reversing nature's decline. We will invest in active and public transport networks, zero carbon energy networks and our community's health and wellbeing. We will ensure that everyone has easy access to nature in order to make our towns and communities better places to live, work and play. We will do this by integrating nature in development and protecting, enhancing and connecting key nature sites across the district. This includes through habitat creation and restoration on over 50ha of land within 3 Nature Recovery Areas.

During the plan period, the District will retain its historic character of dispersed settlements within a rich landscape setting. The population of the District is expected to grow to 115,000 in the plan period.

With Montham's physical growth constrained by Green Belt the district will benefit from limited regional growth on key public transport corridors radiating out from the city. Growth sites have been chosen to be of sufficient size to enable investment in active travel and nature recovery and be largely self-contained, minimising external trips.

This growth includes one major new site where we will see the development of the Ebsham garden village. Located on the main train line that will connect it with Montham, this new settlement will benefit from fast connections into the city. Ebsham will be a net-zero development, built around the concept of 15 minute city principles, linked to the public transport network. Nature will be at the heart of the village's identity through the integration of habitats and ecological features into all streets, open spaces and the fabric of buildings. Neighbourhoods will incorporate a variety of flexible commercial and community uses to suit local needs, with a target of 1 job for every household and all local amenities accessible via a short walk or cycle.

Private car ownership in Ebsham will be limited by a range of policies and design interventions that prioritise and encourage walking and cycling, with reduced parking and controlled access for private vehicles.

The link between growth areas and public transport is critical to our future resilience and our commitment to achieving Net Zero by 2040. Housing growth will drive investment and use of public transport supporting the development of a modern, reliable service.

Our town and village centres will be allowed limited growth to support the consolidation of existing settlements, ensuring population density and mix is capable of maintaining core services such as GP surgery's, primary schools and village shops and pubs. New homes will enable younger residents to get on the housing ladder within rural communities. They will ensure that older generations can continue to live in the heart of their communities and new families can move to the area to support local services.

Together, these site allocations will enable 8,500 net zero carbon homes to be built within the plan period that cater to a broad range of our population.

Our towns, villages and the new garden village of Ebsham will each be served by co-working hubs reducing the need for longer commutes.

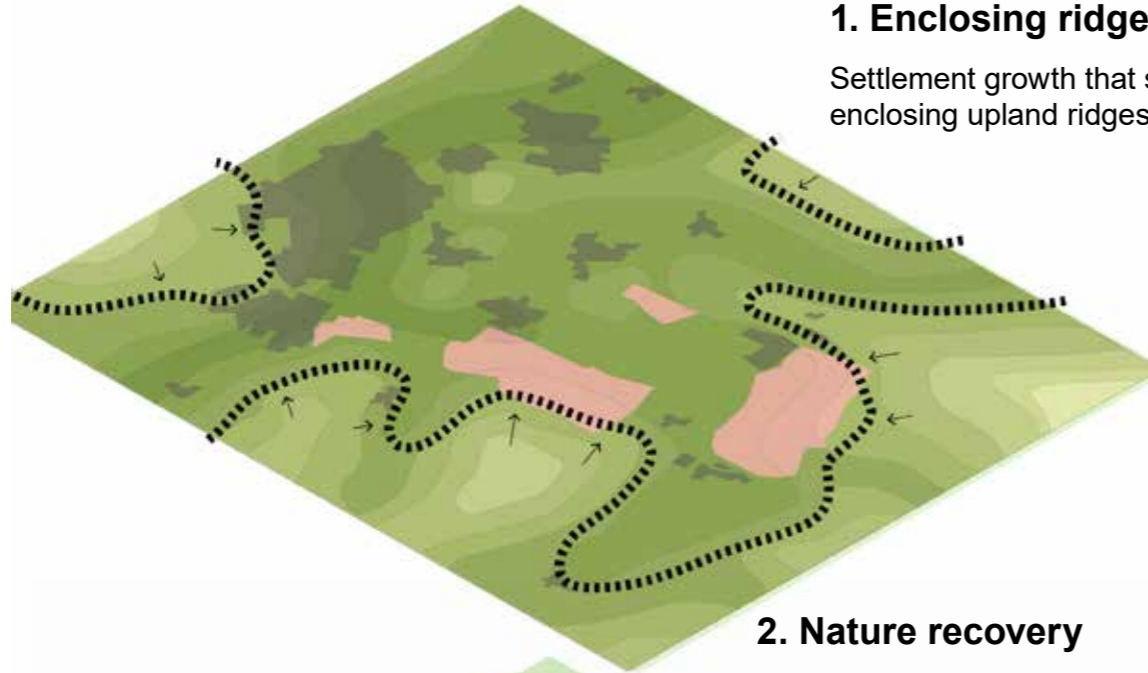
This network of new and old settlements will sit within a resilient, valued landscape with an increased coverage of recognised sites for nature. Monteshire will go beyond the obligations set out in the Environment Act and be a leader in nature recovery, species abundance and the adoption of nature-based solutions. Nature will flourish at all scales, from the pollinators on the street to the skylarks in the fields. And just as nature will be given space to recover, so will our people, with accessible green spaces that support healthy lifestyles and interaction with the natural world.

We are committed to hitting our target of net zero emissions by 2040, and will ensure that all new growth is consistent with this aim and is supported by comprehensive Whole Life Carbon Assessments with ongoing monitoring and evaluation to understand operational emissions and how these can be reduced further.

Top Tip



The vision should be formed through dialogue and collaboration across the council and with the widest possible range of public, private and third sector stakeholders. Stakeholders should include all those who will have a role in delivering the vision, including the local community, landowners and developers as well as specialist council officers, elected officials and statutory consultees.



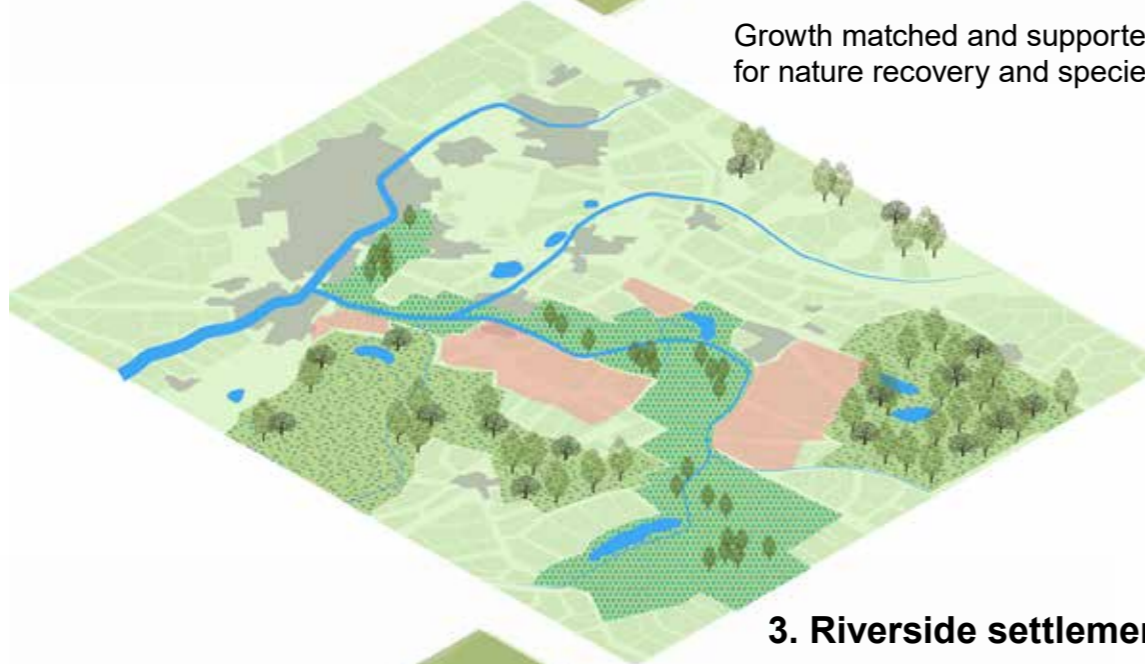
1. Enclosing ridges

Settlement growth that sits within the enclosing upland ridges.



