April 2025
Design Code

Cambridge Neighbourhoods Design Code for Arbury, King's Hedges and parts of West Chesterton Supplementary Planning Document

Inspired Living

Ministry of Housing, Communities & Local Government

GREATER CAMBRIDGE SHARED PLANNING

Pollard Thomas Edwards

Acknowledgements

The Cambridge Neighbourhoods Design Code for Arbury, King's Hedges and parts of West Chesterton has been produced by Pollard Thomas Edwards, McGregor Coxhall and DLP Consulting Group working in collaboration with Greater Cambridge Shared Planning Service on behalf of Cambridge City Council. It was funded by the Ministry for Housing Communities and local government (MHCLG).

The Council is grateful to the community in the area, particularly Arbury, King's Hedges, West Chesterton, for your time, involvement and input throughout the co-production of this pilot area design code. We are immensely thankful to the officers from the various departments of Cambridge City Council and Cambridgeshire County Council for collaborating in the production of this document. We would like to thank the head, class teachers and students at the Grove Primary School, Mayfield Primary School, King's Hedges Educational Federation and North Cambridge Academy for participating in our youth engagement workshops, enabled by our Youth Engagement Service (YES) at Greater Cambridge Shared Planning.

We look forward to your continued engagement in applying the code as projects come forward in the area.

Revisions

Rev	E
Date	07/03/2024
Notes	Issued to Planners

Contents

Foreword

Katie Thornburrow
Cambridge City Councillor for Petersfield and Executive Councillor for Planning, Building Control, and Infrastructure

Foreword

Over the last few years Cambridge has changed enormously, and the economic success of the city has led to enormous improvements in building quality and the quality of life for residents. However, these benefits have not been spread equally across the city, and this is something that urgently needs to be addressed as we prepare future development activity.

In 2023 the Greater Cambridge Shared Planning Service received funding from central government to pilot the production of a new area wide design code under the National Design Code Pathfinder programme. A design code provides guidance for the physical development of a site or area in line with local requirements and aims to raise design quality and standards.

The design code focussed on the neighbourhoods of Arbury, Kings Hedges and parts of West Chesterton in Cambridge. The area is made up of post-war suburban housing estates and is feeling the pressures of development through infill development and intensification, with many post-war structures nearing their end of their original 'design life'.

Developing the code involved an extensive process of community engagement over the last year, including working closely with representatives who live and work in these communities to produce guidance that fully reflected local needs and circumstances.

It provides an opportunity to put planning guidance in place to manage change in a positive and sympathetic way that is based on the people's priorities. It can help tackle the area's inequity by enabling co-ordinated improvements and investments in the area, the delivery of better quality buildings, improvement in health and wellbeing, incorporation of climate resilience and adaptation measures, all contributing to the delivery high-quality places.

We look forward to seeing how new schemes use the guidance in the code to deliver on our community's priorities. If successful, the lessons could be applied to other areas in Cambridge and nationally, helping to improve the quality of life for many people.

Executive Summary

Introduction

The Cambridge Neighbourhoods Design Code for Arbury, King's Hedges, and parts of West Chesterton is a pilot area design code that will guide the future development of this neighbourhood, enhancing design quality based on the community's priorities.

Design codes are simple, concise illustrated documents that are visual and numeric where possible and provide guidance for the physical development of a site or area, in line with local requirements which aims to raise design quality and standards

The design code when adopted as a supplementary planning documents (SPD) will build upon and provide more detailed guidance on how to apply policies in the adopted Cambridge City Council local plan 2018. The design code will support the delivery of high-quality development in the area and will be a material consideration for the council when determining planning applications.

It will assist

- Residents, businesses and people who work, study, visit and use the services and facilities in the area.
- Developers, property owners, Infrastructure providers and their design teams in making development proposals, modification or improvements to their properties.
- Local authorities and other decision makers in determining planning applications, management and investment decisions.
- Statutory and Non-statutory consultees, including resident associations, amenity groups and member of the public in commenting on planning applications.

The purpose of the design code is to provide a platform for the local communities to share their vision on how their neighbourhoods should evolve sustainably. It can help guide investment, address the climate and biodiversity emergency, enable the creation of a distinctive local character, co-ordinate development of infrastructure, assess development through the planning process as well as empower individuals and landowners to improve their homes and surroundings.

Background

Greater Cambridge Shared Planning Service (GCSPS) and Cambridge City Council embarked on a pilot project in 2023/24 for developing a design code for the Neighbourhoods of Arbury, Kings Hedges and parts of West Chesterton as part of the National Design Code Pathfinder Programme. This was a pilot project that tests the process and outcomes of an area wide design code. It helped focus resources to work with communities and neighbourhoods with the most need, helping raise design standards, tackle inequality, inform and assess small and large-scale developments that may come forward in the area undergoing change with. GCSP commissioned Pollard Thomas Edwards as the lead consultant to collaboratively work with GCSP develop the design code working with the community.

The area was selected as an example of the city's post-war suburban character and based on previous characterisation studies carried out. It combines parts of King's Hedges, Arbury and West Chesterton wards, and largely consists of estates of low-rise post-war housing. Prior to the code, there has been no area specific planning, design guidance for the area.

The design code was produced through extensive community engagement through a combination of extensive community participatory events, workshops and surveys, complimented by frequent internal meetings and workshops with a core group of strategic stakeholders and decision makers from across local authorities Online engagement was carried out using the Cambridge City Council Citizen-Lab (now re-named Go Vocal) website. The design Code was developed in three phases:

- Phase 1 asked the community what they valued about the neighbourhood.
- Phase 2 developed principles of the design code based on the response received.
- Phase 3 tested the detail of the document based on the feedback from earlier phases.

The Design Code

The Design Code is split into three parts. Part 1 sets the background to the project, the engagement process and analysis of the context at a strategic scale. Part 2 sets out the 5 principles that reflect the priorities of the community. Part 3 sets out the planning checklist to demonstrates how planning applications have complied with the principles outlined in the code.

The design code has been structured under the five principles which have been chosen to be memorable, easily understood and focused. They are:

Make Space for Nature: Emphasizes integrating nature into urban spaces, increasing tree canopy, and promoting biodiversity.

Prioritise Walking and Cycling: Focuses on creating safe, connected routes for walking and cycling, reducing car dominance, and improving public transport access.

Thriving Public Spaces: Aims to create vibrant, safe, and accessible public spaces that support community activities and social interaction.

Enhance Character: Encourages maintaining and enhancing the unique character of the neighbourhoods through thoughtful design and preservation of green spaces.

Increase Sustainability: Promotes energy efficiency, clean energy generation, and climate resilience in both new and existing buildings.

The emphasis of the document is to highlight how the code can address the community's issues, help articulate and identify opportunities that can transform the place or area, help balance competing and challenging issues and finally identify a process for design development and collaboration, engaging the community and wider stakeholder.

