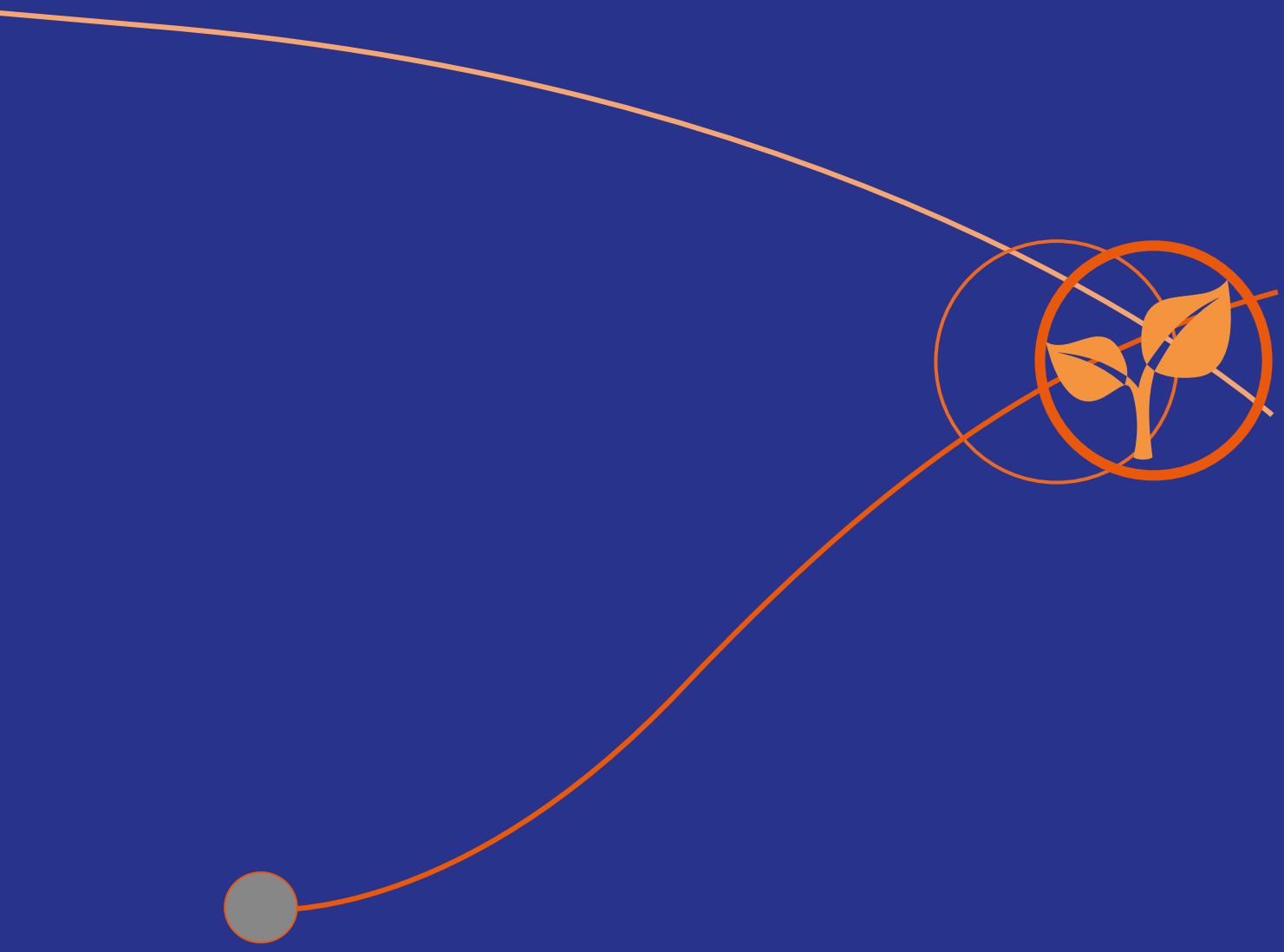
TENDRING COLCHESTER BORDERS GARDEN COMMUNITY MASTERPLAN

STRATEGIC VISION

JANUARY 2022



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INTRODUCTION

OVERVIEW

The Tendring Colchester Borders Garden Community (TCBGC) is a joint project between Tendring District Council (TDC), Colchester Borough Council (CBC) and Essex County Council (ECC) (The Councils).

This document provides a Strategic Vision that will frame the future masterplanning and delivery of the Garden Community.

Prior + Partners, with Gillespies, Hydrock, ITP and the Engagement Group are commissioned to support the Councils in defining a vision and preliminary masterplan options for the Garden Community. This will provide evidence to inform the preparation of a Development Plan Document (DPD).

PURPOSE OF THIS REPORT

The Councils are developing masterplan options for the Garden Community that will provide evidence to inform the preparation of the DPD.

The Strategic Vision, sets out a unified vision, set of development principles and objectives and is intended to set out a clear statement of what is aimed to be achieved at TCBGC and provide a framework against which to develop spatial options.

This Report has been informed by a series of engagement workshops with different local stakeholders and a variety of other engagement activities, which have influenced and helped shape this vision.

A separate report has been produced by Traverse who independently facilitated the public engagement workshops related to the masterplanning process. This has captured all of the engagement outcomes across a number of important topics and themes.

LOCAL PLAN CONTEXT

TDC and CBC have both adopted a shared "Section 1" Local Plan. This provides strategic, cross-boundary policies and includes a range of guiding design principles for the TCBGC. The key areas it sets some initial adopted policy on include:

+ Place-Making and Design Quality;
+ Housing;
+ Employment and Jobs;
+ Transportation;
+ Community Infrastructure;
+ Sustainable Infrastructure;
+ Heritage;
+ University Expansion.

A primary requirement of the shared Local Plan is a requirement for a DPD to set a more detailed planning framework for the delivery of TCBGC.

THE DPD

The DPD will provide a planning policy and design framework to ensure the comprehensive and sustainable development of the TCBGC site in accordance with the key strategic policies of the joint Section 1 Local Plan of both Colchester Borough Council (CBC) and Tendring District Council (TDC).

Supported by a number of documents including a preliminary strategic "Masterplan" (the output from this work), the DPD will provide a long-term vision and area-based planning and delivery strategy for the TCBGC. It will set the boundary of the Garden Community and the amount of development it will contain; clear place-making and development objectives, site wide spatial and thematic policies and site allocations with high quality design standards to guide development.

While the delivery of the Garden Community is a long-term project, anticipated to last until at least 2050, the DPD will set out a planning policy and design framework to ensure the comprehensive and sustainable development of the site as a whole, whilst providing a specific focus on the initial period up to 2033 in line with the requirements of the Section 1 Local Plan.

A site specific Design Code will be prepared over time as the project progresses through planning.

The overall process will comprise of the following key milestones:

+ Masterplan preparation;
+ Planning policy and guidance development;
+ Drafting of DPD;
+ Testing by Examination in Public;
+ Layering of Design Guidance as DPD progresses and on into preparation of planning applications.

The statutory requirement for local plans to be reviewed every 5 years, will ensure that the DPD is regularly updated to address the detailed policy and design framework for subsequent phases of the Garden Community.

NATIONAL MODEL DESIGN CODE PILOT

TCBGC was selected alongside 13 other Councils to take part in a six-month testing programme in which the project will apply the National Model Design Code (NMDC) and provide the Ministry of Housing, Communities and Local Government (which is now the Department for Levelling Up Housing & Communities) with feedback on the process and outcomes of this newly produced national guidance.

As TCBGC is at an early stage in development, the pilot reported in September 2021 and focused explicitly on the analysis and vision stages of the proposed Design Code process.

It is anticipated that this will ensure a solid background to the future development of a site specific Design Code with requirement to be outlined in the DPD.

THE STRATEGIC VISION

This Strategic Vision is intended to set out a preliminary statement of what the Councils and local people want to to achieve at TCBGC and provide a framework against which to develop spatial options.

VISION AND STRATEGIC PRINCIPLES - WHAT WILL THE GARDEN COMMUNITY ACHIEVE?

The Strategic Vision presents **five themes** , and while each addresses a distinct aspect of the future community, it should be acknowledged that all themes interrelate and inform one another.

Each theme is framed with a leading **vision statement** that establishes purpose and identity and articulates the top-level description of the kind of place that TCBGC could become.

Each theme is supported by a series of **Strategic Principles**. These describe the outcomes that will be achieved at TCBGC at completion.

OBJECTIVES – HOW WILL THE GARDEN COMMUNITY BE DELIVERED?

A series of more specific **objectives** set out in more detail how the strategic principles will be achieved. They address both spatial and non spatial implications and will be the core guiding elements that need to be incorporated within the masterplanning process.

WHY IS THIS IMPORTANT?

Each theme is accompanied by supporting research, evidence, facts and figures that help to justify the **need to create a better future.**

LESSONS WE CAN LEARN FROM OTHER PLACES

Concluding each section are case studies that describe some **places that should inspire the future community**, draw lessons from and may help to inform the approach to design and planning.

HOW TO READ EACH THEME

THEME

VISION STATEMENT SPECIFIC TO THE THEME

ILLUSTRATING THE VISION

STRATEGIC PRINCIPLE

DESCRIPTIONS WHICH SET OUTCOMES

OBJECTIVES WHICH SET OUT HOW THE PRINCIPLES WILL BE ACHIEVED

ILLUSTRATING THE OBJECTIVES RELATING TO THE THEME

STATISTICS/ FACTS/ FIGURES THAT PROVIDE JUSTIFICATION IN SUPPORT TO THE PRINCIPLES

DRAWING INSPIRATION FROM BEST PRACTICE AND LOCAL PROJECT EXAMPLES

STRATEGIC CONTEXT

HIGHLY CONNECTED

There is real opportunity for the Garden Community to function at a local, regional and national scale.

Greater Anglia rail departs from three stations in Colchester and from Wivenhoe and Alresford to London Liverpool Street, with journey times of about 1 hour. East Anglia trains connect Colchester to Clacton-on-Sea, Ipswich and Felixstowe and Norwich to the north.

The A12 connects Colchester to London through Chelmsford and the A140 Colchester to Norwich. The A120 provides further links to the east coast port of Harwich.

Stansted Airport which serves 180 destinations in 38 countries, is approximately 2 hours away from Colchester by train and 40 minutes by car. The dualling of the A120 from Braintree to A12 has long been an ECC "favoured route" and is currently being looked at by National Highways and ECC, which would improve journey times to Stansted.

Freight trade with mainland Europe and the rest of the world leaves from Harwich and Felixstowe ports with Freeport status.

Additional infrastructure is also being provided via the Housing Infrastructure Fund to construct a new dual carriageway Link Road between the A120 to the A133 directly adjacent to the site, and also to establish a Rapid Transit System to connect the local area into important local destinations.

INNOVATION ALL AROUND

The University of Essex lies immediately south of the Site Area, and can be a major catalyst in supporting this productive corridor with plans to develop the adjacent Knowledge Gateway Business / Science Park.

This focus is anticipated to provide one of the key drivers of employment growth within and around the new Garden Community.

The community will sit between major centres, hubs and corridors in close proximity to the UK Innovation Corridor. The Corridor is a cluster of commercial innovation encompassing London, with global finance and creative tech, and Cambridge, the world leading knowledge hub. The region is knitted together with international businesses, top academia, start-ups, City finance and law firms.

STRONG ECONOMIC SECTORS AND READY FOR CREATIVE GROWTH

Colchester sits immediately west of the Garden Community and is the largest town within the two districts. The retail, healthcare, construction and tourism sectors are expected to be the key drivers of employment growth in Colchester, which also has aspirations to become the Essex hub for creative industries.

ENVIRONMENT

The area is characterised by a varied landscape with a wide plateau divided by river valleys. The landscape is open and predominantly arable with areas of urbanisation mixed in throughout. On a regional level, the majority of the site falls within the Tendring Plain as defined in the Essex Landscape Character Assessment.

CULTURE

Culturally and from a leisure perspective the area has a lot to offer. From the historic Roman Walls and theatres in the centre of Colchester, the film festival, Colchester Zoo and the University of Essex, to the nearby outdoor resources of Dedham Vale, Elmstead Market, Wivenhoe and the Beth Chatto Gardens, nearby rivers, the seaside and countryside beyond. This Garden Community can capitalise on these assets, building on the character and culture that already exist.