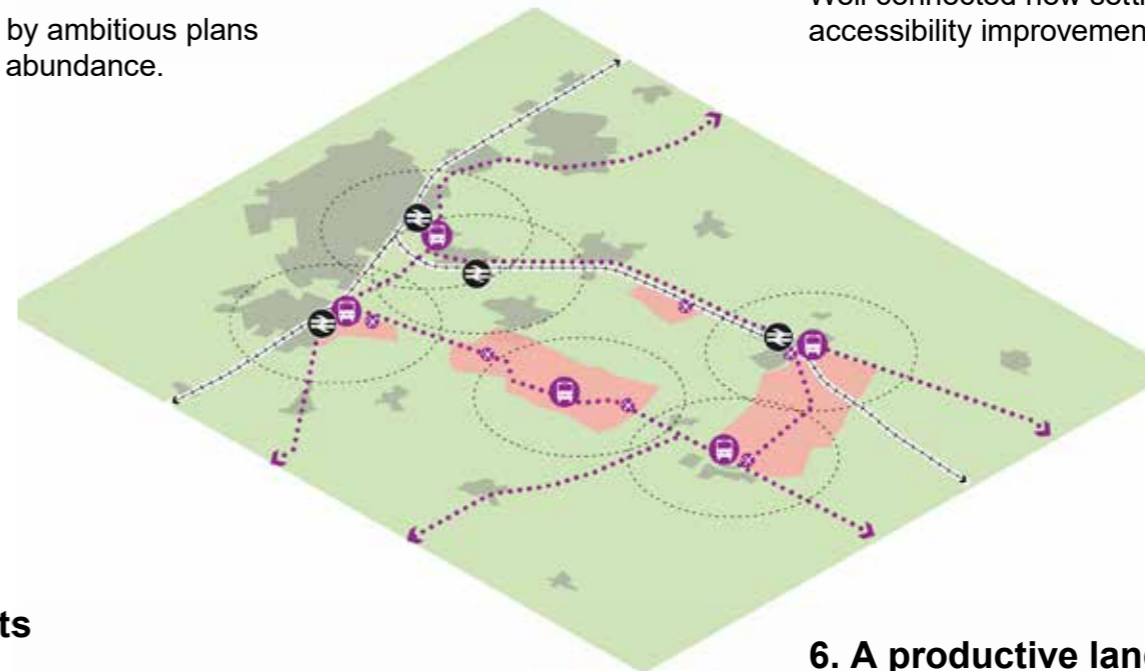
4. Settlement hierarchy

Standalone new settlements beyond the green belt maintaining settlement identity.



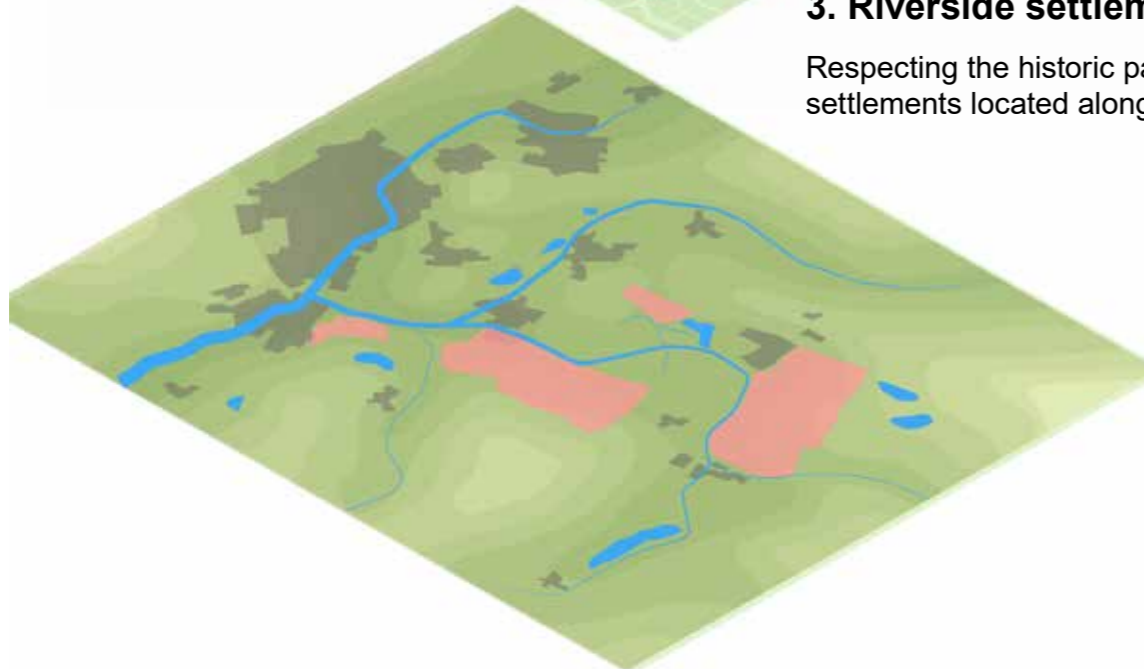
2. Nature recovery

Growth matched and supported by ambitious plans for nature recovery and species abundance.



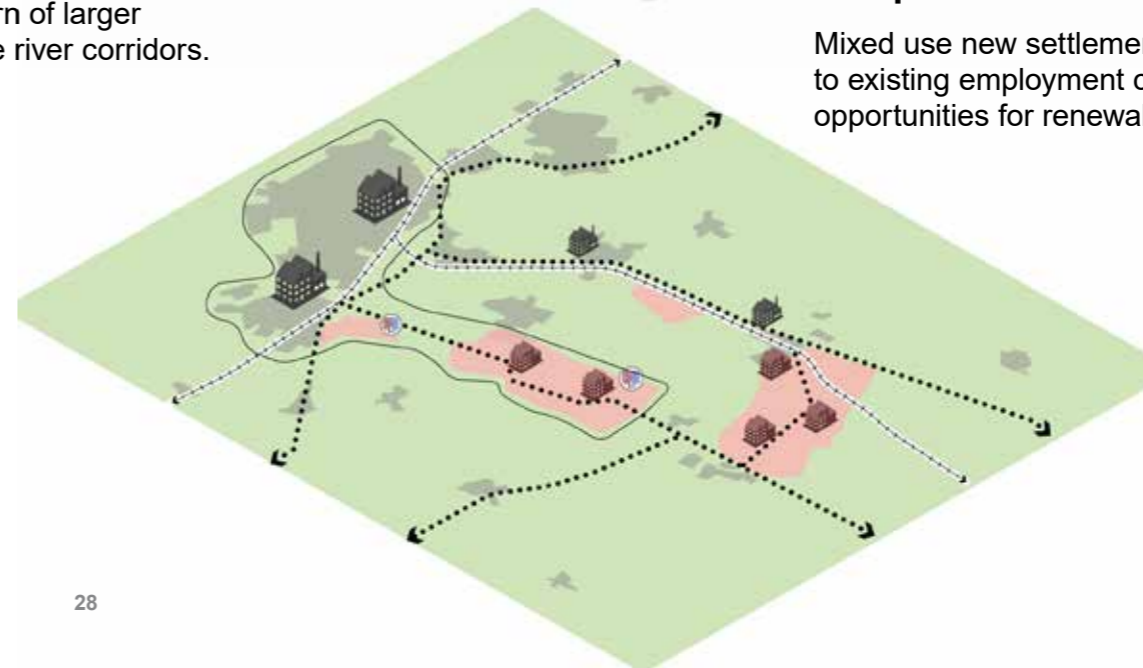
5. Zero carbon mobility

Well connected new settlements and accessibility improvements for all.



3. Riverside settlements

Respecting the historic pattern of larger settlements located along the river corridors.



6. A productive landscape

Mixed use new settlements well connected to existing employment clusters and new opportunities for renewable energy.

3.1 The Critical Success Factors

The critical success factors demonstrate good design outcomes. If we achieve these objectives we will achieve our vision. Developed with the community, they have guided our thinking on planning policy and growth locations. As sites come forward they will guide detailed design decisions.