However, it is important to note that the challenges and opportunities in the area cannot all be realised in a piecemeal way. Instead, it requires a strategic and more far-sighted approach. Developing this pilot area code without specific proposal, has highlighted the need for an overarching spatial framework for the area that takes forward the principles and priorities identified in the design code, working closely with the local community through focused and collaborative plan making.

Introduction

Introduction

The Cambridge Neighbourhoods Design Code is a pilot design code that tests the process of consultation led area design coding to an existing residential area in Cambridge.

The area was selected as an example of the city's post-war suburban character and based on previous characterisation studies carried out. The area combines parts of King's Hedges, Arbury and West Chesterton, and largely consists of estates of low-rise post-war housing development.

Prior to the code, there has been no specific design quality guidance for the area.

The code consists of three parts. Part 1 sets the background to the project, the engagement process and analysis of the context at a strategic scale. Part 2 sets out the principles that reflect the priorities of the community and Part 3 sets out the planning checklist to demonstrates how planning applications have complied with the principles outlined in the code

Changing context of the area

The area is experiencing the pressures of development and changing need in the wider city. This has come through infill development, intensification and changing uses bringing change or erosion of character.

With many of the post-war structures now appearing to be nearing or even at the end of their original 'design life', and the need to meet more stringent energy requirements, we anticipate the pressure of change is likely to grow, whether through extensive refurbishment or replacing with new buildings.

The pressure of change is a significant challenge for this area, and others facing similar issues. However it also offers the opportunity, if used wisely, to bring improvement and investment to the area - while retaining its best characteristics. For example providing better and affordable homes, increased sustainability, better connections and a more attractive local environment.

The code has used a consultation led approach to start to capture key priorities for local residents to make future change work for them. We think it is essential that any future plan making works with local people and builds on this 'engagement first' approach.

Project Scope

The purpose of the code is to help guide investment, set a framework to co-ordinate, guide, and assess development through the planning process as well as enable and empower individuals and landowners to improve their homes and surrounding landscape

Beyond the boundaries of this code, it is proposed that the lessons learned, processes and principles from producing and using this Code could inform an approach to Coding in other existing areas of Greater Cambridge. We have titled this approach Inspired+Living.

The code acts as a catalyst for raising design standards in ways that reflect local priorities and the first steps in conversations about how the suburb can harness the pressures for change to help improve the area without losing its best qualities. In doing so, the design code seeks to address some of the strategic place-making challenges and opportunities that exists such as highway dominated areas, backland sites, spaces left over after planning, area with a poor public realm, poorly used garage sites, reinvigorate local centres/ community and non-residential buildings.

This makes it an unusual design code. It has not been developed on the back of any existing specific proposals or with the framework of a spatial masterplan for the area. In doing so, it has however exposed the need to develop a strategic plan for the area.

In their place, extensive consultation to establish local priorities has been distilled into 5 principles - around which this document has been based. These principles cover themes of nature, movement, public space, character, and sustainability.

The themes reflect the value placed on the mature green landscapes surrounding homes, and the strong sense of active and community in the area.

Beyond the detail within the principles themselves the code intends to:

- Encourage joined up thinking and an integrated approach from early design stages
- Provide guidance for outcomes that can be delivered flexibly at small or large scales
- Prioritise local leafy character and community while allowing for change and development
- Build upon existing local plan requirements

Whilst the code is not able to directly address issues on public transport, movement infrastructure and management regimes as these sit outside the remit of the local planning authority, it is able to ensure that, where relevant, the code can assist to inform, co-ordinate the planning and delivery of various services by council departments, public and private sector stakeholders.

The design code has made a special effort to ensure that the guidance give due consideration to equality, community safety, biodiversity and climate emergency and is consistent with Cambridge City Council's policies on Equality, Community Safety, Biodiversity Strategy and Climate Change Strategy. The code has also conducted an Equality Impact assessments as part of the adoption process.

The design code is a planning policy tool that enables the delivery of quality places. There is no funding attached to deliver any proposals or pay for its management and maintenance as part of the design code.

Getting the balance right

The Code's design requirements are targeted to deliver the key principles and aim to set out some simple and clear priorities for good quality placemaking.

As a result of the consultation process so far this has been balanced where necessary with practical planning considerations, and recognising the differing needs of residents - for example balancing the need for safer and greener streets while still ensuring that vehicle access is maintained or balancing the need to create green spaces/corridors for wildlife whilst ensuring the safety of routes.

Safety has been an important concern for many residents, and so we have included requirements for retaining open views of footpaths and spaces when planting new trees.

Other balances need to be struck where we find differing opinions, for example balancing the desire for better and more accessible homes for local disabled and elderly people, with some residents' wishing to see no change to buildings. We have also sought to balance between the poor condition of some buildings currently and reducing demolition and waste of embodied carbon.

Many residents have raised concerns about maintenance. We have built-in consideration of practical maintenance of spaces in the future and have worked with the council team to ensure we are not asking for outcomes that can't be delivered or maintained.

All the principles, as well as our initial suggested "next steps", include requirements for ongoing consultation with local residents as part of developing any future area proposals.

Next Steps

The area is experiencing physical challenges of ageing estate buildings, combined with large surface parking areas and increasing pressure for infill and other ad-hoc development.

The challenges cannot all be met in a piecemeal way, and are unlikely to help retain the green and leafy qualities that residents value, or deliver improvements they want to see prioritised. Instead we need a strategic and more far sighted approach. As a result we have recommended next steps as part of the outcome of the coding process, that builds on the significant needs, priorities and opportunities for improvement that have come out of the consultation to date.

We advocate continuing to work closely with local people to apply the principles in this document through focussed and collaborative plan making to generate, test and coordinate ideas and sense check what may be possible - and when.

Producing the Code

This code was produced during a 6-month period through a combination of frequent internal meetings and workshops with council officers, online engagement, school project and public events.

The Greater Cambridge Shared Planning Service (GCSPS) secured funding as part of the National Design Code Pathfinder Pilot Phase 2 from the Department of levelling up, Housing and New Communities now called the Ministry of Housing Communities and Local Government (MHCLG) to test how design coding could work in existing area at a city and neighbourhood scale.

GCSPS commissioned Pollard Thomas Edwards (PTE) as the lead consultant, working with landscape architects Mcgregor Coxall, transport consultants DLP, to collaboratively develop the design code with Greater Cambridge Shared Planning and the community.

The code was also developed in consultation with the Ministry of Housing Communities and Local Government and builds on the National Model Design Code – which provides detailed guidance on the production of design codes, guides and policies to promote successful design.

The National Model Design Code 10 characteristics of a well-designed place provided a key starting point for our conversations with residents. The headline characteristics have been condensed from 10 characteristics to be folded into our 5 broader statements of principle to reflect the resident priorities that we identified, and drawn together to promote an integrated design approach.