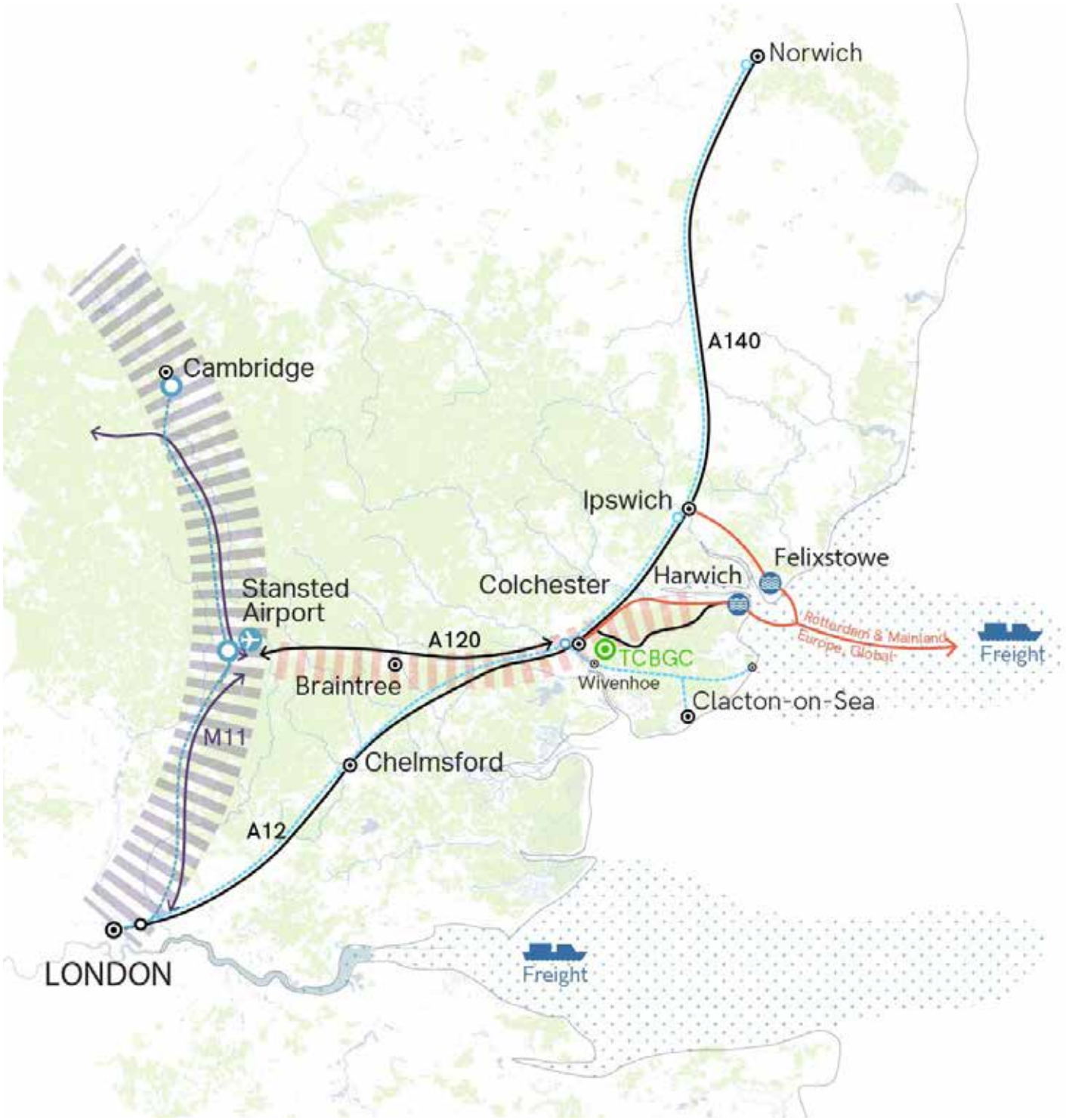


FIGURE 1 Strategic Context

- Area of Search of TCBGC
- National Rail Station
- Rail Connections
- M-Road
- A-Road
- Key Places
- Ports with Freeport status
- UK Innovation Corridor
- A120 Corridor & Haven Gateway

LOCAL CONTEXT

SITE LOCATION

The proposed TCBGC lies to the eastern edge of Colchester and in proximity to the Tendring towns of Alresford and Elmstead Market. The surrounding area is characterised by rich historical layers bearing witness to centuries of organic growth, valued landscapes, good connectivity, strong network of urban and village community organisations and services and an active culture and leisure offer.

While the precise boundary is yet to be defined, an "area of search" is defined within the Section 1 Local Plan. It borders the A120 and fields to the north and west of Crockleford Heath following the line of Salary Brook to the north west, and to the south the A133, the University of Essex and Knowledge Gateway Business/Science Park. The A120 defines the north eastern edge. The Local Authority boundary of Colchester and Tendring cuts through the site in a deviating north-south direction.

The Colchester neighbourhoods of Greenstead, Parsons Heath and St Johns are all in close proximity to the west of the site. However Salary Brook and its valley presents a distinct separation between these residential areas and the western boundary of the area of search south of Bromley Road due to its sudden change in topography. Colchester town centre is situated approximately 3.1km to the west of the Garden Community. The settlement of Wivenhoe is located approximately 1.5km to the south of the area of search.

The area beyond the eastern extent of the Garden Community, within Tendring, is more sparsely populated with a more rural character. The Principal Rural Settlement of Alresford is situated approximately 4.5km to the south east of the site. The village of Elmstead Market is located approximately 1.2km away along the A133 and is classed as a Key Rural Service Centre. The Smaller Rural Settlement, the village of Ardleigh is located approximately 2.8km along the A137 to the north east. The hamlet of Crockleford Heath lies within the area of search.

SITE CHARACTERISTICS

The land is predominantly undeveloped and in agricultural production. There are isolated residential properties and farms scattered across the site, with a linear band of properties and small-scale employment uses along Harwich Road in the northern section.

The eastern part of the Site is distinguished by a plateau of predominantly arable farmland while the western part of the site joins the suburban areas of Colchester and forms a distinctive valley around Salary Brook.

To the south of the site there are numerous designations associated with the estuary network. Bullock Wood SSSI sits to the north-west of the site while within the 5km buffer zone there are numerous SSSIs particularly to the south of the site. The Local Nature Reserves (LNR) Welsh Wood and Salary Brook sit at the west and south-west of the site respectively. Due to the varied habitats within the area of investigation, the site has the potential to support a number of protected species and other species of conservation importance.

There are a number of areas of ancient woodland within the study area. Grade 2 Wivenhoe Park Registered Park and Garden lies on the south-west boundary of the study area.

The site is relatively free of historic features. Wivenhoe Park, a registered Grade II Historic Park and Garden, is located immediately south across the A133. There are archaeological sites and objects within the site, from all periods of history, and preliminary archaeological assessment has been carried out.

The majority of the site is within Flood Zone 1 (lowest risk). There is a relatively confined floodplain associated with the Salary Brook.

The site is intersected by several minor unclassified roads, which typically serve agricultural land, private dwellings and a small number of businesses. These lanes have a high amenity value and have the potential to form part of a future active travel network within the site.

An off-road cycle route follows the valley along Salary Brook. The site contains a number of existing quiet lanes which are suitable for cycling with low traffic usage. The site is well served by existing footpaths both through the Salary Brook valley with footpaths along the valley connecting down to the River Colne.

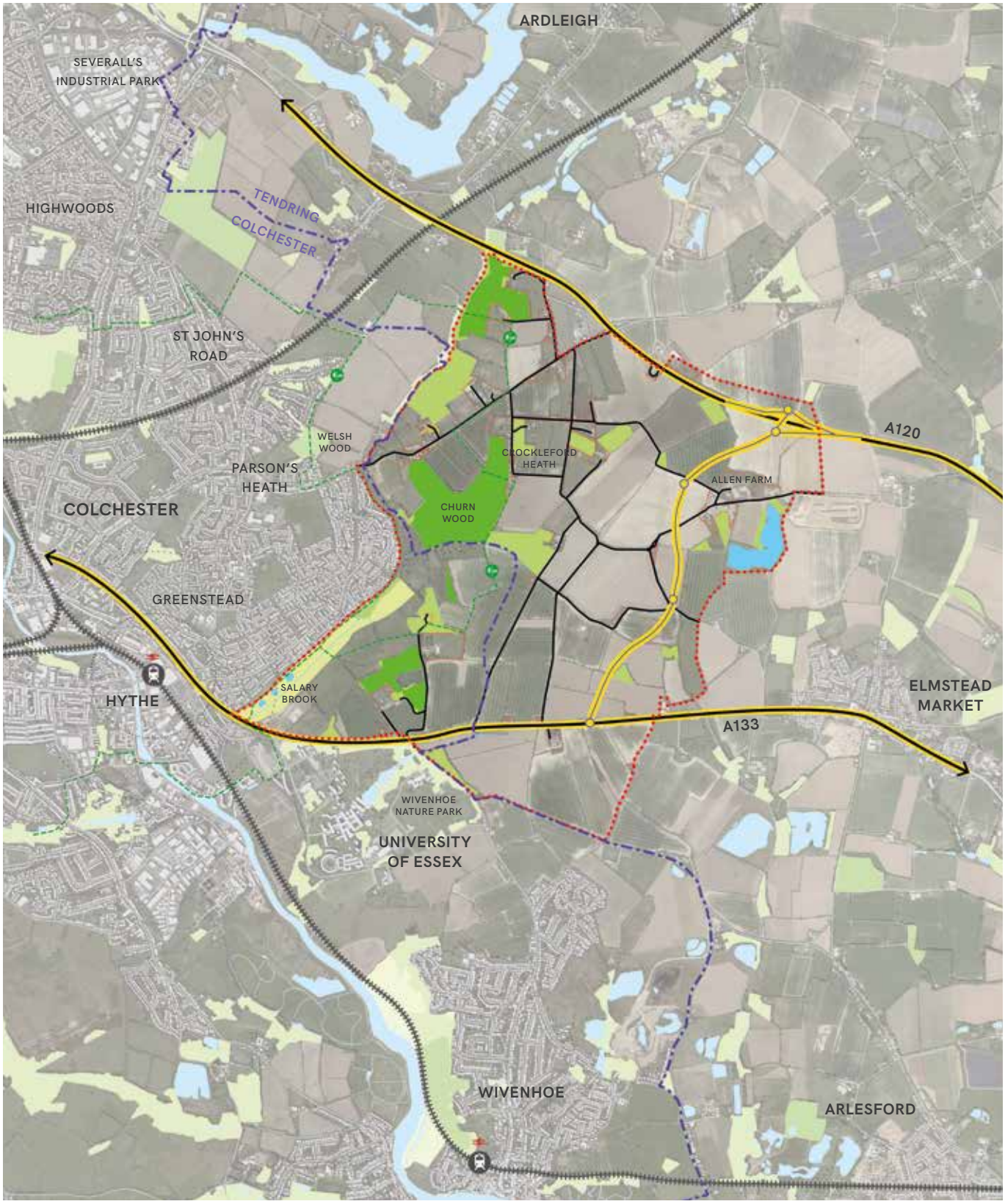


FIGURE 2 Local Context

- Area of Search of TCBGC
- District Boundary
- Rail Line
- Station
- Waterbody
- Ancient Woodlands
- Woodlands
- Colchester Orbital Route
- A - Roads
- Proposed Link Road
- Existing Lanes

STRUCTURAL FACTORS POINTING TO THE NEED FOR AN INNOVATIVE APPROACH

CLIMATE CHANGE

Climate change poses a real and present threat to people, infrastructure, industrial sectors and therefore the economy. In 2019, the UK became the first major economy to pass net zero emissions law; committing to end the UK's contribution to global warming and achieve net zero carbon by 2050.

Research into current trends shows a shift towards designing landscapes which will help to manage flooding and are resilient to climate change, increasing river storage capacity or slowing surface runoff through Sustainable Drainage Systems. Multi-benefit landscapes need to be developed which have economic and social benefits while also working hard to improve environmental conditions, for example through the use of integrated green and blue infrastructure networks or increased woodland cover.

CHANGING COMMUNTING PATTERNS

Changes in the way people live and travel will mean that design needs to cater for an expected uptake in sustainable transport modes combined with reduced car use. New developments will need to be designed to give cycle and bus networks priority on roads. This will be combined with the increasing use of new technologies to improve people's experience of urban environments while also greening and cleaning them to create better places to live.

Private transport will move further towards sharing rather than owning private cars, and technological advances such as demand responsive transport will both help to reduce the reliance on the car, increase public transport usage and help to support the mode shares.

NEW WAYS OF WORKING

According to the Town and Country Planning Association, the provision of workplaces within easy commuting distance of homes is a fundamental principle of the Garden City model.

In addition, the way people work is changing, and it is recognised that there will be an increasing demand for employment space that accommodates flexible ways of working. This will have implications for the design of homes, local centres and dedicated employment locations.

Integration of 5G communications technologies in the workplace, will facilitate better remote working and more flexibility. In addition, decentralised low carbon energy systems, automated and electrified transportation will improve connections between homes, businesses, schools and other locations; meaning the mode and frequency with which people make everyday journeys is likely to change.