By 2040 Monteshire will be:

- A Net Zero Carbon Place - Monteshire is a net-zero district, with all development and regeneration informed by an advanced scope Whole Life Carbon Assessment to maintain and enhance the district's contribution to decarbonisation
- A Biodiverse Place - Biodiversity is richer and habitats are bigger, better, and better connected across the district with all in favourable and improving condition
- A Nature-Based Place - Nature-based solutions and species-abundance underpin development, regeneration and land management, with people and places recognised as integral parts of a living nature network from field to front door
- A Local Place - All settlements are digitally self-contained and most people are able to meet their daily work, education and leisure needs within a 10 minute walk or cycle from their front door
- A Connected Place - Monteshire has high levels of accessibility and connectivity with active, public and shared transport the first choice for 80% of trips
- A Distinct Place - Design is locally distinctive and Modern Methods of Construction (MMC) ensure that development is zero-carbon and 'made in Monteshire' wherever possible
- A Productive Place - Monteshire is self-sufficient in energy production for heating, electricity and transport
- An Equitable Place - Development enhances the prosperity of local communities and ensures equitable access to homes, services, transport and nature
- A Healthy Place - Nobody is exposed to harmful levels of pollutants and places are designed to facilitate physical activity, mental wellbeing and healthy lifestyles on an everyday basis
- An Inclusive Place - All members of our community have a meaningful voice in the decision making process

By 2035 Monteshire will have reduced carbon emissions by 78%

By 2030 Monteshire will have halted nature's decline with our NRA's designated and funds allocated for their future improvement

By 2025 Monteshire will have agreed funding for all its main transport infrastructure improvements

By 2022 Monteshire will have detailed design codes agreed for each of our main strategic growth sites

Top Tip

The Critical Success Factors should reflect all the pillars of sustainable development. One way of ensuring they are cross-cutting is to reflect on the UN's Sustainable Development Goals. Consideration of these critical success factors is about making sure we are focussed on achieving all the sustainable development outcomes planning needs to deliver rather than focussing on one at the expense of others.

The 6 plans on the opposite page demonstrate a simplified approach to spatially defining these success factors and using them to define growth areas.

Top Tip

The Critical Success Factors should include interim steps and goals to help you achieve the long-term vision. We've included just a few headline examples.



4.0 District Wide Guidance

Our vision for 2040 is underpinned by clear guidance on growth, investment and land use change. This section sets out a series of development principles that will enable us to meet our targets and the Critical Success Factors identified with the community.

This guidance starts with where development can happen with a set of objectives for each of the major sites identified. Further analysis and design work will be required to determine the detailed design of each site.

We then set out guidance on the infrastructure and investment that will be required at the District level to ensure that this growth is sustainable and helps us reach our Vision for 2040.

Top Tip



The Development Principles and guidance set out on the following pages are limited to those that are critical for Nature Recovery and Net Zero.

We would recommend reviewing the National Model Design Code for a full list of the guidance required at the District Scale - this may include materials, internal space standards, parking, security, housing mix and building character and identity.

Each of these has an impact on the intended outcomes and our Net Zero and Nature Recovery targets. They are simply omitted here to ensure the illustrative Codes are focused and concise.



1 Proposed new Urban Extension to Montham

2 Natural planting and green streets in proposed new garden village

3 Increased woodland coverage is proposed across the district

4 Inclusive mobility across the district

5 New e-scooters will be critical to enabling people to make low carbon first and last mile journeys to our long-distance transport networks

4.1 Character Areas & Major Development Sites

The plan opposite identifies a series of growth areas where new development should be located, focusing development in locations that offer most scope for achieving net-zero growth and delivering on Monteshire's nature recovery objectives.

Sites have been prioritised into 3 broad categories. Each category has a specific set of development principles to accompany the district-wide principles elsewhere in this code:

Ref	Design Principle	Core Requirements
CA1	Urban infill sites and biodiversity-poor brownfield Designated sites are within close proximity to existing services and enable all residents to use sustainable modes of transport	<ul style="list-style-type: none"> ■ Sites will ensure safe walking and cycling connections to the wider urban area and offer secure, convenient cycle parking for all those living, working and visiting the site ■ Vehicle parking will be limited to car club and blue badge holder spaces only ■ Each site will be expected to provide a minimum of 8 sqm amount of usable open space per dwelling and provide opportunities to interact with nature within the site and its surroundings ■ Every site will be expected to provide a minimum of 10% biodiversity net gain (BNG) on-site in line with the mitigation hierarchy ■ Sites will provide nature-based sustainable drainage solutions based on standards and principles in the CIRIA SuDS Manual and DEFRA's non-statutory technical standards on sustainable drainage ■ Each proposal must go through the Council's independent Design Review process
CA2	Village extension and infill sites will support our existing communities by providing investment into key public facilities and services	<ul style="list-style-type: none"> ■ Designated sites are within no more than a 10 minute walk or cycle from the centre of a village that provides access to at least 2 key services and regular, reliable public transport provision ■ Sites will ensure safe walking and cycling connections to the wider area and offer secure, convenient cycle parking for all those living, working and visiting the site ■ Vehicle parking will be limited to a maximum of 1 space per dwelling with additional provision for EV car club and disabled spaces ■ Sites will provide an average of 14 sqm of private open space per dwelling and provide opportunities to interact with nature at a variety of scales and locations within the site ■ Sites will provide a minimum of 15% biodiversity net gain on-site, in line with the mitigation hierarchy ■ Sites will provide nature-based sustainable drainage solutions, street trees and usable public space of a minimum of 3 ha per 1,000 residents ■ Each proposal must go through the Council's independent Design Review process

Major Growth Sites

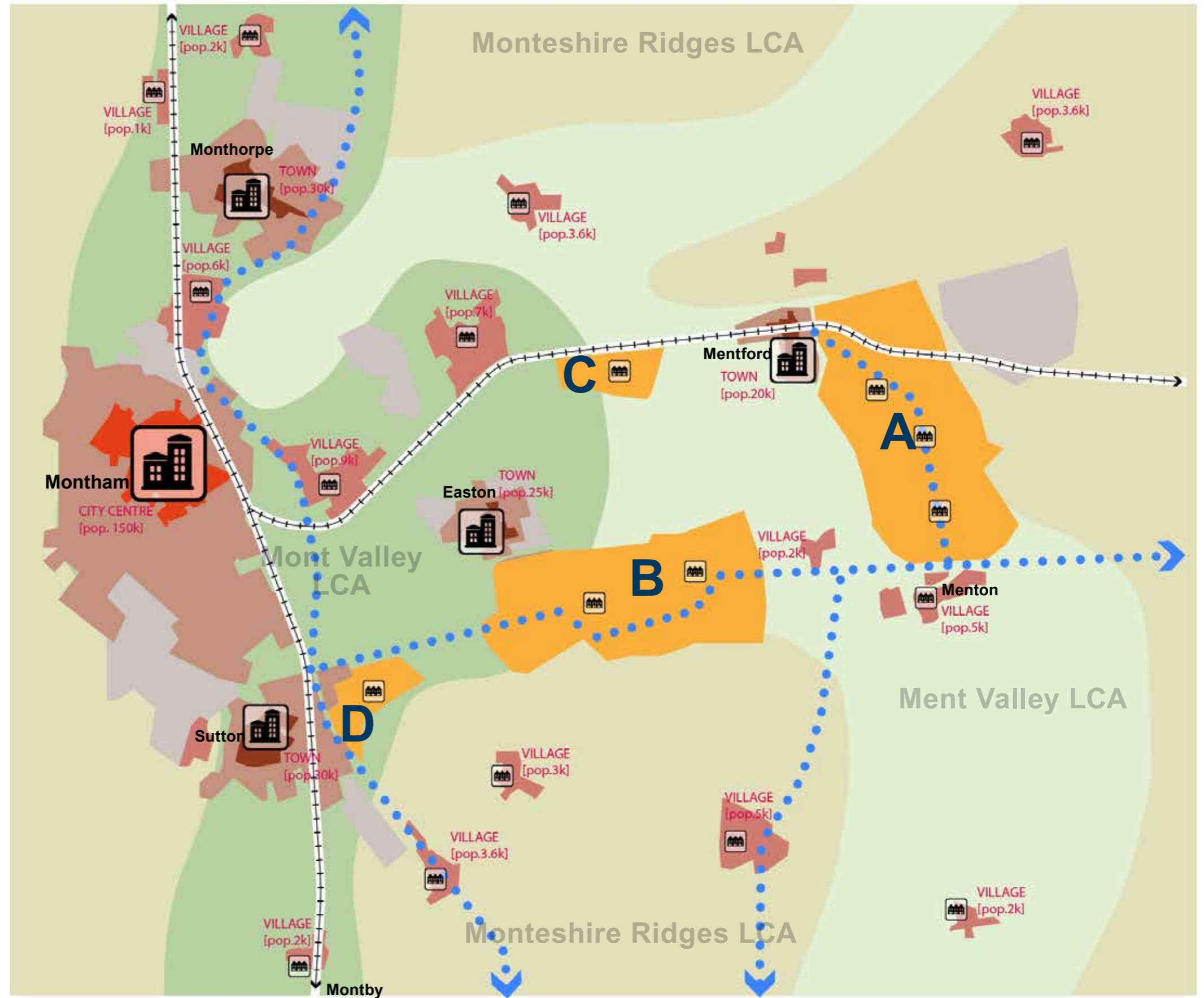
Strategic growth sites are critical to meeting Monteshire's development needs and will act as catalysts for decarbonisation and nature recovery. They are locations for large-scale, mixed-use communities that maximise existing transport and energy infrastructure and can unlock significant investment that supports the transition to net zero and delivers extensive areas of habitat creation and enhancement. Strategic sites on page 34 will accommodate growth that supports Monteshire's net-zero and nature recovery aims in the shortest time frame possible.