Sustainability: Drawing competition winner by Tahia age 10

Supporting Documents

Key Resources

This code is not intended to be a standalone document. First and foremost it builds upon Cambridge City Council's policies held in the Local Plan. Where necessary specific policies have also been referred to.

To assist applicants, design teams, local residents and officers we have also referred to established good practice, further reading and potential support from other organisations, policies and standards. Links to these have been signposted on each of the principles pages.

The following list sets out some key documents and other links which can help teams to deliver the aspirations and expectations of the code. Please note that this is not intended to be exhaustive.

Local Policies

Cambridge City Council Local Plan 2018

Policy links have been flagged in the document as part of certain specific requirements. For avoidance of doubt, all policies indicated as a "must" are intended to reflect established and enforceable local plan policies.

All the current local plan policies can be found on the council website.

cambridge.gov.uk/local-plan-2018

3. Thriving Public Spaces

Charter for Play, Play England

Designing for play to prioritise the social, emotional, intellectual and physical development of children.

playengland.org.uk/

Sport England Active Design

Active Design sets out how the design of our environments can help people to lead more physically active and healthy lives - it's about helping to create 'active environments'.

sportengland.org/guidance-and-support/facilities-and-planning/design-and-cost-guidance/active-design

The Cambridge Perspective - A Manifesto Art Artists Community Place Change

Declaration of the Council's intentions for public art commissioning

https://www.cambridge.gov.uk/media/al4derfd/cambridge-perspective-manifesto.pdf

Cambridge Public Art SPD

Statutory City Council guidance in creating and providing public art in Cambridge

https://www.cambridge.gov.uk/media/2349/rd-spd-200.pdf

Cambridge City Council Cultural Strategy

Promoting a cohesive approach to cultural activity

https://democracy.cambridge.gov.uk/documents/s65498/CulturalStrategy_CambridgeCityCouncil.pdf

Accessible and Inclusive Design

Refer to BS 8300: Design of an Accessible and Inclusive Built Environment Part 1 and Part 2 and BS9266 – Design of accessible and adaptable general needs housing – Code of Practice

1. Make Space for Nature

Green Infrastructure

The GI Framework helps local planning authorities and developers meet requirements in the National Planning Policy Framework (NPPF) and enable other organisations and groups such as parks and greenspace managers and local communities to think more about green infrastucture and plan for its creation or improvement

designatedsites.naturalengland.org.uk/GreenInfrastructure/Home.aspx

Greater Cambridge Shared Planning, Biodiversity SPD, 2022

Provides guidance on how to integrate biodiversity early into the design process to build quality places rich in biodiversity and green Infrastructure.

https://www.greatercambridgeplanning.org/current-plans-and-guidance/greater-cambridge-biodiversity-supplementary-planning-document/

Citywide Tree Strategy 2016-2026, Cambridge City Part 1 and Part 2

Provides the Council's strategy to manage Trees

https://www.cambridge.gov.uk/media/3260/tree-strategy-2016-part-1.pdf

https://www.cambridge.gov.uk/media/3261/tree-strategy-2016-part-2.pdf

4. Enhance Character

National Design Guide

This guide produced by the Department for Levelling Up,Housing & Communities illustrates how well-designed places that are beautiful, enduring and successful can be achieved in practice.

gov.uk/government/publications/national-design-guide

Cambridgeshire Quality Charter for Growth
Sets out core principles of the level of quality expected in new developments in Cambridgeshire

cambridge.gov.uk/media/2950/cambridgeshire_quality_charter_2010.pdf

2. Prioritise Walking and Cycling

Manual for Streets 2

Intended to assist creative design and helping to prioritise people and public space in the planning, construction and improvement of our streets.

tsrgd.co.uk/pdf/mfs/mfs2.pdf

Cambridgeshire Active Travel Strategy

Provides policies to enable and encourage more people to travel by active travel modes and reduce the number of journeys made by car.

cambridgeshire.gov.uk/residents/travel-roads-and-parking/transport-plans-and-policies/cambridgeshires-active-travel-strategy

5. Increase Sustainability

Cambridge Sustainable Housing Design Guide (2021 revised edition)

Provides a summary of the council's expectations for sustainable design and placemaking for council homes.

cambridge.gov.uk/media/1503/cambridge-sustainable-housing-design-guide.pdf

LETI

Is a body of voluntary network of professionals that provides advice and guidance to deliver zero carbon. The website has links to a wide range of technical guidance, support and project examples.

leti.uk

Shading for Housing

Practical overview and guidance on selecting products to tackle overheating in buildings.

goodhomes.org.uk/news/shading-for-housing

Retrofitting Your Home
Cambridge City Council document providing guidance for small and large projects to improve energy efficiency in your home.
cambridge.gov.uk/media/11676/retrofitting-your-home-report.pdf

Greater Cambridge Sustainable Design and Construction SPD, 2020
Provides comprehensive guidance on sustainable design and construction to comply with policy and exceed where possible, used in the assessment of planning applications.

https://www.cambridge.gov.uk/greater-cambridge-sustainable-design-and-construction-spd

Applying the Code

Role of the code

The role of the code is to promote high quality sustainable design for homes and buildings, streets, and green spaces.

At the small scale the code is intended to inspire and set out placemaking requirements so that each project as it comes forward can be harnessed to contribute to resident priorities for improvement - for example retaining and adding green thresholds, hedges and trees.

The code encourages and signposts for ways for local residents to have more involvement in the green spaces - including supporting increased resident social management for the existing shared estate spaces, maintaining spaces for example for food growing or nature conservation.

At a larger scale, the code is intended to act as a launching point for future strategic area improvement and investments that build on resident's priorities.

The code should not be seen as a tool to prevent change, but a way to harness the opportunities that development and investment can offer to deliver benefits that can reflect local priorities.

Using the Code

The code requires an integrated approach to design. The code is a compact document and code users are intended to show how their proposals comply with the 5 principles and work together to deliver an attractive sense of place.

It is recognised that some types of projects and particularly smaller projects will have correspondingly varying scope to apply some principles. For example, a single house is unlikely to deliver public space or highway improvements. It can however contribute to the street, make space for nature in its threshold planting and boundaries, and use sustainable design and materials. In contrast, larger and multi home developments will be expected to address all aspects of the code where there is scope to do so.

For planning submissions, applicants are recommended to assess the relevant principles to their project and confirm these with their planning officer at the early stages of the project.

It is also expected that applicants and developers continue to actively engage with the local community, who have been integrally involved in shaping the code, in the next phases of delivery and implementation.

Status of the code

The design code should be used by:

- Developers, Property Owners, Infrastructure providers and their design teams in making development proposals, modification or improvements to their properties.
- Local authorities and other decision makers in determining planning applications, management and investment decisions.
- Statutory and Non-statutory consultees, including resident associations, amenity groups and member of the public in commenting on planning applications.