CHANGING NEEDS AND LIFESTYLES

Both the National Design Guide and the "Living with Beauty" Report from the Building Better, Building Beautiful commission identify a need for planning and development practices that promote beautiful, enduring and successful places. The "Living With Beauty" report calls for a renewed approach to development that "asks for beauty, refuses ugliness and promotes stewardship".

Proximity to resources and employment, coupled with rapid mass-transit solutions to satisfy journeys beyond walking and cycling distance, are all key considerations in determining appropriate density, and in creating more sustainable communities. This also has implications for how people can live healthy lives, with good mental and physical wellbeing.

New trends indicate a move towards more innovation in housing typologies. Closely related to intensity and mix, changing urban density requirements call for new housing typologies to be explored.

As set out in the Town and Country Planning Association Garden City Principles, the provision of facilities in close proximity to where people live is a fundamental element of sustainable neighbourhood design. Recently, the '15 minute neighbourhood' concept has received increased traction; with a goal to creating towns and cities where all essential services can be reached within a 15 minute walk or cycle.

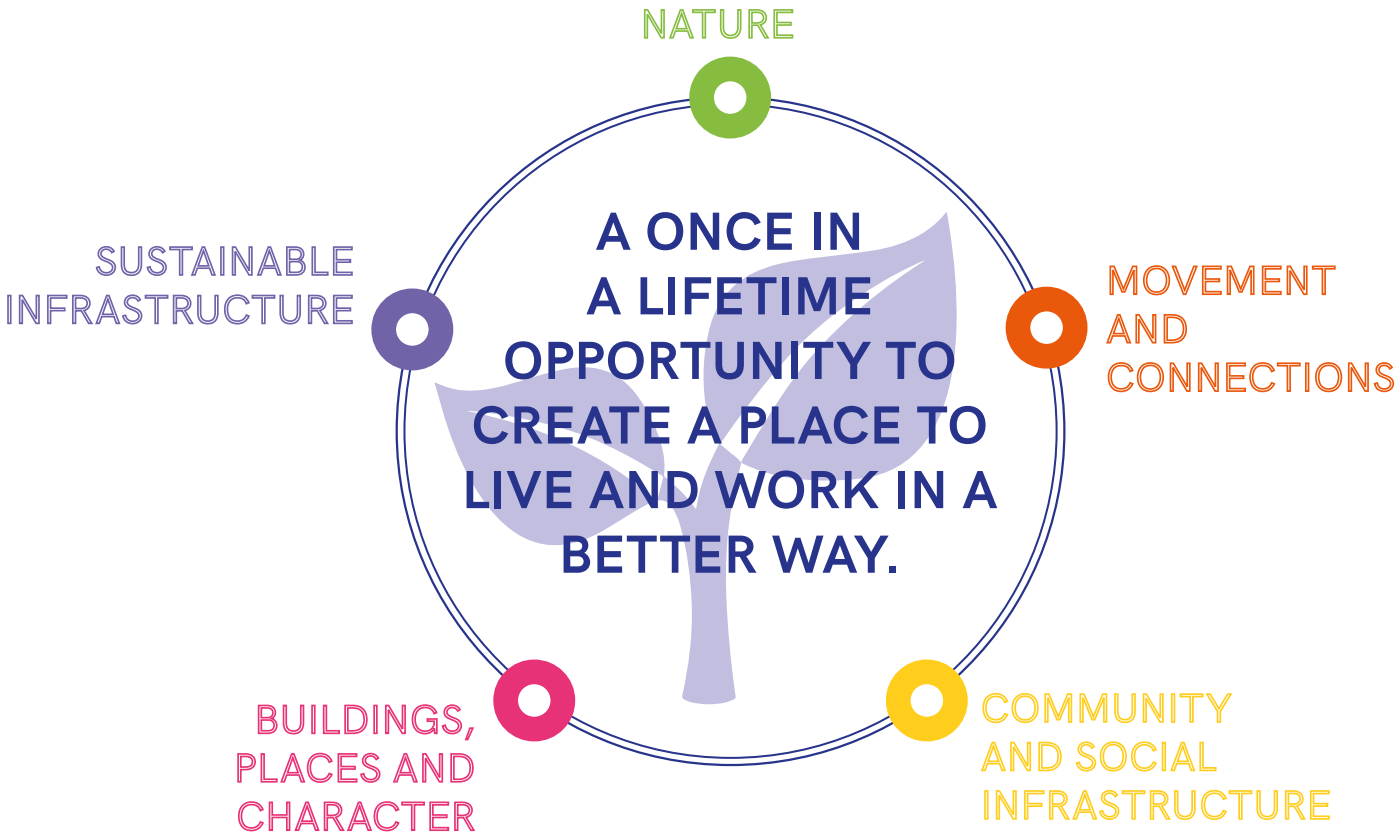
MISSION STATEMENT

All the mentioned structural changes and trends point to the fact that this is a once in a lifetime opportunity to create a Garden Community that is ahead of its time and responds to the emerging needs of current and future generations. It leads on to considering the overall level of ambition and developing a suitable 'mission statement' to guide the way forward.

Tendring Colchester Borders Garden Community aspires to become an exemplar and forward thinking new community in its own right, while resulting in clear benefits to its surrounding area. The new Garden Community will enable its residents to live healthy, happy, green, sustainable, connected and thriving lifestyles. This is a once in a lifetime opportunity to create a place to live, play and work in a better way.

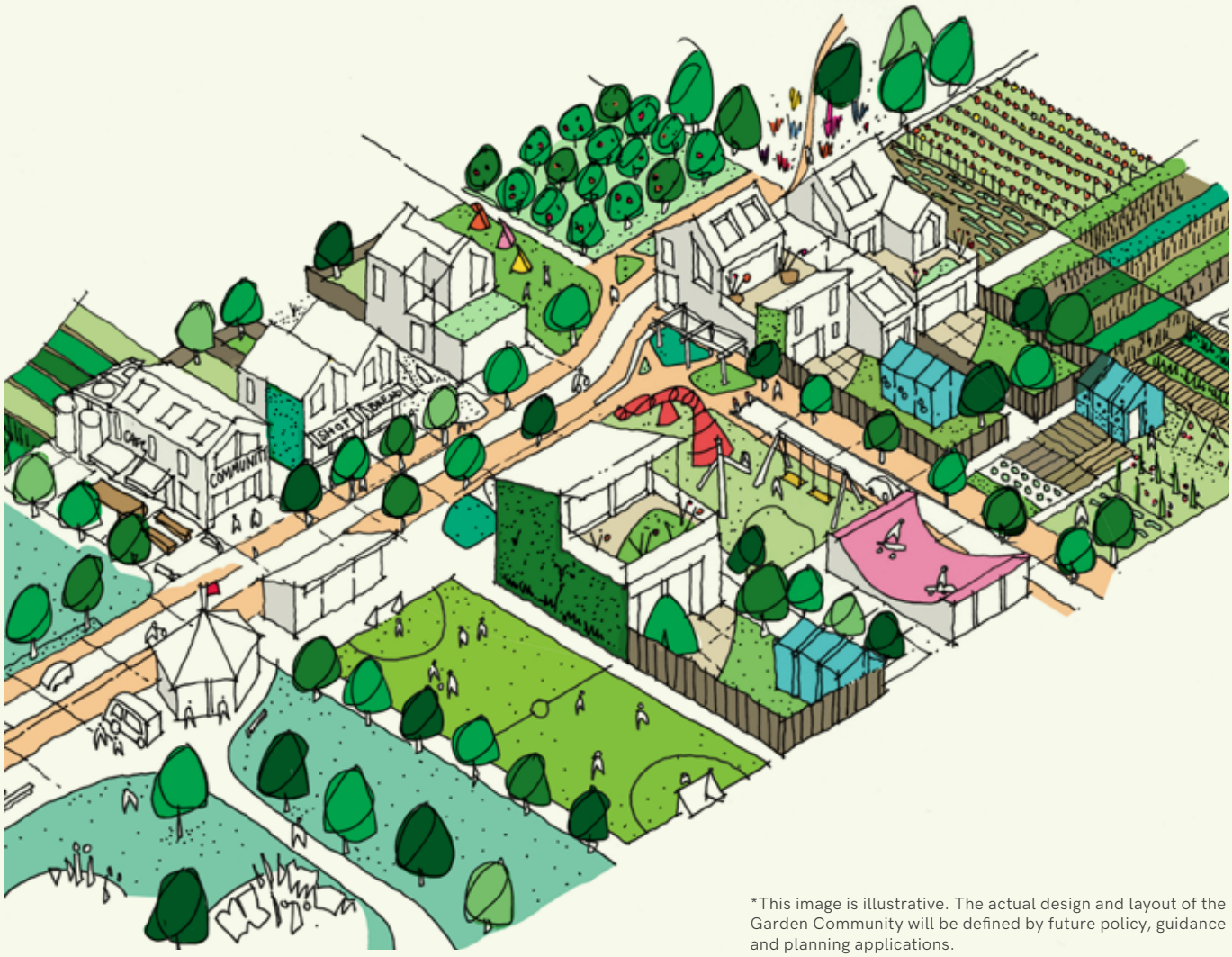
The vision and key themes are set out below and explained in more detail across the following sections.

VISION FRAMEWORK



NATURE

THE OUTDOOR NATURAL ENVIRONMENT OF THE GARDEN COMMUNITY WILL BE ITS BIGGEST ASSET. IT WILL COMPRISE GREEN INFRASTRUCTURE WHERE NEIGHBOURS WILL SPEND TIME, PLAY, INTERACT AND GROW. IT WILL PROVIDE A NATURAL SUPPORT SYSTEM FOR BOTH PEOPLE AND WILDLIFE.



*This image is illustrative. The actual design and layout of the Garden Community will be defined by future policy, guidance and planning applications.

STRATEGIC PRINCIPLES

A PLACE SHAPED BY NATURE AND LANDSCAPE

The Garden Community will incorporate important existing landscape features and provide a high degree of connectivity to existing green corridors and networks. Alongside a new Country Park provided along the Salary Brook Corridor it will also deliver a variety of new spaces - parks, fields, wild spaces, communal spaces, private places.

A PLACE WITH THRIVING ECOLOGY AND BIODIVERSITY

Net Gains in biodiversity and a thriving ecological network will shape the Garden Community ensuring native species thrive. Key assets within the Garden Community site including Salary Brook Local Nature Reserve, Welsh Wood Local Nature Reserve, ancient woodland, species rich hedgerows, areas of species rich grassland and valuable wetlands will be protected and/or enhanced and linked into the wider natural ecosystem network through habitat creation and management.

A PLACE WITH A PRODUCTIVE AND CLIMATE RESILIENT NATURAL LANDSCAPE

The landscape of the Garden Community will be informed by inclusive community design and provide a range of productive uses such as orchards, allotments and growing fields. Natural flood risk management and carbon capture will be seamlessly incorporated in the ecological network, making the natural landscape "work hard" and deliver multiple benefits simultaneously.

OBJECTIVES

A PLACE SHAPED BY EXISTING LANDSCAPE

+ Across the Area of Search, there will be a minimum of 50% and multifunctional green infrastructure, that is seamlessly integrated with the built environment to connect people with nature
+ Existing landscape features conserved, enhanced and incorporated in the masterplan
+ Connectivity links established to existing green corridors and networks
+ New Country Park around the Salary Brook Corridor and including the slopes to the east
+ A variety of new connected open spaces created including parks, fields, wild spaces, communal spaces and private gardens
+ Streets with tree planting, Sustainable Drainage Ssystems and planting integrated

A PLACE WITH THRIVING ECOLOGY AND BIODIVERSITY

+ Existing habitats and wildlife sites conserved, protected and connected with new species rich habitat links
+ Hedgerow network protected and enhanced with existing hedge lined lanes protected and retained
+ Minimum 10% biodiversity net gain
+ Streets to include trees and other generous landscaping where appropriate
+ Ecologically rich buffer landscapes established against existing and new road corridors
+ Recreational pressures on existing sensitive habitats mitigated through the creation of new areas for recreation

A PLACE WITH A PRODUCTIVE AND CLIMATE RESILIENT NATURAL LANDSCAPE

+ Native, wildlife friendly planting and edible species
+ Allotments, community orchards and growing fields provided which maximise the good quality free draining soils
+ Canopy cover, use of green walls and planting maximised and hard surfaces minimised in built up areas
+ SuDS and rain gardens integrated
+ New links of woodland, meadow, grassland and wetland created to lock in carbon
+ Drought tolerant planting approaches used
+ Natural water management system integrated as an attractive biodiverse network with water features including swales, ponds and larger water bodies used in preference to piped systems

FIGURE 3 Green and Blue Infrastructure (indicative and for illustration only)

- Area of Search of TCBGC
- Rail Line
- Station
- Waterbody
- A - Roads
- Proposed Link Road
- Colchester Orbital Route
- Green Buffer along Main Roads
- Indicative Green Buffer
- Indicative Blue Infrastructure
- Indicative Green Corridors
- Protected Verges
- Registered Parks and Gardens
- Parks and Gardens
- Ecology and Biodiversity
- Habitat and Wildlife

WHY IS THIS IMPORTANT?