Top Tip



As with a Local Plan process, site selection is through an assessment and scoring process to find the most suitable locations. We have not set out this process in full - but the Critical Success Factors, which link back to the vision, support clear quantifiable objectives to be set that can form the basis for criteria based assessments.




-  City Centre
-  Town Centre
-  Suburbs
-  Villages
-  landscape character areas
-  Industrial
-  Strategic Growth Locations
-  BRT Route
-  Rail network



Ref	Design Principle	Core Requirements
<p>CA3</p> 	<p>Site A - Monteshire Vale Area: 270 Ha Type of site: Major Growth Site</p>	<ul style="list-style-type: none"> ■ Will provide for 4000 new homes around walkable neighbourhoods - each of a scale that enables people to walk or cycle from any new home to their neighbourhood centre within 10 minutes ■ The mixed-use neighbourhood centres will include at least 2 primary schools, community and sports club facilities ■ A secondary school will be provided that is accessible through walking and cycling routes to all neighbourhoods ■ The site will provide a minimum 5 ha of flexible commercial, work and studio spaces integrated within neighbourhoods and aligned with strategic rail and bus connections to reduce commuting trips ■ The site should provide housing types that enable working from home with dedicated space and fast broadband connections ■ The site will provide a minimum 25% Biodiversity Net Gain on-site, in line with the mitigation hierarchy. ■ The site will incorporate nature-based SuDS and a mosaic of habitat types that connect into wider ecological networks and support the district's LNRS ■ SuDS will reflect standards and principles in the CIRIA SuDS Manual and DEFRA's non statutory technical standards for sustainable drainage systems ■ The site will contribute to the ecological restoration and enhancement of the Topsham River to the west of the site to good condition ■ Buildings should have a net zero on-site energy use, with space heating limited to 15kWh/m2 and total energy use limited to 30kWh/m2. This should be met entirely through on-site renewables such as rooftop PV ■ Upfront emissions from materials and construction should meet at least an 'A' for upfront embodied carbon measured using the LETI Carbon alignment tool ■ Consideration should be given to how in-use energy will be monitored and residual embodied carbon emissions offset
<p>CA4</p> 	<p>Site B - Easton Meadows Area: 230 Ha Type of site: Major Growth Site</p>	<ul style="list-style-type: none"> ■ Will provide for 3000 new homes around walkable neighbourhoods - each of a scale that enables people to walk from any new home to the centre within 5-10 minutes ■ The mixed-use neighbourhood centres will include a primary school and a community centre ■ The site will provide 2 ha of flexible commercial space that can be used for retail, office or restaurant/pub/ cafe use to support local living and reduce leisure trips ■ A secondary school and 6th form college will be provided ■ The site will drive investment into development of a Bus Rapid Transit (BRT) network, which will run through both neighbourhood centres and be operational prior to occupation ■ The site is expected to limit private vehicle journeys to less than 10% of total trips ■ The site will incorporate nature-based SuDS and a mosaic of habitat types that connect into wider ecological networks and support the Lower Middle Heights and Lower Middle Marshes NRAs ■ SuDS will reflect standards and principles in the CIRIA SuDS Manual and DEFRA's non statutory technical standards for sustainable drainage systems ■ Minimum 30% Biodiversity Net Gain will be expected on-site in line with the BNG hierarchy, with only around 50% of the allocated land developable for housing ■ Development will connect to the Montham Heat Network in line with Policy HP3 of this code

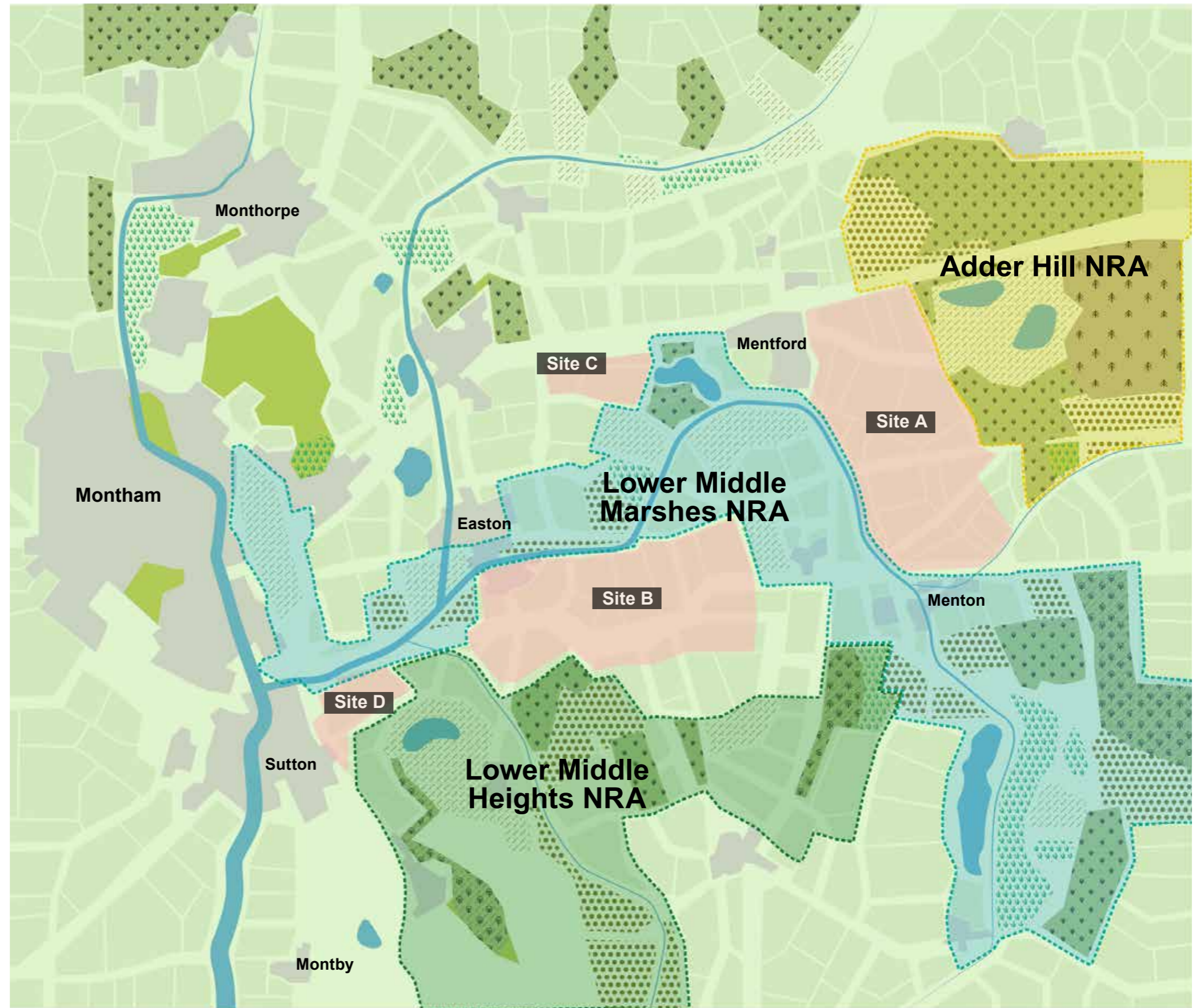
Ref	Design Principle	Core Requirements
<p>CA5</p> 	<p>Site C Area: 30 Ha Type of site: Major Growth Site</p>	<ul style="list-style-type: none"> ■ Will provide for 750 new homes around a walkable neighbourhood - of a scale that enables people to walk from any new home to the centre within 5-10 minutes ■ The site will include a mixed-use neighbourhood centre, based around a rail and BRT mobility hub that enables zero carbon travel to and from the site ■ The neighbourhood centre will include a primary school and community centre ■ The Neighbourhood Centre will provide flexible units that can be used for retail, office or restaurant/pub/ cafe use ■ The site will incorporate nature based SuDS reflecting standards and principles in the CIRIA SuDS Manual and DEFRA's non statutory technical standards for sustainable drainage systems ■ A minimum 10% Biodiversity Net Gain will be expected on site
<p>CA6</p> 	<p>Site D Area: 32 Ha Type of site: Major Growth Site</p>	<ul style="list-style-type: none"> ■ Will enable a 750 home urban extension ■ The site should be connected to the BRT network with a new mobility hub providing a multi-modal interchange, reducing car use and supporting zero carbon travel ■ Safe, direct and segregated walking and cycling routes will be provided to the existing town centre ■ The site will incorporate nature-based SuDS and support the ecological restoration and enhancement of the Topsham River catchment ■ SuDS will reflect standards and principles in the CIRIA SuDS Manual and DEFRA's non statutory technical standards for sustainable drainage system ■ A minimum 10% Biodiversity Net Gain will be expected on site ■ Development will connect to the Montham Heat Network in line with Policy HP3 of this code