The design code when adopted as an SPD will be a material consideration in determining planning applications for development in the area.

The code must be referred to for all planning applications that lie within the area. For applications lying on or near the boundaries of the area, the Code should also be considered when establishing the principles behind designs.

The Code is intended to guide development and adaptation of all aspects of public realm and landscape, movement routes, and buildings.

The code is not a standalone document. It is intended as a helpful, illustrated summary of the principles that we expect development teams to adopt when undertaking projects within the study area. To keep the code short, and avoid repetition of existing documents, we have signposted and provided helpful links to sources of detailed technical guidance. A summary of local plan policies, guidance and best practice is included in the supporting documents page of this document.

The Design Code is intended to supplement the existing Cambridge Local Plan. However, it would also need to work with changes proposed to Plan making regulations (including the requirement for local authorities to produce design codes), the NPPF and following the adoption of the new local plan. Therefore, this Design Code is an important pilot to help shape the future District Wide Design Code and any site or area specific Design Codes the Councils may wish to bring forward

Reading the principles

The principles follow a standard format. A bold introduction statement and illustrative graphic at the start of each principle that describes the strategic outcomes that must be delivered. Subsequent pages provide detail guidance on different aspects of the principle using illustrations and precedents.

Must and Should

Guidance within the Code contains two levels of compliance:

- Where compliance is a mandatory requirement, the word 'must' is used
- Where compliance is recommended, the word 'should' is used.

For avoidance of doubt, all policies indicated as a "must" are intended to reflect established and enforceable Cambridge City Council adopted local plan 2018 polices.

A completed Compliance Checklist and accompanying proving illustrations must be included as part of future Reserved Matters Applications and we suggest this is incorporated within the Design and Access Statement (DAS).
Where guidance is NOT followed the alternative design proposals must be justified by their potential benefits or by the need to meet changing legislation, varying circumstances, or technical advancements.

All deviations from the Code must justify how they maintain the wider quality, sustainability, and placemaking, requirements of the Code.

Status of Images

All diagrams are illustrative unless otherwise stated.

While the principles they illustrate should be followed by designer, they should not be treated as fixed outcomes. The Code sets a quality baseline. Development proposals should show innovation and set out how they can deliver or exceed the requirements set out in this Design Code.

Framework Plans

Over the development of the code council officers and residents shared their concerns and issues about specific places, using the digital map hosted on the Citizen-Lab website (Later renamed Go Vocal).

We have mapped these onto a spatial plan for the area, highlighting those areas where specific concerns or suggestions have been raised. Where specific objectives or principles are seen as particularly relevant these are highlighted. This illustrative framework is not a blueprint but is intended to help provide a starting point for design teams when considering improvements.

Updating the Code

The life of the Design Code can and should be long, and technology, social needs, and other opportunities for further improvement will emerge over time. A good example of this may be changing patterns of car ownership – allowing reduced parking and improved use of allocated space.

A first review should take place to reflect the adoption of the new local plan - to ensure that the 'must' and 'should' requirements reflect the in a future adopted local plan. The principles have been developed keeping in mind the emerging local plan, with the aim of simplifying any update.

As things change, while the overarching principles set out by the code must be retained, the detail of how this is delivered could change with good justification to achieve similar or better outcomes. This flexibility is part of the robustness of the Code - ensuring it stays relevant in future.

With a collaborative approach and dialogue, the detail content of this document should be open to periodic review to ensure its contents remain relevant, with any proposed changes taken to the Quality Design Review Panel as well as other consultees.

Inspired+Living

In proposing the design principles, we have thought carefully about how they can be applied more broadly to other similar suburbs and neighbourhoods. Issues of weak infrastructure, eroding green spaces, pressure of change, and weak built character, are common problems for suburbs. It is intended that lessons learned and principles from this Design Code pilot will be taken to other suburban areas of the city in a collective approach we are calling Inspired Living.

Results of the code will be shared nationally to help guide the production of other district and citywide design codes that all councils will be required to produce in the future.