Attractive & popular places

Recent work looking at the value of Green Infrastructure to commercial property development/ management in the North West of England has identified that

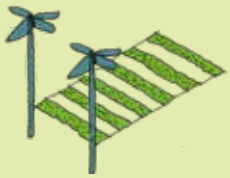
"Green Infrastructure is one of a number of factors that can affect viability. High quality green environments can contribute to uplift values; rental uplifts of up to 20% have been achieved."

Source: Demystifying Green Infrastructure, UK Green Building Council, 2015

Health & wellbeing

Green infrastructure can reduce air pollutants such as nitrogen dioxide by 15%, particulate matter by 23% and reduce the urban heat island effect by one degree centigrade.

Source: Green Capital, Green Infrastructure for a Future City



Access to nature

More than 90% of people in England are known to visit public green spaces, and think it is important to have public green spaces nearby.

Source: Green Capital, Green Infrastructure for a Future City

Grasslands and CO_2

UK grasslands store 2 billion tonnes of carbon, but this is vulnerable to disturbance. We can restore species-rich grasslands to lock up carbon and support abundant wildlife.

Source: Berkshire, Buckinghamshire, Oxfordshire and The Wildlife Trust, Nature Based Solutions

Threatened biodiversity

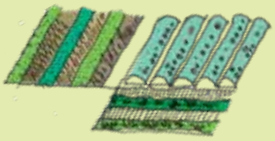
According to UK government's own review of its progress towards its biodiversity goals, 14 out of 42 biodiversity indicators showed a long-term decline, including continued deterioration of UK habitats and species of European importance, as well as a decline in priority species. Furthermore, the 2019 State of Nature report found that populations of the UK's most important wildlife had fallen by 60% over the last 50 years.

Source: Public Policy Exchange, Improving Biodiversity in the UK: Post-Pandemic Priorities to Tackle Nature's Dangerous Decline

Community gardening

can address health-related issues through the provision of opportunities for physical activity, improved nutrition, reduced stress, improved wellbeing through increased social contact, culturally valued activities and mitigation of food poverty.

Source: Lovell et al, What are the health and well-being impacts of community gardening for adults and children: a mixed method systematic review protocol



LESSONS WE CAN LEARN FROM OTHER PLACES

EDDINGTON, CAMBRIDGE

A new neighbourhood built to to minimize carbon emissions with green spaces making up a third of the development (50ha).

Lessons for the Garden Community

+ **New green corridors** with **sustainable drainage** features such as swales and rain gardens as part of the rain water recycling system
+ Walking and cycle access, areas of play and places for residents to meet and relax in the **linear parks**
+ Buildings have been designed to provide **nesting for birds** of conservation concern
+ More than 2,400 trees planted, using very large species that are climate resilient to **increase canopy cover in the city**
+ The **soil management strategy** reused the soil on site and combined them with plant typologies that worked with those soils

UPTON, NORTHAMPTON

A development which has natural features integrated well with designed spaces and sustainable drainages systems creating a high quality green setting for new homes.

Lessons for the Garden Community

+ **Green corridors** with **sustainable drainage** features such as swales and rain gardens as part of the rain water recycling system
+ Network of high quality, **landscaped open spaces** with a variety of **activities including play**
+ Well-designed development which includes site-specific enhancements to achieve **biodiversity net gains** at neighbourhood, street and household levels

LOCAL INSPIRATION

HIGH WOODS COUNTRY PARK

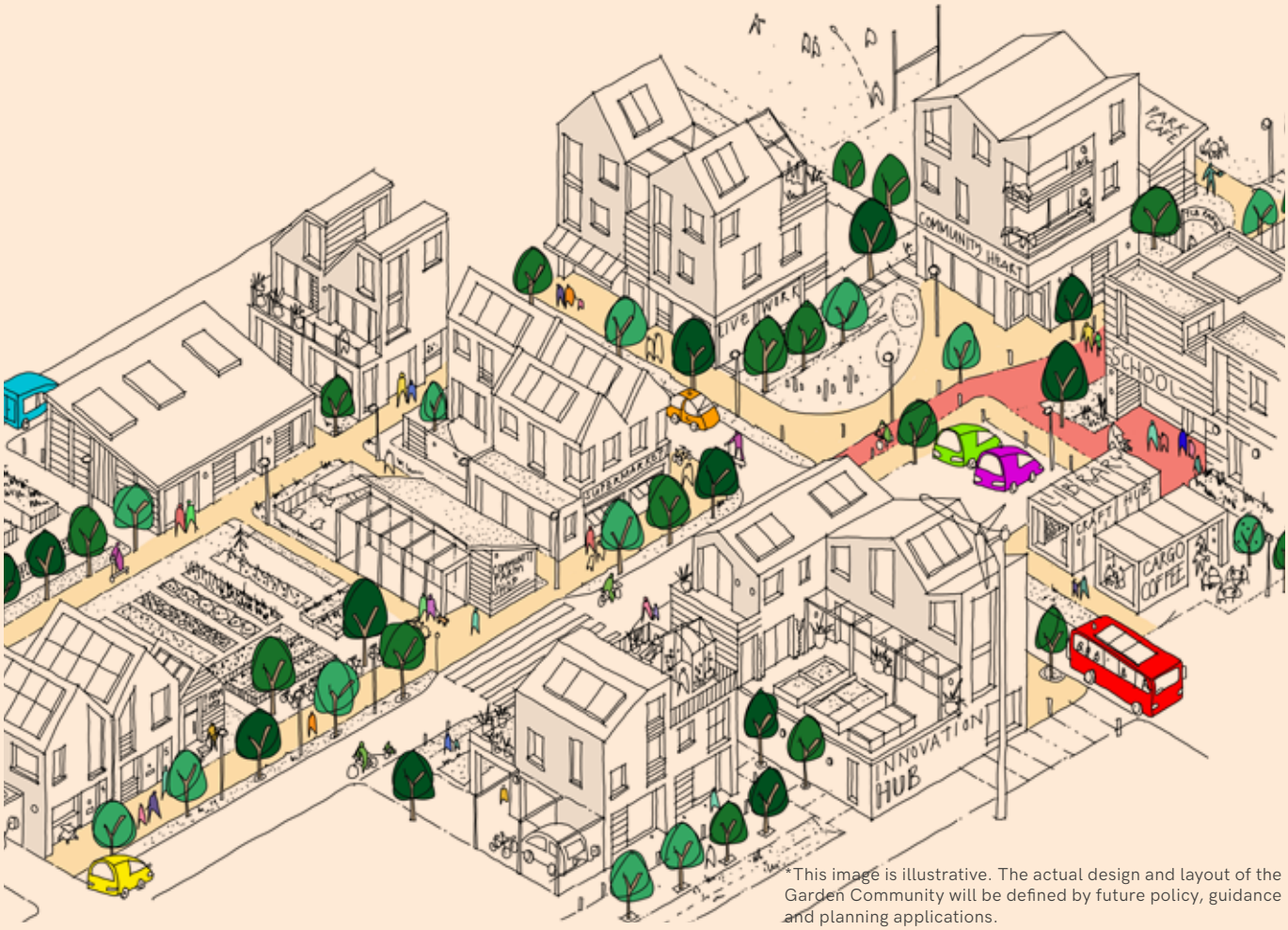
Green Flag awarded park in Colchester with marked walks, dog walking, cycling routes, play areas, sitting areas, a community garden and a fishing lake

COLCHESTER ORBITAL

Circular route around town, connecting some of its most important and beautiful green spaces and off-road pathway networks, follows public rights of way, and links with cycle paths

MOVEMENT AND CONNECTIONS

THE GARDEN COMMUNITY WILL BE STRUCTURED AROUND A DENSE NETWORK OF TRAFFIC-FREE WALK AND CYCLE ROUTES WITH RAPID PUBLIC TRANSIT PRIORITISED AND SUPPORTED BY A RANGE OF INNOVATIVE MOBILITY MEASURES. THIS WILL ENSURE DAY TO DAY TRIPS ARE SHORTER, QUICKER AND CHEAPER WITHOUT A CAR.



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STRATEGIC PRINCIPLES

A PLACE WHERE PEOPLE HAVE PRIORITY

The starting point for the design of the Garden Community will be a network of people-focused streets and traffic-free routes that ensure it is quicker to walk, cycle and scoot than use the car. The streets will be for play and enjoyment first, with traffic and deliveries carefully managed such that the streets are seen as a key setting for community life. While the Garden Community will not design out the car it will purposefully be planned for a different future where reduced private ownership and shared modes are efficient, safe and cheaper. While access will be possible to every house by car, the design of the streets will mean that cars will move slowly and be understood as guests in the streetscape. The streets will be designed such that parking spaces, car parks and car courts can be repurposed as community spaces as car ownership falls in the future.

A PLACE WITH RAPID, EFFICIENT AND COST EFFECTIVE PUBLIC TRANSPORT

A new Rapid Transit network will link the Garden Community to the wider area on high quality vehicles, operating at high frequencies and offering faster journey times to key destinations than by other means such as the private car. This will make Rapid Transit the first choice for trips into Colchester and beyond. This will be a huge benefit for existing communities and for those travelling in to use the Park and Choose site, making the area even more attractive as a place to live, work, play and visit.

A PLACE WHERE ACTIVE AND SUSTAINABLE TRAVEL IS THE NATURAL CHOICE

Journeys will be different. The streets will be designed for people not cars, while dedicated traffic-free links will make walking, cycling and shared transport the natural choice for most trips – whether this may be going to work, dropping the kids off at school on the way or meeting friends at the weekend. It will more direct, quicker and cheaper to travel by active and sustainable modes – linked by Mobility-As-A-Service – and therefore there will be less need to own a car.

A CONNECTED PLACE

The Garden Community will have excellent strategic connections to Colchester, Tendring and beyond. Locally the Garden Community will be seamlessly connected with local assets such as the University and residents will find it easy to connect to neighbours, both on- and off-site.

OBJECTIVES

A PLACE WHERE PEOPLE HAVE PRIORITY

+ Dense network of traffic-free walking and cycling links
+ Residential streets designed with low design speed with off-plot and sensitively incorporated car parking
+ Non-residential streets designed with low design speed, with segregated cycle links
+ All movement routes and corridors will be through safe, legible, attractive, tree-lined corridors for amenity, air quality mitigation, biodiversity and good mental health
+ Off-plot car parking paid for separately to house purchase/rental
+ On- and off-street car parking designed flexibly with future non-car uses in mind
+ Streets designed to discourage informal parking, supported by Controlled Parking Zones
+ Vehicle access and loading restrictions to manage servicing needs
+ Streets and footpath links designed for all different users's needs including people with mobility impairments and parents with pushchairs
+ Emergency and service access provided throughout the street network

A PLACE WITH RAPID, EFFICIENT AND COST EFFECTIVE PUBLIC TRANSPORT

+ RTS routes given priority through the Garden Community and off-site, linking local centres and providing easy access to halts and services
+ RTS stops integrated in mobility hubs in all centres and residential areas
+ RTS running from the first stage with high frequency
+ Park and Choose to complement the function of RTS
+ Integrated ticketing for RTS and other bus services

A PLACE WHERE ACTIVE AND SUSTAINABLE TRAVEL IS THE NATURAL CHOICE

+ Transit oriented development with higher density around mobility hubs, centres of activity and key corridors
+ Network of mobility hubs established with a range of facilities connecting Rapid Transit Ssystem to first/last mile options on-site
+ Plentiful secure and covered cycle parking provided at key destinations and residential areas
+ Cycle and scooter hire docking stations provided at key destinations and community centres
+ Robust travel plans put in place, linked to mode share targets
+ Car club promotion to reduce the need for car ownership
+ Horse riders provided for with a network of bridleways

A CONNECTED PLACE

+ Link Road providing good connections to the A120 and A133
+ Walking and cycle routes connected to Rights of Way and to high quality and direct links to the University and Colchester
+ Hierarchy of street types to provide for the different routes, vehicular types and places