Top Tip



Each of these sites will require a separate design code that will set out more detailed development principles. These must be agreed in consultation with the Local Authority and the community and must demonstrate how the site will contribute to the District wide vision.

4.2 Environmental Infrastructure & Habitats



Montshire's Local Nature Recovery Strategy (LNRS) sets out ambitious targets to increase the diverse landscape mosaic across the district, revitalise our rivers and better connect our designated sites and habitats. This district wide code supports the implementation of the LNRS.

The spatial focus of the Nature Recovery Strategy and the quantitative and qualitative targets of biodiversity action plans have informed the development of the design code.

-  Mixed Deciduous Woodland
-  Ancient woodland
-  Commercial woodland
-  Grassland
-  Priority Habitats
Marsh / wetland
-  Open spaces/parks

Nature Recovery Areas (NRA)

-  Adder Hill NRA
-  Lower Middle Marshes,
Meadows and Woods NRA
-  Lower Middle Heights NRA
-  Areas for the expansion of
high value biodiversity habitat
-  Strategic Growth Locations



Ref	Design Principle	Core Requirements
EI1	Protect and enhance Nature across the District. These general principles will ensure protection of current natural assets and that new development improves access to nature	<ul style="list-style-type: none"> ■ Avoid built development in Core Nature Areas and Nature Recovery Areas ■ We will increase woodland cover between now and 2040 with planting locations determined by planting feasibility studies ■ Restore and increase species richness and diversity ■ Protect and enhance habitats of importance for nature and ecological connectivity across the district ■ Ensure all development makes a positive contribution to nature recovery through delivering biodiversity net gain in accordance with the BNG hierarchy of avoiding habitat loss first, before providing net gains on-site, and finally off-site where sufficient gains cannot be achieved ■ We will promote and provide access to nature on everyone's doorstep through new development and public realm improvement projects ■ All new development will need to demonstrate that it delivers nature rich new neighbourhoods and accessible green spaces in line with National GI Standards ■ Ensure all major developments demonstrate a strategic approach to long term protection and enhancement of ecological resources, including through provision of enforceable management and stewardship arrangements developed with the community
EI2	Restore and create Nature Recovery Areas (NRAs). Our NRAs are the focus for re-wilding the District and driving our nature recovery targets	<ul style="list-style-type: none"> ■ Restore and create typical habitats of the NRA ■ Restore and increase species richness and diversity ■ Improve habitat connectivity within the NRAs and beyond to isolated sites nearby ■ Focus off-site biodiversity net gain in the NRA's, creating areas for the expansion of high value biodiversity habitats that complement, expand and/or physically connect to CNAs ■ Focus agri-environment scheme payments within the NRA's ■ Provide access to large semi-natural habitats where close to settlements ■ Promote biodiversity end uses for mineral site restoration
EI3	Restore and connect other Nature Areas. By protecting, enhancing and connecting smaller natural landscape areas we will begin to develop a mosaic of wild landscapes that will enhance biodiversity across the District	<ul style="list-style-type: none"> ■ Small nature recovery sites are to be joined up where possible to the NRA's to form a nature continuum ■ Restore and increase species richness and diversity ■ We will promote nature rich farmland and support our landholders to manage and adapt their land where possible



Top Tip

The District level design code can provide a single coherent plan that draws together different environmental infrastructure requirements and integrate them with development opportunities -

Sources include:

- Local Nature Recovery Strategy (LNRS)
- Biodiversity Net Gain (BNG) requirements
- Suitable Alternative Natural Greenspaces (SANGs)
- Local Green & Blue Infrastructure Strategies
- Green Infrastructure Framework – Principles and Standards for England set by Natural England

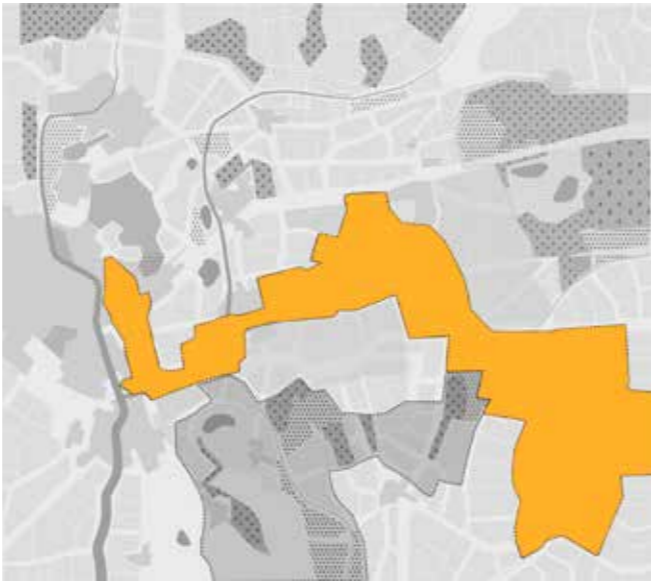
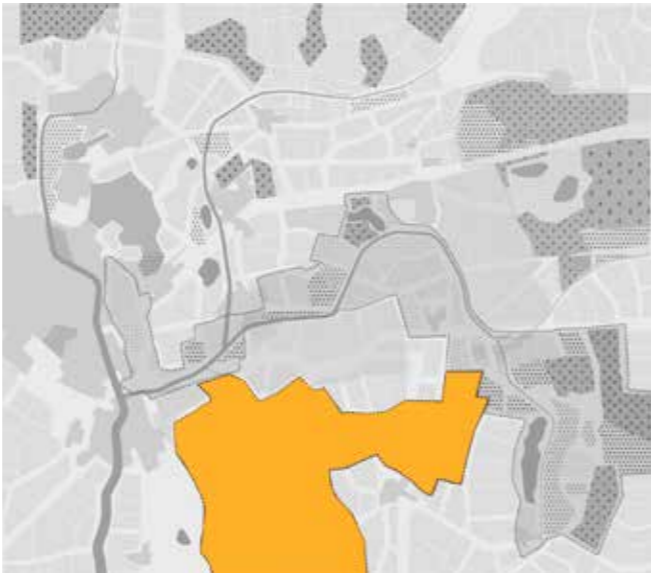
By integrating everything in one place and leading with the landscape you will transition towards the 'environmental capital net gain' and 'natural capital net gain' required by the Government's 25 Year Environment Plan.

The following areas have been identified by detailed analysis of designated site, habitat, land-use, soil and agricultural land classification data that enables the targeting of habitat restoration and creation into areas that will increase the area of Core Nature Areas and improve connectivity between them.