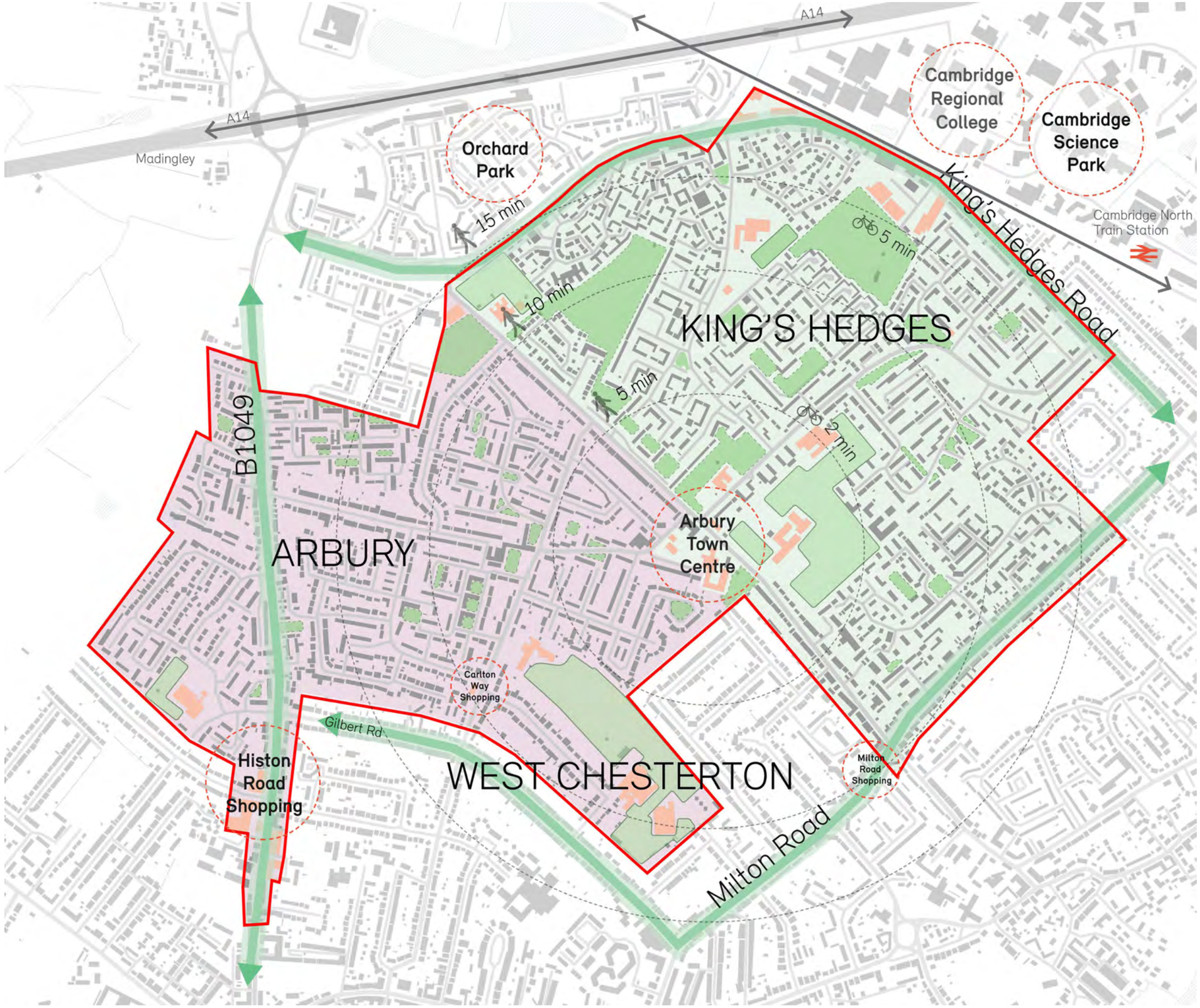
Area Map

The Design Code is focussed on two distinct suburban areas, lying to the east and west of Arbury Town Centre and Arbury Road namely Arbury and King's Hedges.

The area is bounded to the north and east by Kings Hedges Road, and to the west by the emerging Darwin green Development. To the south the coding area boundary is more varied, but includes the rear garden boundaries of Gilbert Road, Milton Road, and Highfield Avenue.

The boundaries of the Design Code were chosen based on previous character studies carried out for Cambridge. The area from the studies is identified as suburban post-war housing. This reflects the intention and background of the code as a pathfinder pilot project and was a practical tool that helped the team focus on buildings and places of similar age and shared characteristics.

The red line is a result of an area-based approach. However, we believe the principles that the team have developed with the residents are applicable in many other residential neighbourhoods of similar characteristics, and where new developments bound it we recommend the Principles in this Code are still considered.



KEY

- Buildings
- Non-Residential Public/Mixed use buildings
- Green spaces
- Study area

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0 100 200 300 400 500

METRES

Engagement process and the core group

Public engagement has been central to the creation of the Design Code, informing both its structure and content. This engagement needs to be built on and continue in the future.

The team used a combination of online and in-person events and surveys to track, gather local information and concerns. Engagement was split into 3 Phases to help the team manage the process from listening to local concerns and priorities and developing the principles, through to sharing final drafts of the document itself.

Citizen-Lab online engagement and surveys

Online engagement was carried out using Cambridge's Citizen-Lab software. Public neighbourhood engagement ran for 6 months on the site.

The team recorded almost 250 conversations, comments, and detailed surveys over the life on the project. This has guided both the principles and much of the detailed content of the code and given the project a powerful resource to draw from.

Volunteer conversations

We worked on-line with a small group of residents to discuss their feelings about having a design code for the area, and how residents could make use of it to help them positively shape the area in future.

In-person workshops and conversations

3 in-person events were held at the Meadows Community Centre during the life of the project. These were attended by small numbers of residents. During the events we exhibited progress on the code and provided hard copy versions of the online surveys. We also held presentations and workshops at each event, giving residents the chance to explore and map the different challenges in the area, and how the code could tackle them.

Core Group

A core group was assembled to bring together strategic stakeholders and decision makers from across the local authority and statutory consultees. Members included highways, landscape, housing, sustainability, strategic planning, communities officers, and development management. By combining leadership and decision makers from a wide range of professional disciplines, and working in a round table way, the group has helped build confidence in the code to be ambitious, but also focussed and deliverable.

The core group met online each month to track progress. Themed workshops took the code from identifying overarching principles through to detail coordination and testing.

Members of the group also attended walkabouts and in-person resident workshops. This brought expertise and the chance to discuss principles and priorities directly with residents.

Joint Greater Cambridge Design Review Panel/ Cambridgeshire Quality Panel

The draft principles and code were presented to a joint meeting of the Greater Cambridge Design Review Panel/Cambridgeshire Quality Panel.

The panels welcomed the consultation that had been undertaken and the principles and key content. Detail comments from the panel have been incorporated into the completed code including:

- Strengthen recommendations to address ongoing challenge of aging estate structures and sustainability
- Emphasise landscape and nature detail requirements to link better with the other principles
- Provide guidance for householders on how to apply code principles

Disability Consultative Panel

The draft document was presented to the Panel. The Panel welcomed the Code principles and ambition. Key points raised by the Panel included:

- Need to focus on improving conditions and poor accessibility in many homes for vulnerable people
- Insecurity of many existing flat blocks
- Importance of convenient vehicle access for disabled people (particularly taxis)
- The Importance of creating accessible and welcoming social and activity spaces to combat loneliness, depression and isolation

Draft Design Code Engagement

Overall there was general support for the principles in the design code that were based on their communities priorities around integrating nature into urban improvements and efffective implementation, support for prioritising walking and cycling, creating safe, well maintained and accessible public spaces, enhancing character that include green enhancements, avoiding generic appearance and Increasing sustainability Most of the commentary reinforced the five principles.

However, there were comments that:

- Wanted the code to reaffirm that it would enable balanced solutions to accommodate the needs of all road users, including those who need to use the car, whilst prioritising walking and cycling.
- Related to the management of transport infrastructure and open space, which although lies outside the scope of this planning document is referenced to ensure co-ordination can take place between different internal departments and external stakeholders.
- Wanted to ensure that the code would enhance character but avoidingn urban gentrification and provide clarity on private and shared gardens.
- Wanted to go further on sustainability to express clear practical cost effective strategies for implementation, which although isn't the scope of the document has signposted best practice.

Engagement Record

As part of the formal SPD adoption process, a formal consultation was carried out from 6th January 2025 to 17th February 2025

A full engagement and consultation report for the project has been produced and is available in the Statement of Consultation.

Consultation boards from a residents workshop

Image of a residents workshop

Core group on a walking tour around Arbury and King's Hedges

Grove School Engagement

The code team worked with the Council's Youth Engagement Service and the staff and students of Grove Primary School to share the code's 5 principles and gain ideas and feedback. Grove Primary School is well placed for this engagement, located near to Arbury town centre.

We spent 1.5 days with the school, in activities designed to align with Key Stage 2 National Curriculum subjects science: art and design, geography, design and technology and citizenship to ensure relevance and educational value. A total of 67 year 5 and year 6 students took part.

Activities included careers advice, introduction to biodiversity principles and challenges, what a design code was, and a follow-up quiz – alongside project specific learning and creative tasks.

Project activities

The student's project work focussed on a trip to the town centre of Arbury, including Arbury Court, car park and play area. Tasks covered each of the 5 principles of the code, learning what they meant, how they work together, and thinking about creative ways they can be applied in the area.