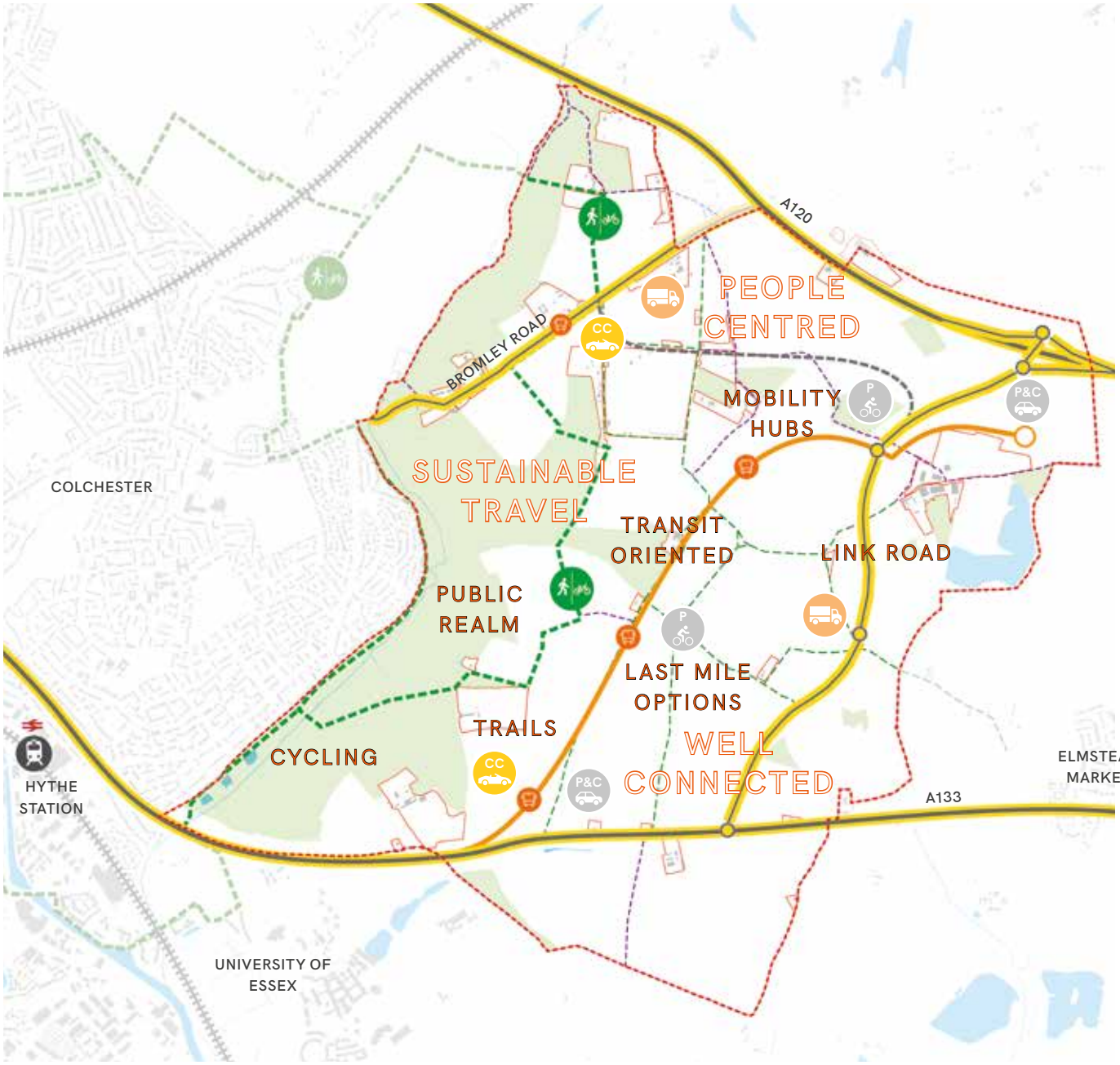


FIGURE 4 Movement and Connections (indicative and for illustration only)

- Area of Search of TCBGC
- Rail Line
- Station
- Waterbody
- A - Roads
- Proposed Link Road
- Colchester Orbital Route
- Quiet Lanes
- Public Rights of Way (PRoW)
- Indicative Bus Link
- Indicative RTS
- Quiet Lanes
- Service Infrastructure
- Community Facilities (Car Clubs)
- Parking and Choose
- Cycle Parking

WHY IS THIS IMPORTANT?

Efficient use of finite resources

In the UK our cars are parked for 96% of the time (80% at home and 16% elsewhere).

Source: The International Garden Cities Institute

Cycling for commuting

Recent analysis of data from the Active People Survey has shown that people who cycle for travel purposes (i.e. rather than simply for recreation) are four times as likely to meet physical activity guidelines as those who don't.

Source: Public Health Matters, Public Health England

Investment in public transport

Investment in buses generates significant social, economic and environmental benefits to passengers, other road users and the wider community with every £1 spent generating benefits of up to £8.

Source: The 'true value' of local bus services. Greener Journeys, 2017.

Benefits of car share

Car clubs providing access to a vehicle without the expense of ownership, with every car club taking 18.5 private cars off the road. Freeing up road space that would otherwise be required for parking improves social cohesion, increases space for children to play and helps contribute towards vibrant communities.

Source: CoMoUK

CO_2 and the private car

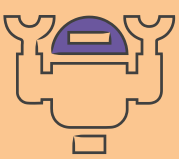
Transport produced 27% of the UK's total emissions in 2019. Of this, the majority (91%) came from road transport vehicles s (111 $MtCO_2e$). The biggest contributors to this were cars and taxis, which made up 61% of the emissions from road transport.

Source: Transport and Environment Statistics 2021 Annual report, Department for Transport

The future of deliveries

Four models are predicted to dominate last mile delivery in the future: Autonomous Guided Vehicles (robots!) with parcel lockers, drones, and bike couriers.

Source: Parcel delivery: The future of last mile. McKinsey & Company, 2016



LESSONS WE CAN LEARN FROM OTHER PLACES

BELFAST GLIDER, NORTHERN IRELAND

The Glider operates a direct cross-city service between east and west Belfast and between Belfast City Centre and Titanic Quarter.

Lessons for the Garden Community

+ **High quality service** providing people with **better access** to jobs, hospitals, shops, schools, colleges, and entertainment
+ Glider routes consist of both **dedicated bus lanes**, that are operational from 7am to 7pm, and **mixed traffic lanes**, which are available to all traffic
+ Priority given at **signalised junctions**
+ **More reliable** than normal bus services and **cut public transport journey times** by as much as 25%
+ 18 metre articulated buses with a capacity of 105 people which provide a **greater capacity than that provided by current double deck buses**
+ Major stops and interchanges provide **secured cycle parking**

HOUTEN, NETHERLANDS

Filtered permeability a key traffic management tool used in locations that achieve lower levels of car use.

Lessons for the Garden Community

+ **Car driving is restricted on internal roads**, meaning that most car journeys are required to use the external ring road, making them significantly **longer than walking or cycling**
+ **Reduces the ability for motorised vehicles** to travel through the centre of an area while maintaining access for pedestrians, cyclists and public transport
+ While car ownership is reasonably high in Houten (415 cars per 1,000 population, compared to the UK average of 488), the **layout of the streets has successfully increased the attractiveness of walking and cycling** with over 60% of trips shorter than 7.5km made by these modes

LOCAL INSPIRATION

CAMBRIDGESHIRE GUIDED BUSWAY

Dedicated busway, pedestrian and cycle route providing reliable, fast and direct links to connect new and existing neighbourhoods with employment and services

DEMAND RESPONSIVE TRANSPORT

Northern Essex flexible services provided by minibus vehicles that group bookings and only require a minimum of three passengers to make the booking - can divert on and off route to collect passengers

COMMUNITY AND SOCIAL INFRASTRUCTURE

THE GARDEN COMMUNITY WILL BE KNOWN FOR ITS HEALTHY AND HAPPY COMMUNITY. IT WILL HAVE A VARIETY OF DIVERSE COMMUNITY SPACES, PLAY SPACES, GREAT LOCAL SCHOOLS AND A NETWORK OF SPORT AND LEISURE FACILITIES. IT WILL ESTABLISH LONG TERM AND PARTICIPATIVE STEWARDSHIP OF INFRASTRUCTURE FROM THE OUTSET.

*This image is illustrative. The actual design and layout of the Garden Community will be defined by future policy, guidance and planning applications.

STRATEGIC PRINCIPLES

A PLACE WHERE EVERYONE CAN FEEL AT HOME

The Garden Community will be home to a multi-generation and multi-cultural community for people of different ages, ethnicities, interests and lifestyles. A variety of spaces for social interaction will encourage existing and new communities to meet with facilities designed to be accessible and inclusive.

A PLACE WHERE IT'S EASY TO BE HEALTHY AND HAPPY

The Garden Community will be designed to make it easy for residents and visitors to live well. It will be about far more than the delivery of healthcare services but focussed on creating environments that promote healthy living, are regenerative, restorative and relaxing - being active and tranquil will come naturally.

A PLACE WHERE EVERYONE CAN LEARN

The Garden Community will be planned with lifelong learning in mind. While early years, primary and secondary education will all be planned for it will also develop a more holistic place that creates opportunity for lifelong learning, training and local opportunities with employers and key institutions such as the University of Essex.

A PLACE TO PLAY AND HAVE FUN

In addition to purpose-built sport and leisure facilities the Garden Community will include opportunities for recreation and activity including for children and young people.

A PLACE WHERE LONG TERM STEWARDSHIP IS CONSIDERED FROM THE OUTSET

Long term stewardship and governance will be considered and built-in from the initial stages of planning and designing the Garden Community. A clear understanding will be established from early on, of how the assets generated by the development process will be managed on behalf of the community in perpetuity and how income streams will be generated. Meaningful community participation will be established from the outset to enable people to engage in the management of their infrastructure. Community needs and opportunities will be identified in a participative manner and there will be local representation on delivery teams and partnerships.

OBJECTIVES

A PLACE WHERE EVERYONE CAN FEEL AT HOME

+ Co-location of different uses to maximise activity throughout the daytime and evening and provide opportunities for diverse social interaction
+ Multi use spaces that are designed to cater and support people from different groups (age/culture/ability/LGBTQ+/family status etc.)
+ Community spaces accessible by all modes of travel
+ Community spaces flexible for different uses
+ Ground floor uses that create interest and activity

A PLACE WHERE IT'S EASY TO BE HEALTHY AND HAPPY

+ Inclusive public realm that creates the feeling of safety, a sense of place and interaction with nature
+ High quality and accessible sports facilities, playing pitches and greenspaces
+ Creation of a safe and overlooked walking and cycling network
+ Provision of healthcare, leisure, social and community facilities accessible by all modes of transport
+ Promotion of social interaction through shared amenity spaces
+ Active travel promoted
+ Connections established into the wider long distance leisure routes

A PLACE WHERE EVERYONE CAN LEARN

+ Provision of education facilities in close proximity to district and local centres, making them easily accessible
+ Feeling of safety and security promoted for students within and around these facilities
+ Education facilities within easy access to play and recreation spaces
+ Flexibility of use of the premises during non-school hours

A PLACE TO PLAY AND HAVE FUN

+ Play, sport and leisure facilities that cater to all ages, abilities and needs and are easily accessible by all modes of transport
+ Sport and leisure facilities in close proximity to the neighbourhood it serves

A PLACE WHERE LONG TERM STEWARDSHIP IS CONSIDERED FROM THE OUTSET

+ A suitable stewardship model and the assets and services which will require management and maintenance in perpetuity identified
+ Minimisation of the running and maintenance costs of buildings and landscapes embedded through design
+ Community needs and funding priorities identified early on
+ Local resident representation on the stewardship model
+ Different and inclusive engagement and communication links established