Top Tip

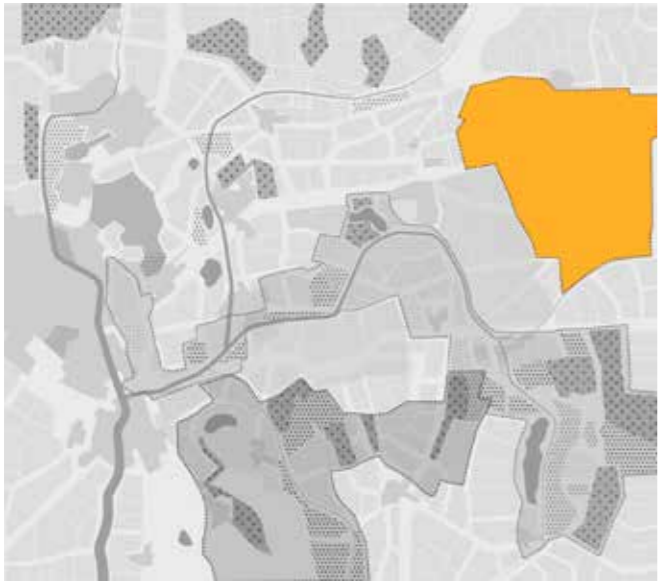
Each of these sites will require a separate design code that will set out more detailed development principles. These must be agreed in consultation with the Local Authority and the community and must demonstrate how the site will contribute to the District wide vision.



Ref	Design Principle	Core Requirements
<p>E14</p> 	<p>Lower Middle Marshes, Meadows and Woods Area: 1,300 Ha Type of site: Nature Recovery Area Comprising 2 SSSI, 2 LNRs, 4 County Wildlife sites and priority habitats including high quality lowland river and tributaries of the Lower Middle River, unimproved and semi-improved floodplain grassland, riverside marsh and open water associated with former sand and gravel working.</p>	<ul style="list-style-type: none"> ■ Restore 10 ha of floodplain grassland ■ Create 5 ha of species-rich floodplain meadow ■ Improve water quality within the Lower Middle River and its tributaries ■ Restore 5 ha of wet woodland ■ Protect existing riverside willow pollards and establish through planting a new generation of riverside woodland habitats
<p>E15</p> 	<p>Lower Middle Heights Area: 930 Ha Type of site: Nature Recovery Area Comprising parkland, ancient woodland and long established semi-natural broadleaved woodland on the high ground forming the south edge of the River Middle valley. The three woodlands are designated as county wildlife sites. Priority habitats include species-rich ancient hedgerow and 6 small fields of unimproved and good semi-improved neutral grassland traditionally managed as meadow.</p>	<ul style="list-style-type: none"> ■ Restore 5 ha of neutral meadow grassland ■ Create 5 ha of species-rich neutral meadow ■ Increase woodland cover and connectivity by creating 8 ha of broadleaved woodland ■ Restore parkland to historic extent ■ Restore 2 km of ancient species-rich hedgerow

Ref	Design Principle	Core Requirements
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EI6



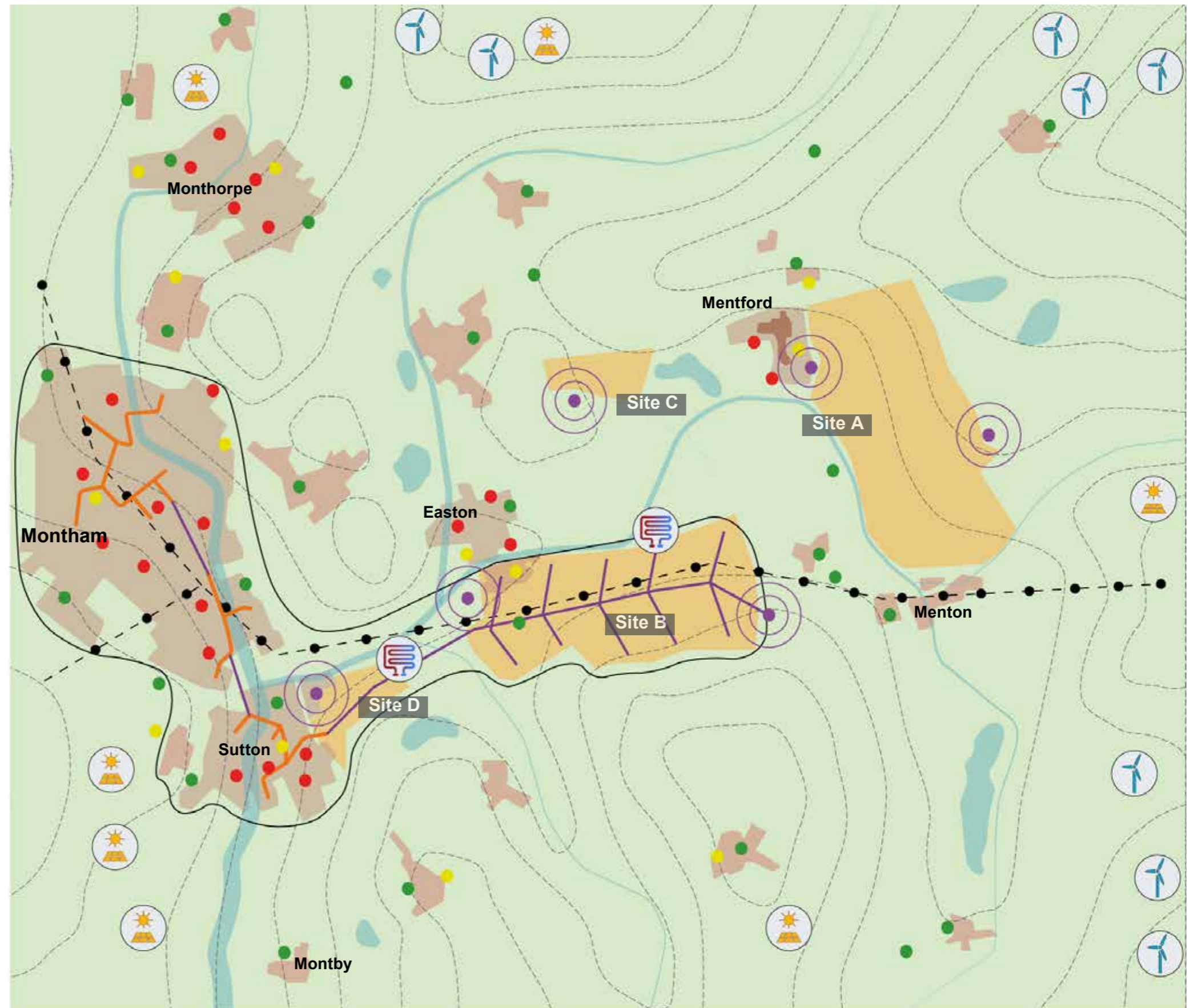
Adder Hill NRA
 Area: 670 Ha
 Type of site: Nature Recovery Area
 Comprising large blocks of woodland on the higher ground of the sandstone ridge separating the Upper Middle and Lower Middle rivers. Also present is the former Adder Hill stone quarry that has recently ceased extraction and is being restored to acid grassland and heathland. Parts of the woodland are long established oak birch woodland and are designated as a county wildlife site. The coniferous commercial plantation woodland has been established on for disability mer acid grassland and heath. The rides and glades support remnant acid grassland and heath and support good reptile populations which are also a county wildlife site.

- Restore 15 ha of acid grassland/lowland heathland mosaic
- Create 5 ha of acid grassland
- Restore 5 ha of oak birch woodland from coniferous plantation



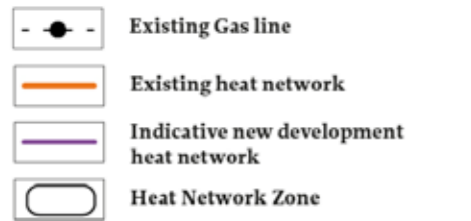
© Mike Williams Photography

4.3 Heat & Power

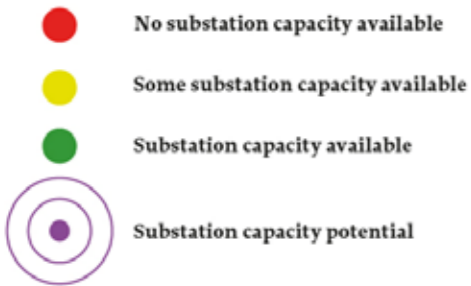


The future approach to site selection, design and delivery in Monteshire will manage and reflect the need for all future developments to demonstrate compliance with local and national net zero targets at the outset and throughout the planning process. This should be driven by a hierarchical approach whereby reducing energy consumption is prioritised, followed by the use of renewable energy sources.