As part of outdoor learning, the children answered questions about what they saw and what their favourite things were. Questions requiring observation were combined with more searching questions including:

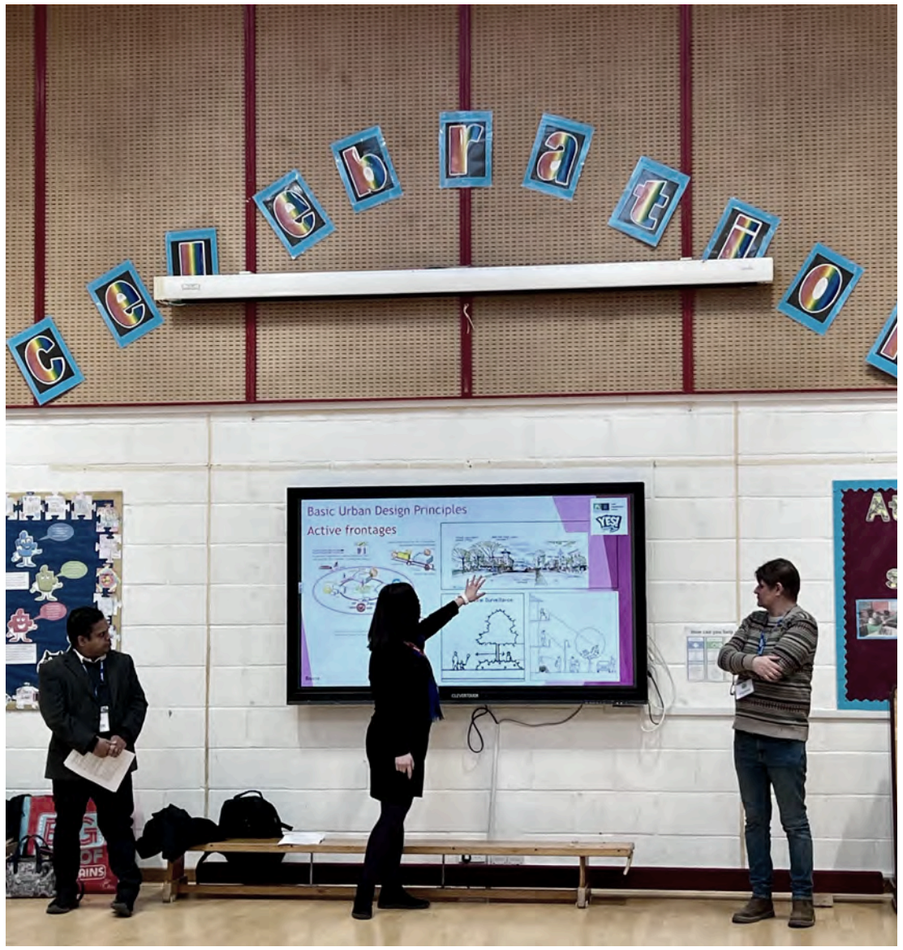
- What would make it nicer or easier for you to walk or ride your bike to the town centre?
- How can being near nature and animals help people?
- How can we protect our environment?
- Why it is a good idea to live near Arbury town centre?

Answers to these questions have been incorporated into the code. Key outcomes were a focus on incorporating nature and play, with a strong preference for planting more trees and creating safe habitats for animals.

Creative tasks

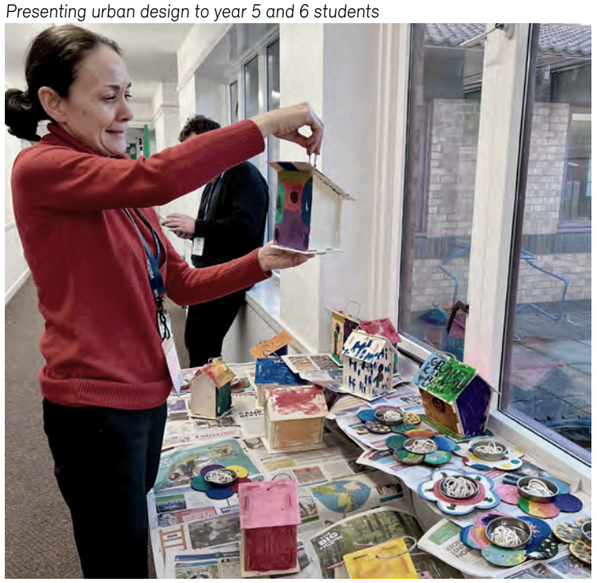
Each student produced a design or drawing based on one of the different principles of the code.

1. Draw the nature and animals you saw on the trip
2. Design a cycle/scooter friendly parking area



Presenting urban design to year 5 and 6 students

Facilitator speaking to year 5 and 6 students on what they can imagine for Arbury Court



Judging of the bird box and bird feeder competition

Councillors discussing the potential of Arbury Court

Judging of the drawing competition

Grove School Engagement

3. Design a play space

4. Design the town centre of the future

5. Design a sustainable building

The outcomes of the creative task were excellent. The students' drawings have successfully captured each of the 5 principles and more importantly reflect the integrated spirit of the code by consistently showing how the principles could work together to make the better places they want.

Each student also decorated their own bird feeder or bird box which they can keep and install at home.

Reflecting engagement outcomes in the code

It was powerful for the team to see the area from the perspective of younger children. It was also interesting to see how the students' priorities aligned to most adults we have spoken to, and how clearly these were expressed with drawings dominated by green trees, animals, and places to be together.

The outcomes have been enhanced priorities for the five principles such as:

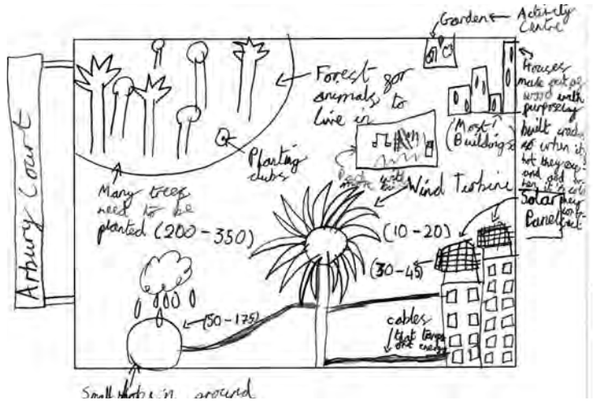
Make space for nature
Restful spaces for people that provide homes and habitat for animals. This should include bees and other insects as well as larger animals and birds

Promote walking and cycling
Create attractive welcoming cycling facilities that are a joy to use. The children included designs for bright indoor spaces, as well as outdoor stands integrated with trees and landscape.