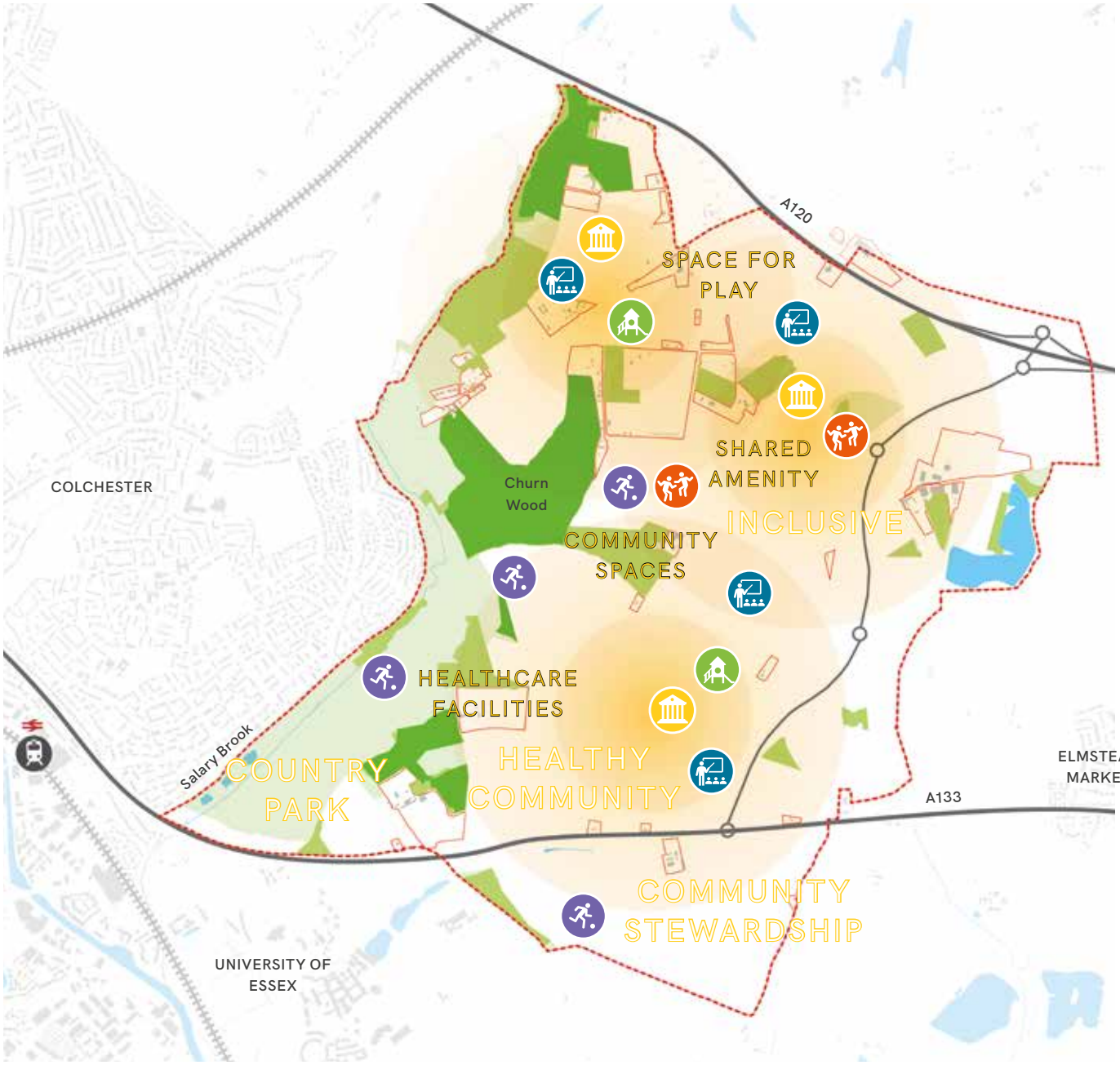


FIGURE 5 Community and Social Infrastructure (indicative and for illustration only)

- Area of Search of TCBGC
- Rail Line
- Station
- Waterbody
- A - Roads
- Proposed Link Road

- Community Facilities
- Recreational Facilities
- Sports Facilities
- Play Facilities
- Educational Facilities
- Cluster of Community Activities

WHY IS THIS IMPORTANT?

Community spirit benefits

A sense of community has been associated with improved wellbeing, increased feelings of safety and security, participation in community affairs and civic responsibility.

Source: Creating a sense of community: The role of public place. Francis et al., 2012. Journal of Environmental Psychology, 32.

Physical inactivity

is a public health problem comparable to smoking. People who did not achieve recommended levels of physical activity are at risk of developing serious illnesses such as diabetes, heart disease and cancer.

Source: walkingforhealth.org

Addressing loneliness

Over 9 million people in the UK say they are always or often lonely. 51% of all people aged 75+ live alone. 40% of older people say the television is their main company, and 17% are in contact with family, friends and neighbours less than once a week. Loneliness and social isolation are harmful to our health.

Source: Loneliness Research, Campaign to End Loneliness

Improving life expectancy in Essex

There is an ageing population with more people with long term conditions. The life expectancy gap is widening and there are significant health inequalities. Mental health issues are common and suicide has increased.

Source: Essex Joint Health and Wellbeing Strategy 2018-2022

Added value

A recent report by the charity The Land Trust concluded that developers will see a direct financial benefit if they plan, design and deliver green spaces into new development from the outset. The report set out the importance of securing the long term investment to maintain the green space at the earliest possible stage. At Port Sunlight, £3.4 million investment to create and maintain the River Park in perpetuity has already added £7.8 million to nearby properties' value in just 3 years.

Source: The Economic Value of our Green Spaces, The Land Trust, February 2018

Play as physical activity

A growing number of guidance documents based on research studies show that encouraging "unstructured, active and energetic play" may be the most effective strategy for increasing physical activity and helping to preventing increases in overweight and obesity.

Source: Play England, Freedom to Play

LESSONS WE CAN LEARN FROM OTHER PLACES

EBBSFLEET GARDEN CITY

Ebbsfleet Garden City has a very active and engaged community who organise and participate in different initiatives and drive their own development.

Lessons for the Garden Community

+ **NHS Healthy New Town Programme** launched to develop new models of care, promote active lifestyles, and empower community engagement in health planning (Get Active app, Edible Ebbsfleet)
+ The active cultural scene entails a **community-led cultural programme**, co-locating and integrating **cultural facilities into community buildings** and outdoor spaces and developing life and work skills
+ Current planning permissions within Ebbsfleet include a wide range of **parks and open spaces that will cover over 43%** of the city area
+ **Ebbsfleet Garden City Community Board** is set up to advise the Development Corporation on appropriate **investment**, grants and aid to local groups and projects

LIGHTMOOR VILLAGE, TELFORD

A strong emphasis is placed on providing the infrastructure needed to promote health and wellbeing and create a flourishing mixed community.

Lessons for the Garden Community

+ Bournville Stewardship Services **manage the public open space** and also work to encourage a **strong community spirit** as part of their long term stewardship
+ Provision of **community infrastructure and services** including a school, nursery, **extra care project**, a GP surgery and a small number of retail units
+ **High-quality management and maintenance** of well thought-out, good-quality communal areas
+ Provision of meaningful opportunities for **people to have a say** about the management of the village

LOCAL INSPIRATION

HYLANDS ESTATE ADVENTURE CASTLE

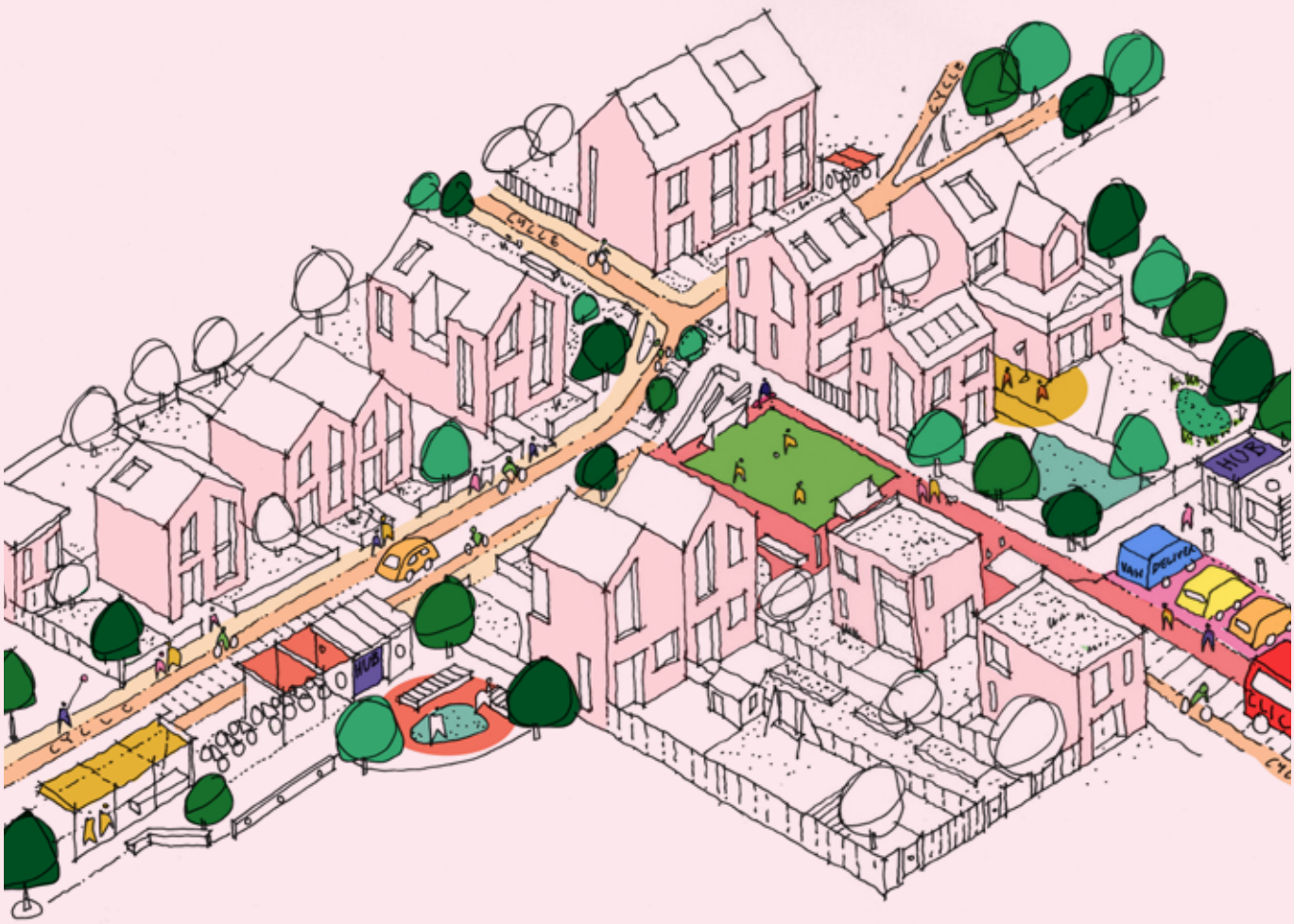
'Plan Inclusive Play Areas' accredited accessible castle themed adventure playground with dedicated play areas for children above and below the age of six and play amenity for children of all abilities

BEAULIEU

The 176 acres of parks and open spaces that will be delivered, will be entrusted to Beaulieu Estate Management Ltd (Land Trust subsidiary) to take care of these spaces indefinitely in partnership and on behalf of residents

BUILDINGS, PLACES AND CHARACTER

THE GARDEN COMMUNITY WILL PROVIDE THE RIGHT JOBS, HOMES AND SPACES FOR ALL ASPECTS OF LIFE. IT WILL CREATE THRIVING DISTINCTIVE PLACES FOR A RANGE OF ACTIVITIES AND EMPLOYMENT OPPORTUNITIES. IT WILL BE MEMORABLE FOR ITS LANDSCAPE AND ARCHITECTURE AND WILL BE WIDELY RECOGNISABLE OF ITS PLACE IN NORTH ESSEX.



*This image is illustrative. The actual design and layout of the Garden Community will be defined by future policy, guidance and planning applications.

STRATEGIC PRINCIPLES

A PLACE WITH DISTINCTIVE IDENTITY

Inherently authentic, memorable and delightful, the Garden Community will have a locally-rooted character drawn from its surroundings, but also a strong identity of its own. The community will be varied in its built form, densities and architectural style. Its impact on the human and physical environment will be considered. Strong and purposeful buffers will provide separation where they are needed while in other areas strong connections and planned links will ensure it is never isolated.

A PLACE WITH A THRIVING LOCAL ECONOMY

The local economy will be vibrant and provide a wide range of new and exciting economic opportunities, maximizing opportunities from the adjacent University of Essex and capitalizing on the success of the Knowledge Gateway. The site will provide a range of flexible and modern workspace together with state of the art digital infrastructure to allow for modern ways of working.

A PLACE THAT IS VIBRANT AND ACTIVE

The Garden Community will be designed to ensure interaction and activity is common. Centres will encourage a variety of mixed use, flexible spaces that are accessible in close proximity to homes and jobs. It will be known for its quality of liveability, equitable prosperity, and social cohesion.

A PLACE WHERE HOUSING IS ACCESSIBLE, AFFORDABLE AND INCLUSIVE

New housing will provide opportunity for young renters, flat sharers, first time buyers, growing families, empty nesters and ageing members of society to live side by side- there will be a real sense of belonging and community with homes designed to be more flexible and adaptable to whole life needs.

A PLACE WITH GREAT HOMES

The Garden Community will create high quality and desirable homes designed to meet the changing needs of the society whilst ensuring high quality spaces.