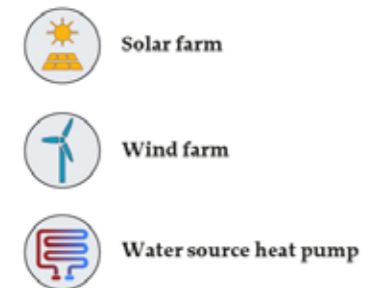
- ¹ Solar PV panels on a new community building
- ² Wind farms in North East Monteshire
- © Ben Osbourne Photography
- ³ New solar farm in Monteshire
- © Ben Osbourne Photography



Substation capacity

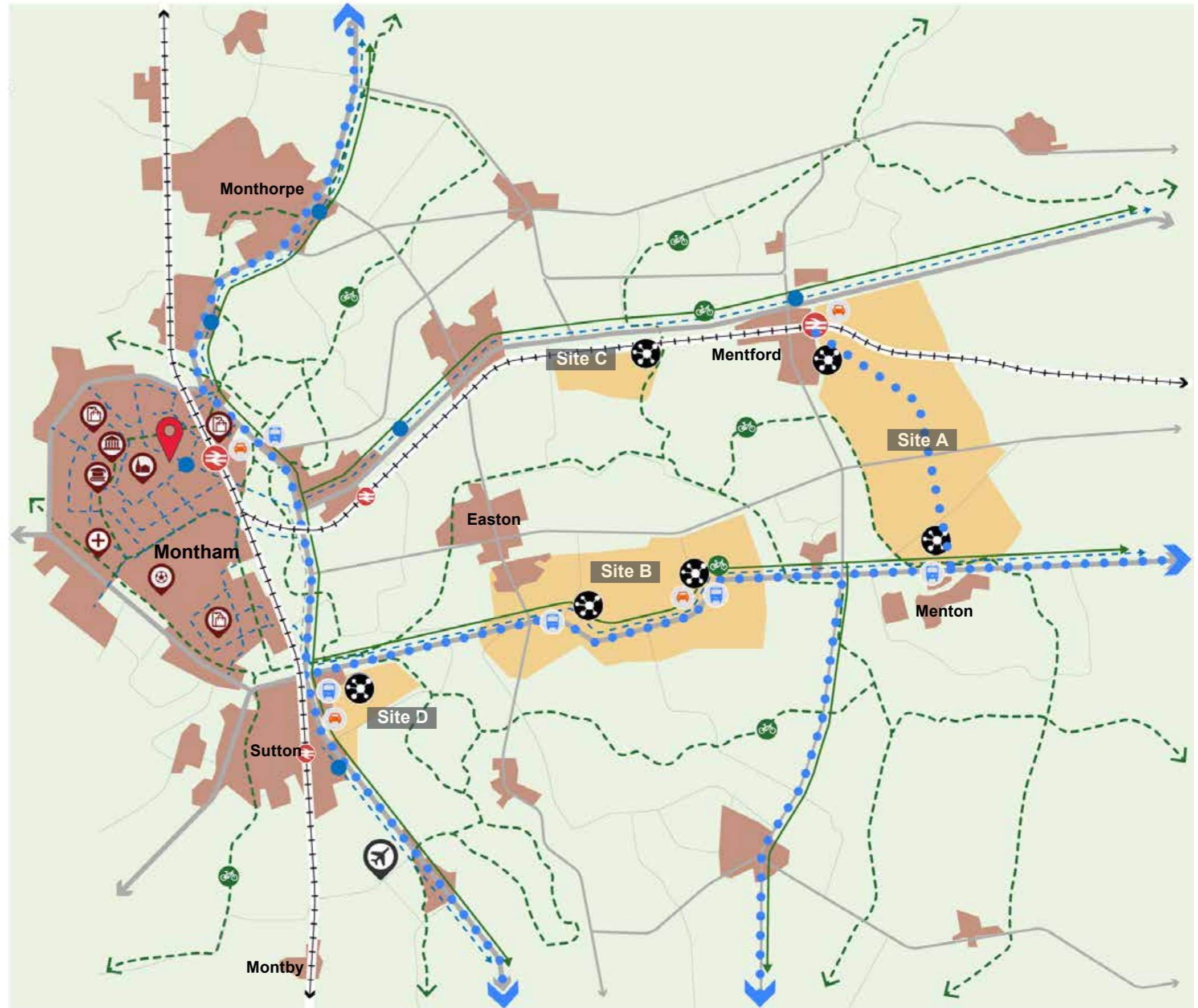


Solar and wind electricity potential















Ref	Design Principle	Core Requirements
HP1	<p>Assess and track carbon use</p> <p>Development will be informed by carbon assessments and monitoring</p>	<ul style="list-style-type: none"> ■ All developments will demonstrate consistency with net zero emission targets through use of advanced scope Whole Life Carbon Assessments at design and planning application stages and ongoing monitoring and reporting of energy use and carbon emissions beyond planning stages ■ WLCA's will be extended to consider all direct and indirect carbon impacts from the development over the 60-year lifecycle of a site, including life cycle impacts from buildings and roads, human activities such as transport and energy, and sequestration impacts arising from changes to land use from development ■ A net zero place-checker tool should be used to provide a quantitative framework to guide the detailed design processes for all sites, ensuring that all decisions adopt a 'net zero carbon first' approach. This should be underpinned by the relative impact from each lifecycle component assessed through the WLCA
HP2	<p>Building standards.</p> <p>All new buildings will meet strict standards to support the Net Zero targets</p>	<ul style="list-style-type: none"> ■ All new buildings should demonstrate no net increase in energy use within the district ■ Space heating within new buildings should be limited to 15kWh/m2 in line with Committee on Climate Change recommendation ■ Total energy use limits must be set and matched to on-site generation ■ Upfront emissions from materials and construction should be assessed using a RICs-recognised tool and meet at least an 'A' for upfront embodied carbon measured using the LETI Carbon alignment tool
HP3	<p>Sustainable energy.</p> <p>All development will need to demonstrate use of sustainable sources of heat and power</p>	<ul style="list-style-type: none"> ■ All development will demonstrate no on-site fossil fuel use and will meet its own energy needs through on-plot renewable energy generation such as rooftop solar PV ■ Where energy needs cannot be met on plot (such as for taller buildings), equivalent renewable energy supply should be delivered elsewhere within the development or wider district ■ All development within areas identified as heat network zones, where a path to net zero can be demonstrated by no later than 2030, must connect to the district heating network

4.4 Mobility & Transport



Transport provision in Monteshire will be underpinned by a decarbonisation hierarchy aligned with the DfT’s Transport Decarbonisation Plan which considers the key principles of trip avoidance, internalisation and modal shift from vehicles before measures to eliminate tailpipe emissions from vehicles through technology.