Thriving public spaces
Children are often not inspired by large, grassy areas and want more imaginative and varied play. This might include slides incorporated into the landscape, safe water play, and places to meet and be together.

Enhance Character
Consider how sense of place engages all the senses. For example, the bakers is popular due to its distinctive and pleasant aroma.

Increase Sustainability combines many aspects of design. Many children wanted designs to collect water in shallow ponds which can contribute to recreation and habitat for animals.



Drawing winner of increase sustainability by Yahya

Year 5 and 6 Bird Feeder Finalists

Drawing winner of make space for nature by Adele

Year 5 and 6 Bird Feeder Finalists

Drawing winner of promote cycling and travelling by Elena

Year 5 and 6 Bird Box Finalists

Drawing winner of enhance character by Emilia

Drawing winner of thriving public spaces by Valentine

Context and History

The Study Area

The Cambridge Neighbourhoods in this code are made up of post-war areas of King's Hedges, West Chesterton & Arbury and parts of West Chesterton. The area is bisected by Arbury Road, which defines the two main neighbourhoods of the Code's study area – Arbury to the west, and King's Hedges to the east.

Early history

The Roman Road of Akeman Street, which linked Cambridge to the north coast of Norfolk, runs through the area. The road ran northeast following the present-day Carlton Way and Mere Way, and through the King's Hedges recreation ground.

During the medieval period the area became meadows and common land, following which the meadows were also dug for brick manufacture.

The land east of Arbury Road was known as Albrach from as early as the 13th century. In 1558 it was enclosed and renamed King's Hedges. The name is believed to derive from it being the hedges of the ancient King's hunting preserve.

While Cambridge grew to the south and west of the area before the war, both Arbury and King's Hedges remained a network of fields and hedges until the development of the estates.

Development

Development of the estates began in the Arbury area, starting in 1957 and continuing through the 1960's. Arbury Court and the nearby Church of the Good Shepherd where both developed in this period.

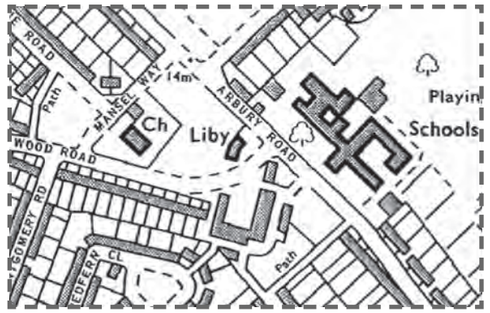
Construction of the King's Hedges Estate began in 1967. These homes were intended predominantly for families moved from older parts of the city. The designs for the estate were innovative for the time, separating cars and walking routes. This has left a legacy of extensive green spaces but also poorly connected streets

Arbury town centre has developed over the years, with the original street access for Arbury Court filled in to build a supermarket. The original school that fronted Arbury Road was demolished and rebuilt on land behind it - leaving the frontage bare. These developments physically isolated the town centre from Arbury Road, making the town centre feel more fragmented and less visible than was originally planned. Despite these later changes, Arbury Court retains a distinctive post-war character.

The study area has a list of buildings of local interest published by Cambridge City Council. These include the Church of the Good Shepherd, Mansel Way, Arbury; and 241 Milton Road, Kings Hedges.

Inforgraphic signage outside Arbury Court

1973

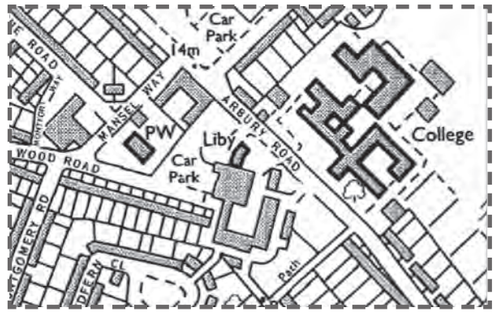


Historical map of Arbury Road, with the Original Arbury Court 1973

1953

Historical OS map from 1953

1992



Historical map of Arbury Road, with Arbury Court taken in the 90's, 1992

1992

Historical OS map from 1992

2023

2023 Aerial and street view of Arbury Court

Age and Condition of Buildings

Having been constructed between the 1950's and 1970's, many components of the existing estate buildings within the local area have reached or will soon be reaching the end of their original design life. Recent surveys for Arbury and King's Hedges Wards demonstrate 16% of units with Energy Performance Certificate (EPC) ratings of D&E rating (HM Land Registry data 2022). These ratings can result in poor living conditions for residents, so requiring major investments to be made to achieve even the minimum C rating.

Problems with some existing estate buildings have included:

- Underused areas of the building leading to anti-social behaviour
- Poor building design, such as cold and thin walls
- Poor accessibility
- Lack of secure entrances,
- Lack of access to green spaces
- High heating bills

The ageing of estate buildings represents both significant challenges and opportunities to apply the principles of the code in creative ways, balance existing and new buildings, and reflect the character of different neighbourhoods.

Reusing existing buildings reduces carbon emissions and can help to retain local character – but also limits the opportunities to enhance design quality – for example options for external building appearance, or accessible layouts inside the home.

Replacing buildings brings more opportunities to improve design and provide better homes – but results in more carbon emissions during construction. This must be reduced by following the sustainability principles in the code for example working to reuse materials on site wherever possible.

Working with existing building residents

Major change of any kind can be disruptive to residents - whether with a 'deep retrofit' of existing buildings, or their replacement with new homes. It is vital that the priorities of existing building residents are understood through consultation and factored in early in the process.

Every project is unique but resident priorities emerging from recent project surveys carried out by the housing team at Cambridge City Council have been:

- Reduced bills
- Improved safety and security
- Providing more, affordable, homes
- Attractive appearance and a modern character

More than buildings themselves, retaining sense of community and local friendships is of paramount importance to residents. Where buildings are to be replaced, new homes should be made available to existing residents allowing a single move to help minimise disruption and keep communities together.

Retrofit vs rebuild assessment

To minimise embodied carbon resulting from new developments, assessment to retain some or all existing structures within major (10+ home) development sites should be carried out at the early planning stages, during the brief development and scoping for the project.

Take a retrofit first (retrofirst) approach, including adaptive building reuse with some new additions.

Where demolition is required or appropriate - for example to enable better accessibility for residents, buildings can become 'material banks' rather than being wasted. Projects must emphasise material re-use e.g. reusing bricks rather than crushing for hardcore. As well as being more sustainable, this could also help retain local character.

Feasibility

At initial stages, feasibility testing may be practically demonstrated through desktop studies, analysis drawings and strategic diagrams for example:

Condition - assess challenges, requirements and opportunities to maintain/improve the structural condition

Energy - current energy use and strategies/challenges for improvement

Character - analysis of buildings/layout and contribution to place, or potential to be adapted – e.g. by improving poor natural surveillance on frontages

Fitness - accessibility and likely sustainable future use

Wider opportunities – look beyond the site boundaries, what are the site opportunities to deliver on local priorities?