OBJECTIVES

A PLACE WITH DISTINCTIVE IDENTITY

+ The new community will be rooted in its place and the landscape
+ Important views, vistas, landmarks, heritage assets, trees and hedges will be recognised, protected and enhanced
+ Design Codes will be implemented and used consistently
+ Drawing on the historic tradition of orchards within the local area to create a new productive landscape
+ Green buffers designed to provide suitable distinction between neighbourhoods
+ Green buffers to contribute to the landscape and biodiversity network, accommodate leisure routes and be productive
+ Clear spatial hierarchy that directs the design of the neighbourhood and the building types
+ Plan for a range of housing densities with higher residential densities at mobility hubs, centres of activity and along key movement corridors
+ A range of building heights that add variety and interest to the streetscape, enhance internal legibility
+ Architectural style, building form, materials and layouts that reflect the districts' character while catering to contemporary needs and societal trends

A PLACE WITH A THRIVING LOCAL ECONOMY

+ Medium/small-scale employment uses close to the district centres
+ Maximise the opportunity from the University of Essex and the Knowledge Gateway
+ Provision of live-work and co-working spaces
+ Flexible and adaptable buildings with scope for expanding floorspace, helping to retain them within the garden community
+ Larger scale industrial/storage space accessible via A-roads and the Link Road
+ Respond positively to changing patterns of retail and leisure

A PLACE THAT IS VIBRANT AND ACTIVE

+ Local centres and one district centre that deliver an increased mix of uses
+ Create legible and well-designed focal points within the local centres

A PLACE WHERE HOUSING IS ACCESSIBLE, AFFORDABLE AND INCLUSIVE

+ Housing that caters for all stages of life including multi-generational families, co-housing, start-up homes
+ Housing typologies that respond to different needs and abilities
+ Tenure blind design
+ Accommodation suitable for ageing population close to local centres
+ Sites identified for co-living and self-build typologies

A PLACE WITH GREAT HOMES

+ Homes fit for the 21st century and beyond, digitally connected, with sustainable technologies and future proofed
+ Homes that offer privacy and external amenity spaces
+ Homes that positively address the streets and create clear entry points from the street
+ Provision of good storage areas to meet short and long term needs
+ Integrate utilities, including waste storage and management, such that they do not adversely affect the design of the built environment

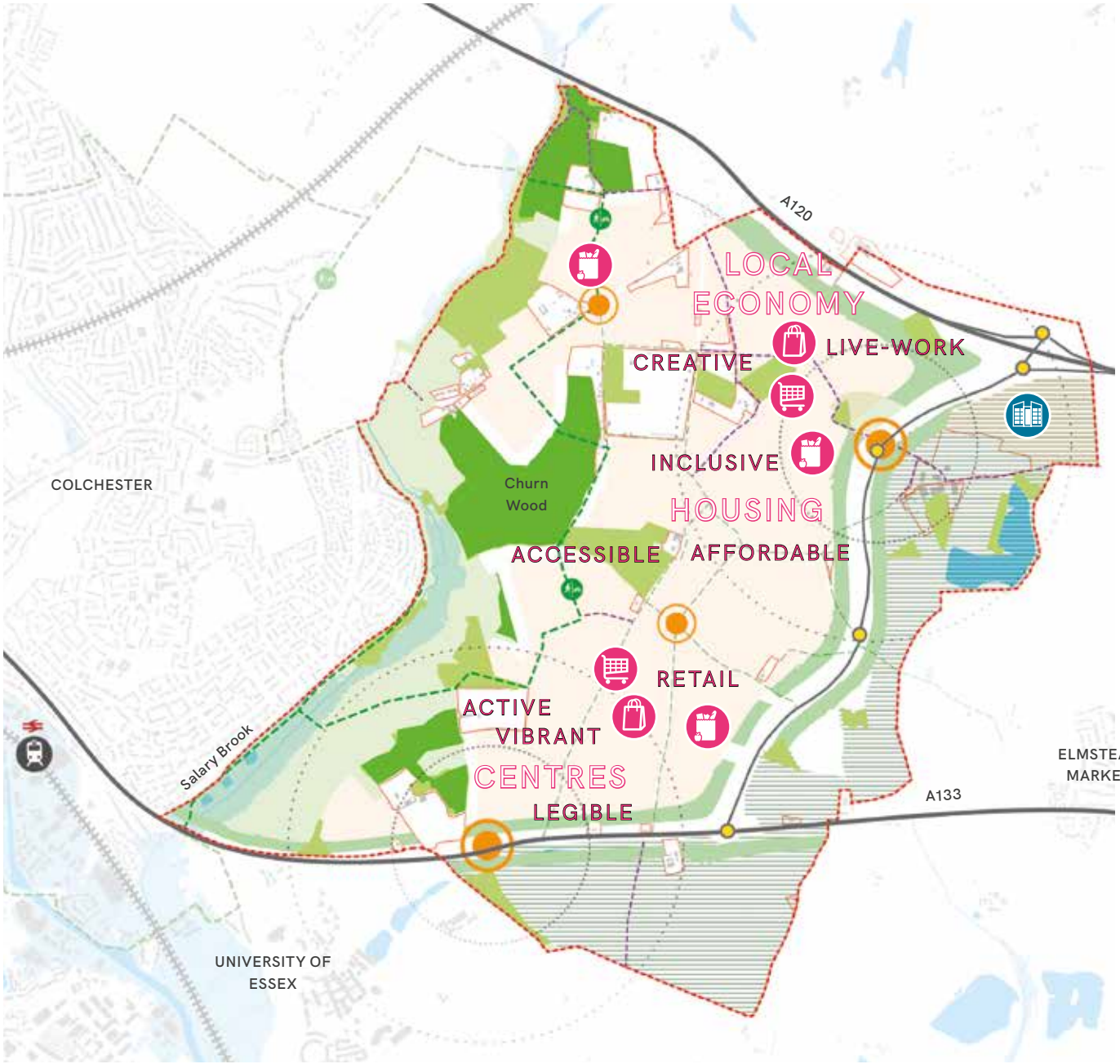


FIGURE 6 Buildings, Places and Character (indicative and for illustration only)

- Area of Search of TCBGC
- Rail Line
- Station
- Waterbody
- A - Roads
- Proposed Link Road
- Colchester Orbital Route
- Quiet Lanes
- Public Rights of Way (PRoW)
- Protected Lane
- Development Parcels
- Green Buffer along Main Roads
- Indicative Green Buffer
- Key Nodes
- Retail Facilities
- Local Neighbourhood Facilities
- Leisure Facilities
- Employment Uses

WHY IS THIS IMPORTANT?

Ageing population

The age profile of our society is changing rapidly. The number of people aged 65 and over will increase by more than 40% within 20 years, and the number of households where the oldest person is 85 and over is increasing faster than any other age group.

Source: Centre for Ageing Better

Promoting local small businesses

In the UK, 96% of businesses employ fewer than ten people and account for 33% of employment. Self-employment, micro-businesses and small and medium enterprises (SMEs) are on the rise.

Source: Business statistics briefing paper. House of Commons Library, 2018; UK SME Data, Stats & Charts. Merchant Savvy, 2018

Placemaking and Value

explored five new-build communities and concluded that good placemaking can secure additional premiums of between 25% and 50%.

Source: Placemaking and Value, 1st Edition, Royal Institution of Chartered Surveyors, February 2016

No more mediocre design

A housing design audit for England (Place Alliance, 2020) concluded after auditing over 140 housing developments across England since 2007, that 75% of new housing development should not have gone ahead due to 'mediocre' or 'poor' design; that one in five of these developments should have been refused planning permission outright as their poor design was contrary to advice given in the National Planning Policy Framework; and that a further 54% should not have been granted permission without significant improvements to their design having been made first.

Source: A Housing Design Audit for England, Place Alliance, CPRE, UCL, 2020

Ask for beauty

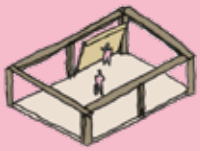
Beauty includes everything that promotes a healthy and happy life, everything that makes a collection of buildings into a place Beauty is not merely a visual characteristic, but is revealed in the deep harmony between a place and those who settle there. So understood, beauty should be an essential condition for planning permission.

Source: Living with beauty: Report of the Building Better, Building Beautiful Commission

Building your own home

can be a route to getting a very affordable property. Typically a self procured home works out at around 25% cheaper; and on community-led group self build schemes savings of nearer 40% are common.

Source: Custom Build Homes - The benefits of self and custom build



LESSONS WE CAN LEARN FROM OTHER PLACES

ACCORDIA, CAMBRIDGE

Accordia challenges the traditional concept of a new home with apartments and townhouses designed to bring the outside in.

Lessons for the Garden Community

+ The **mature landscape is enhanced** with new spaces between the mews courts, greens and squares, themed around the concept of **'living in a garden'**
+ **Each home overlooks a green space**
+ Low-key streets, **'home zones'** and traffic calming reduce car presence and create a safer 20 mph zone
+ A mixture of **house and apartment types** with generous glazing and ceiling heights
+ Streets, mews and pathways have been **commandeered by people**, especially children, and are intrinsically linked to the network of private, semi-private and public space

DERWENTHORPE NEW COMMUNITY

Landmark community in York with high-quality design which reflects local architectural styles while incorporating green features and innovative construction methods.

Lessons for the Garden Community

+ All homes built to '**Lifetime Homes' standards** accommodating the needs of the **ageing residents** and young residents with **disabilities**
+ Makes good use of the **existing hedgerows** to structure the site, which have been enhanced to create **ecological zones and amenity spaces**
+ Different sized houses are used appropriately to **support the urban structure** and provide enclosure and continuous **frontages** to the streets and spaces
+ All houses are designed to the same standard and with the **same appearance regardless of tenure**
+ **The affordable homes are 'pepper potted'** across the whole site, avoiding grouping of tenure and promoting equality and diversity

LOCAL INSPIRATION

Braintree

GREAT NOTLEY GARDEN VILLAGE

Award winning community designed with a landscape led masterplan which includes three distinct neighbourhoods, each with their own character and style and a country park, shops and sports facilities.

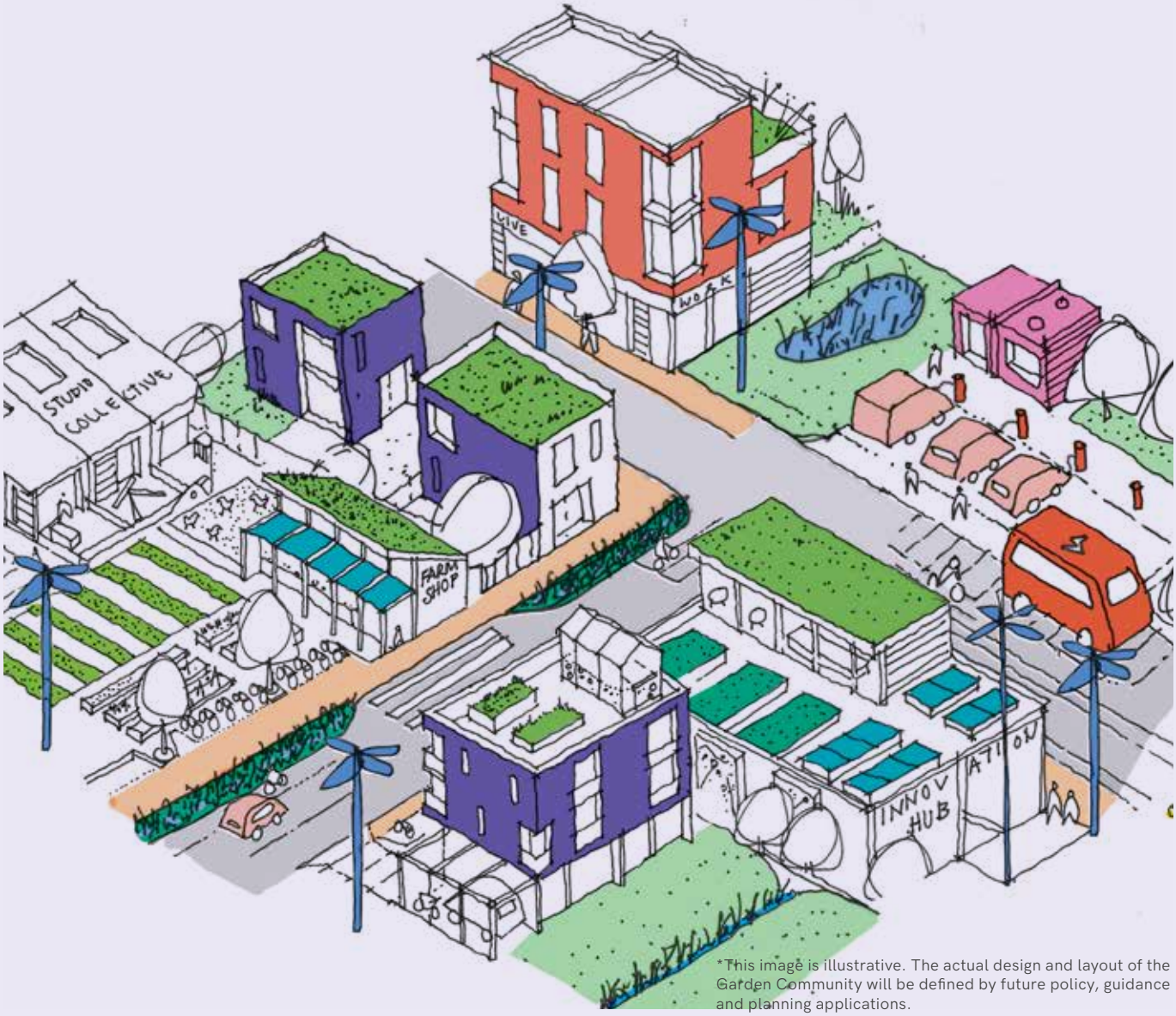
Saffron Walden

THE AVENUE

The scheme used the context of the market town of Saffron Walden to create a local vernacular inspired design which also respects the mature landscape. A number of homes have study spaces in addition to bedrooms.