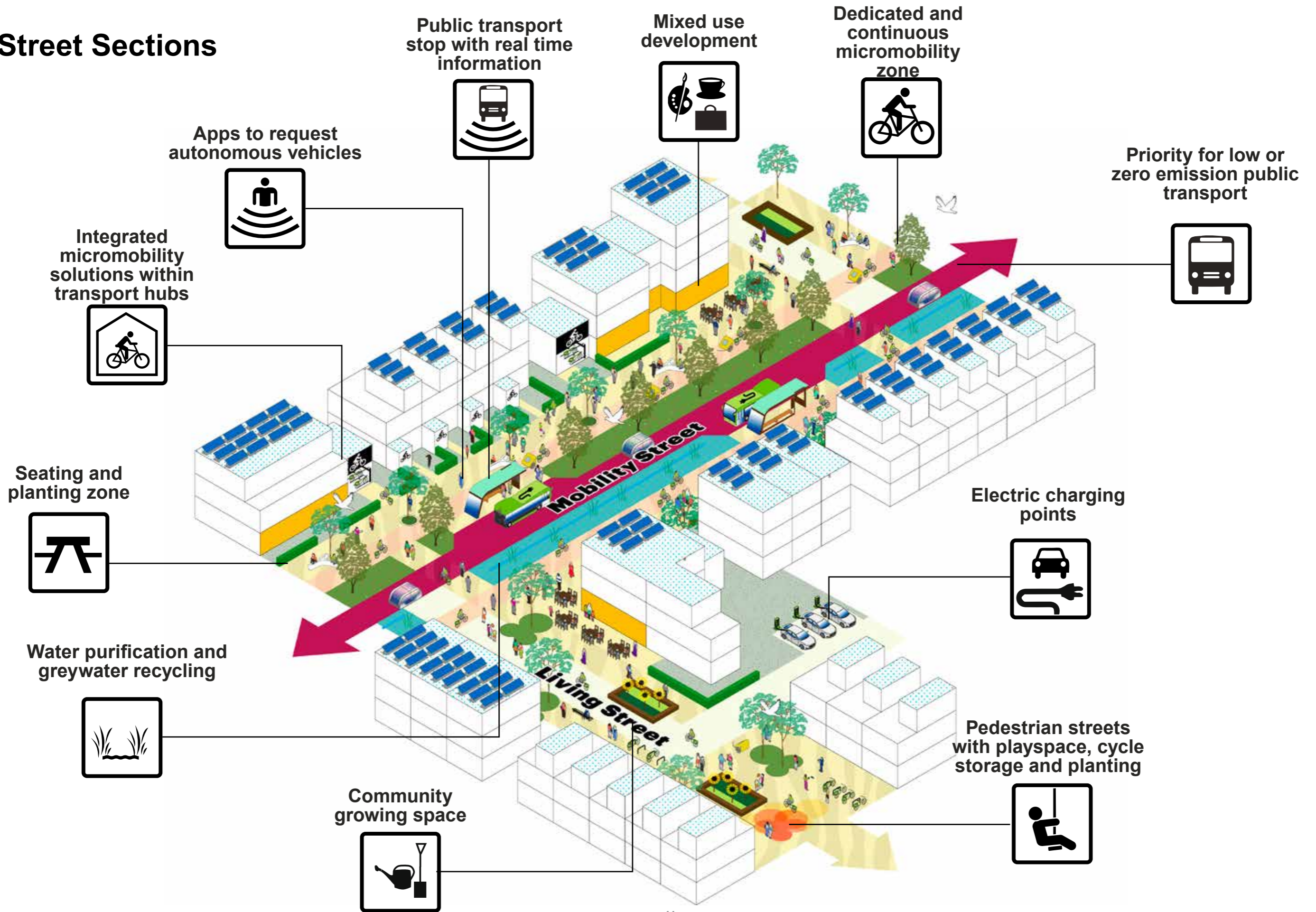
This change of focus will support active travel across the District.

-  Existing urban area
-  City Centre
-  Urban and suburban bus network
-  Primary road network
-  Secondary road network
-  Tertiary road network
-  Regional Cycle routes
-  Local Cycle routes
-  BRT Route
-  Mobility Hub
-  BRT Station
-  Park & Ride
-  Rail network
-  Train station
-  Airport
-  Strategic Growth Locations

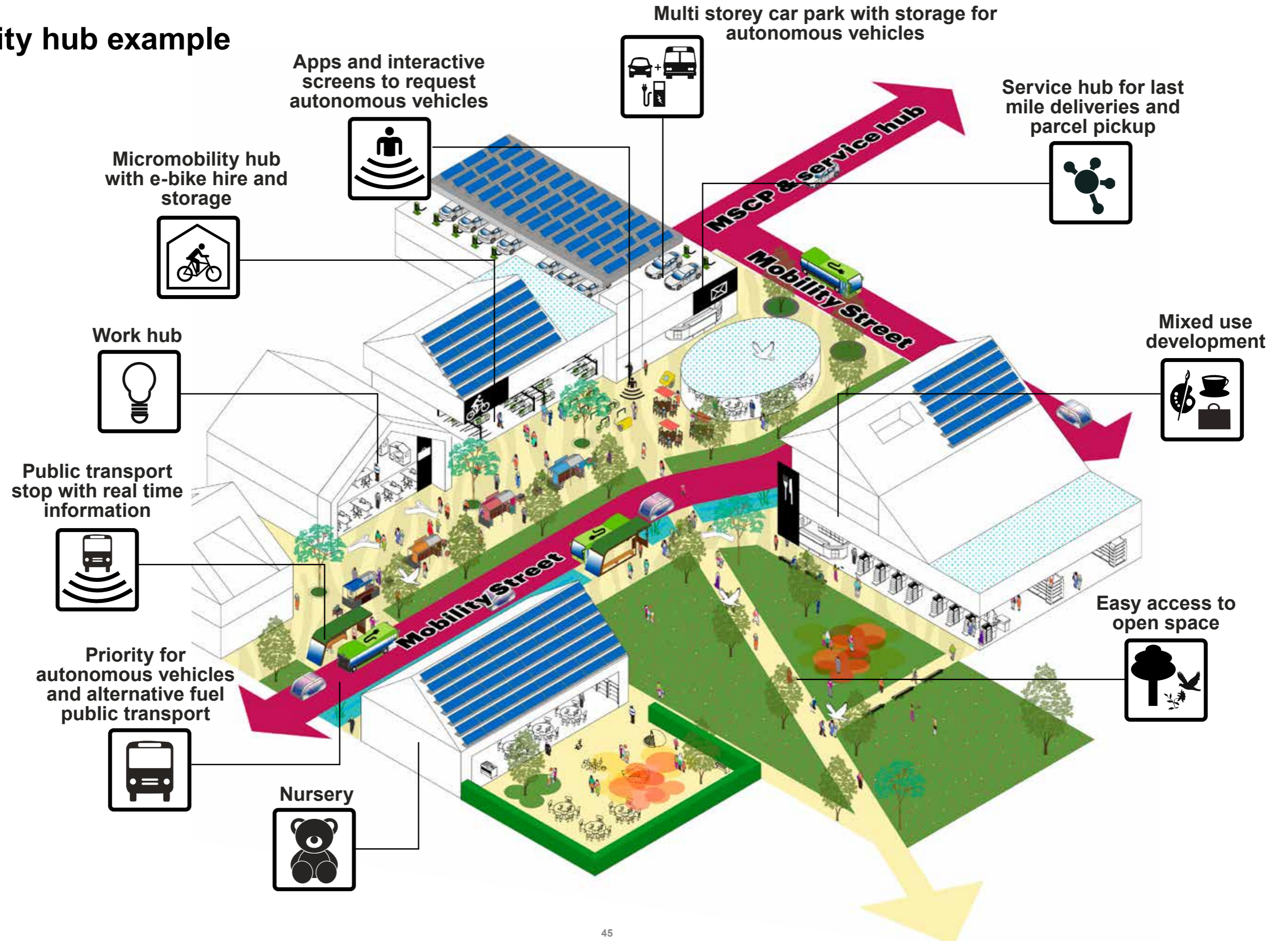
Ref	Design Principle	Core Requirements
MT1	Reduce trip frequency. Infrastructure and growth will focus on enabling people to reduce trip frequencies therefore reducing the carbon footprint	<ul style="list-style-type: none"> ■ New homes will be aligned with local need to allow people to move within their community as their space needs change ■ ‘20-minute neighbourhood’ principles will be a minimum design requirement for large scale development, including establishing minimum walking and cycling accessibility standards to ensure everybody can access key amenities such as green space, schools, and shops via sustainable modes ■ Minimum home space standards will enable working from home without loss of other amenity spaces ■ High speed broadband connections and 5G coverage will facilitate working inside and outside the home ■ All new neighbourhood centres will include flexible co-working space
MT2	Shift modes away from private vehicles. We will invest in public transport infrastructure and set standards for street design that encourage people to move away from private vehicles	<ul style="list-style-type: none"> ■ Adopt the street user hierarchy in designing new street layouts to prioritise movement by active modes, followed by buses, and finally cars and delivery vehicles ■ Deliver a safe, convenient and connected cycling network that connects key destinations across Monteshire and is fully integrated with public transport provision ■ Ensure everyone can access frequent, affordable and reliable public transport and that nobody is more than a 15-minute walk from a high quality bus or rail service which can provide convenient access to destinations in Monteshire and beyond ■ Deprioritise vehicular movement through use of modal filters, indirect routing, low speed limits, constrained car parking standards and limited access to residential streets for private vehicles ■ Incorporate ‘liveable streets’ principles to encourage use of streets as places for play, recreation and engagement with nature
MT3	Reduce vehicle tailpipe emissions. Achieving our Net Zero targets requires a significant shift away from the private vehicle and towards EV	<ul style="list-style-type: none"> ■ Restrict cars within major growth sites to those that are zero emission at the tailpipe ■ Make EV ready spaces a minimum requirement of new parking provision ■ Introduce zero and low emission zones to ban or discourage use of the most polluting vehicles ■ Support decarbonisation of delivery vehicles through provision of rapid charging infrastructure and facilitate use of central mobility hubs through measures such as ‘no delivery’ zones



Street Sections



Mobility hub example



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