SUSTAINABLE INFRASTRUCTURE

THE GARDEN COMMUNITY WILL MAKE LIVING SUSTAINABLY EASY FOR ITS RESIDENTS. GREEN INFRASTRUCTURE AND BUILDING SOLUTIONS WILL BE INTEGRATED FROM THE OUTSET AND FOLLOW BEST PRACTICE STANDARDS.



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STRATEGIC PRINCIPLES

A PLACE WHERE THE ENERGY SUPPLY IS SUSTAINABLE, SMART AND FUTUREPROOFED

The Garden Community will look at options which maximises energy efficiency, minimises energy use and promote renewable energy technologies. Smart technology and integrated data service will be used to accommodate people's needs and make their lives better. The Garden Community will ensure homes and infrastructure are future-proofed, affordable and adaptable to everybody's individual and collective needs now and in the future.

A PLACE DESIGNED FOR THE IMPACTS WHILE MINIMISING ITS CONTRIBUTION TO CLIMATE CHANGE

The impacts of climate change will be actively tackled through developing initiatives that reduce greenhouse gas emissions and that actively take carbon dioxide out of the atmosphere.

A PLACE THAT OPTIMISES RESOURCE EFFICIENCY AND RECYCLING ACROSS THE WHOLE DEVELOPMENT LIFECYCLE

The Garden Community will use as few resources as possible in the first place, keep resources in circulation for as long as possible, extract the maximum value from them while in use, then recover and regenerate products at the end of service life.

A PLACE WHERE INFRASTRUCTURE COMES FIRST AND MEETS ITS INHABITANTS' NEEDS

Key to creating a vibrant and attractive Garden Community is the phased delivery of infrastructure and services on site which fully meets the future needs of residents and supports healthy and sustainable lifestyles. The range and nature of facilities considered should ensure that the majority of everyday needs can be met within the site.

OBJECTIVES

A PLACE WHERE THE ENERGY SUPPLY IS SUSTAINABLE, SMART AND FUTUREPROOFED

+ Net-zero energy demand and supply
+ The energy grid will combine renewable sources such as solar power, wind and battery storage to ensure the focus is on green energy production
+ Energy demand is monitored and active support provided to minimise consumption
+ Support new models of ownership and operation

A PLACE DESIGNED FOR THE IMPACTS WHILE MINIMISING ITS CONTRIBUTION TO CLIMATE CHANGE

+ Environmental net gain through nature based solutions and urban greening
+ A system of surface water drainage that will minimise the risk of flooding to the site, improve water quality, biodiversity and amenity value.
+ Sustainable Drainage Systems (SuDS) which will mimic natural hydrological processes and reduce the impact of climate change
+ Water recycling to combat increasing demand on water supply
+ Overheating minimisation measures
+ Use of green walls and tree planting to reduce urban heat effect/ provide shading
+ Incorporation of energy producing landscapes
+ Promote access to green routes that reduce the need for travel by car
+ Create Green Infrastructure that supports our adaptation to a changing weather pattern through, for example, flood control
+ Grey water recycling system integrated to new buildings

A PLACE THAT OPTIMISES RESOURCE EFFICIENCY AND RECYCLING ACROSS THE WHOLE DEVELOPMENT LIFECYCLE

+ Energy demand reduction and embodied carbon (whole life), waste water, waste management
+ Minimisation of waste water discharge on the public network
+ Maximisation of waste water treatment at source before discharge
+ Zero waste and circular economy principles
+ Fastest possible broadband network installed throughout the site to residential and non-residential development

A PLACE WHERE INFRASTRUCTURE COMES FIRST AND MEETS ITS INHABITANTS' NEEDS

+ Establishment of on-and off-site infrastructure delivery strategy and phasing plan that will align with the phases of development
+ Secured timely delivery of on- and off-site infrastructure aligned with each phase of development

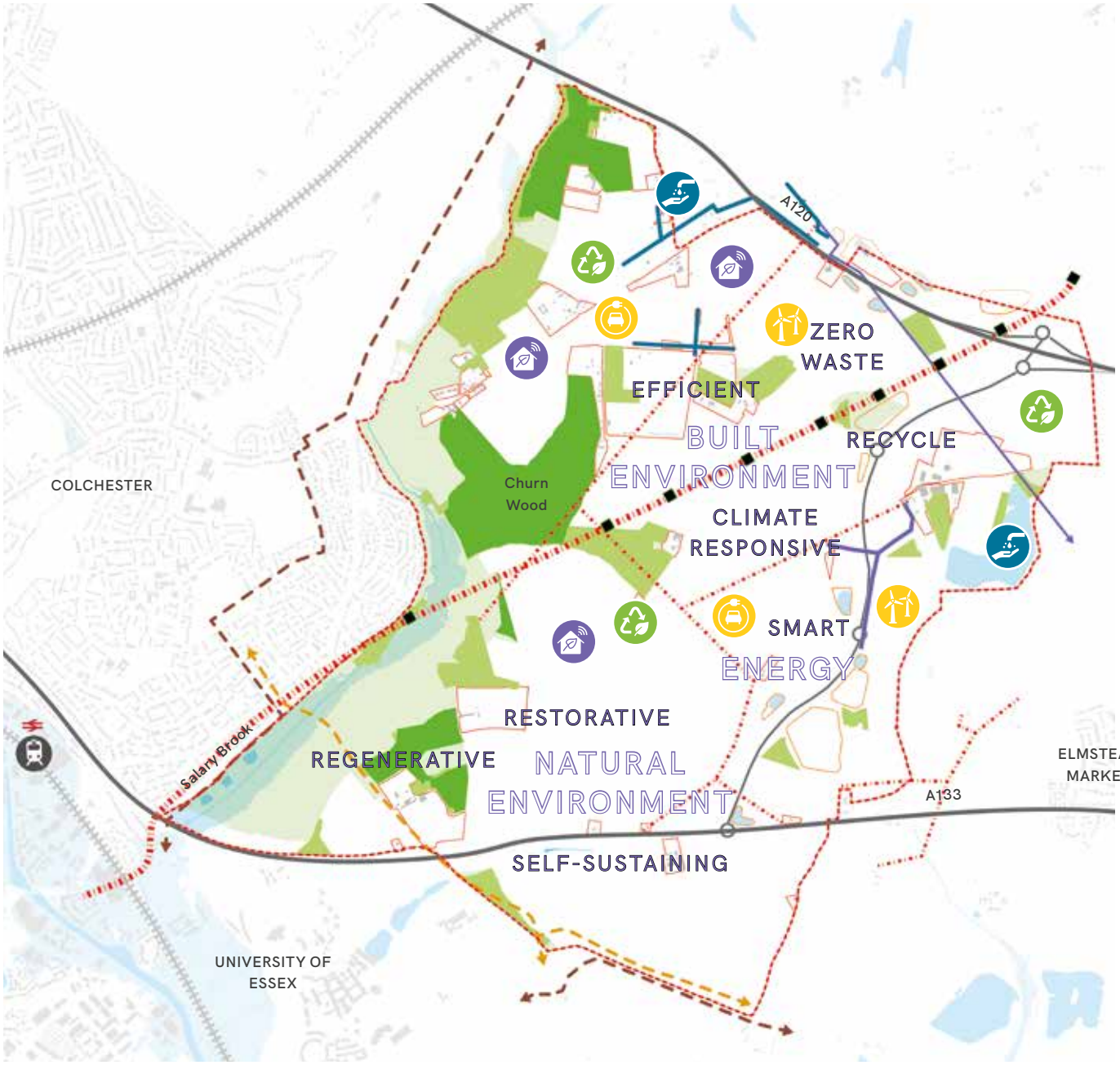


FIGURE 7 Sustainable Infrastructure (indicative and for illustration only)

- Area of Search of TCBGC
- Rail Line
- Station
- Waterbody
- A - Roads
- Proposed Link Road
- Water Supply
- Telecommunications
- Overhead Electricity Cables 132kv HV, 11kv HV
- Pylons
- High Pressure Gas Lines
- Medium Pressure Gas Lines
- Flood Zones
- Renewable Energy Sources
- Electric Vehicle Infrastructure
- Sustainable Water and Drainage Systems
- Circular Economy
- Smart and Sustainable Homes

WHY IS THIS IMPORTANT?

Being proactive against climate change

Plans should take a proactive approach to mitigating and adapting to climate change, taking into account the long-term implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating from rising temperatures.

Source: National Planning Policy Framework (NPPF)

Doing the right thing

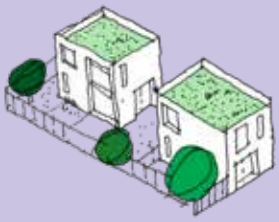
A large number of adaptation measures are 'low-regret' in that they make sense to do even in the absence of climate change, and have a host of wider sustainability benefits. Examples include reducing water use, ensuring homes stay cool in summer, protecting habitats, and increasing urban greenspace to reduce the risk from flooding and heat.

Source: Committee on Climate Change, 2021

Link to biodiversity

The implementation of SuDS can greatly benefit green spaces and biodiversity and therefore should be used as much as feasibly possible.

Source: Essex County Council's online SuDS Guide



Sewerage and public health

A system of sewerage collection and treatment must be implemented to prevent an adverse impact on the environment and public health.

Source: Water Industry Act and The Urban Waste Water Treatment Regulations

New age of communications

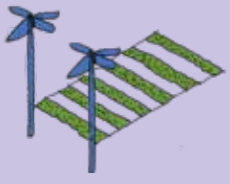
We are on the brink of a technological paradigm shift, a tipping point with computing power and communications becoming ubiquitous, and where mobile and broadband is viewed as a utility.

Source: Foresight Future of Mobility project. Government Office for Science, 2018

Renewable energy generation

On-site systems typically yield significant cost savings, over time, as well as improving the reliability of power supply.

Source: Clean, on-site energy generation, World Health Organisation



LESSONS WE CAN LEARN FROM OTHER PLACES

EDDINGTON, CAMBRIDGE

The plans are delivering a new neighbourhood built to the highest ambition for sustainability and are designed to minimize carbon emissions.

Lessons for the Garden Community

+ All of the homes are being built to **Code for Sustainable Homes Level 5**, and all non-residential buildings will hit **BREEAM** Excellent or higher
+ All of the homes are connected to a **combined heat and power plant** that serves as the primary source of heat
+ **Solar PV** have been used throughout site
+ The underground **'smart' bin system** reduces CO2 emissions and promotes recycling
+ Site-wide SuDS system and water recycling system cuts water consumption to **80 litres per person per day**. Green fingers that run throughout the site provide soft landscaping that helps soak up water and guide it towards **lakes** at the site's western edge.

HAMMARBY SJÖSTAD, SWEDEN

Planned as a blueprint for cities of the future, the development encompasses sustainable alternatives for managing water, energy and waste.

Lessons for the Garden Community

+ All the electricity used comes from **renewable sources** including photovoltaic arrays, bioenergy and incineration of local waste
+ The biogas is used as **fuel for vehicles** such as buses, taxis and waste collection trucks, and to heat 1000 homes in the area
+ Large-scale local **wastewater and stormwater** harvest and filtration have been implemented
+ Domestic refuse is separated into different chutes and the various fractions are then **transported by vacuum to containers** at a central collecting station
+ **Public education** about environmental issues

LOCAL INSPIRATION

GREAT NOTLEY PRIMARY SCHOOL

Award winning school for its innovative approach to low energy design which relies heavily on the use of passive energy. It features the extensive use of recycled and sustainable materials and a green roof.

WIMBISH PASSIVHAUS

Scheme of exceptional energy performance with housing that employs external insulation, triple glazed composite windows, passive solar gain techniques and sophisticated solar shading elements.

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