- better connectivity
- better access to green space
- Improved public realm and placemaking
- more affordable homes

Demonstrate challenges/synergies for existing structures to adapt to deliver these opportunities.

Image of a parking court with garges with minimal passive surveillance

Image of Arbury Court with flats above

Photograph of a flat block in Arbury, with a service bay being the predominant vista

Local Character

Arbury

The Northern Cambridge Neighbourhoods in this code were identified as a distinct area of post-war suburban housing and housing estates based on previous character studies conducted for Cambridge City.

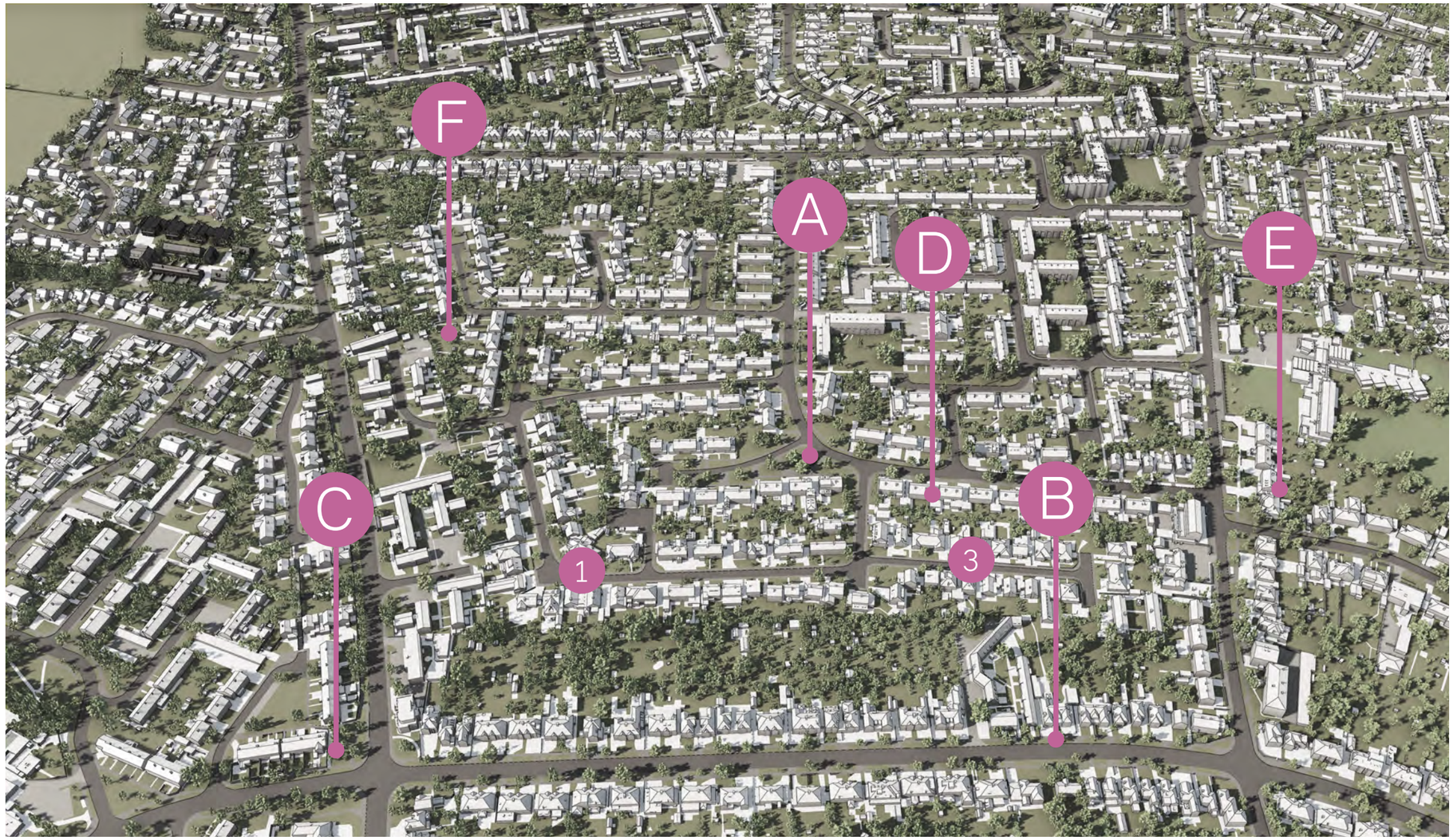
However, the area has more than one character, and there are a variety of different styles and periods of post-war architecture and planning, from homes set around leafy tree-lined avenues in Arbury, to larger 'set piece' estate planning and green spaces in King's Hedges. Both area include a mix of houses and flats, with noticeable changes in scale.

The urban layouts are characteristic of mid-20th century design, contrasting between street facing homes oriented around private cars and private gardens, and planning for more shared (often very undefined) green spaces, separation from the car, and focus on communal benefits.

While they have challenges, this contrast in layout is an asset, giving distinctiveness to the two areas. The code principles have been developed to be equally relevant to these contrasting characteristics and encourages the Five Principles to be applied in different ways to retain positive character while allowing necessary change.

The key characteristic of Arbury is its green and leafy frontages. The street network is clearly defined and is lined with grass verges and trees. Front gardens are typically deep and building frontages maintain consistent building lines. Existing flat blocks stand out in the area, often planned against the grain of the area, and taller than surrounding buildings.

A. Encourage retention and reinstatement of front garden planting and hedges and avoid excessive paving over front gardens
B. Retain good quality existing trees, promote tree planting and maintain planted verges in the highway
C. Protect green spaces from unallocated parking and encourage socially and environmentally beneficial uses.
D. Encourage new socially, economically, and environmentally beneficial uses for redundant garages and garage areas
E. Encourage opportunities to appropriately strengthen character and sense of place with memorable landscape spaces and building designs.
F. The neighbourhood's bungalows are increasingly being redeveloped. New developments should include homes for older people to preserve the mix within the local community.
G. Improve integration/planning of flat blocks
H. Enhance status of Arbury Town Centre emphasising co-location of uses, improved buildings and frontages and mixed use design



CGI Aerial over Arbury

1. Typical leafy suburban street in Arbury

2. Flats above Arbury Court

3. Front garden treatment of a suburban street in Arbury

Local Character

The key characteristic of King's Hedges Estate are its communal green spaces including shared garden squares and large parks that are interspersed with clusters or long terraces of houses and four storey flats.

While there are a lot of green spaces, many lack a clear function and the parks are separated from the main network of routes on the estate which reduces their accessibility, visibility, and benefit to residents. Private gardens are small, and the front gardens are typically hard paved areas containing very little planting.

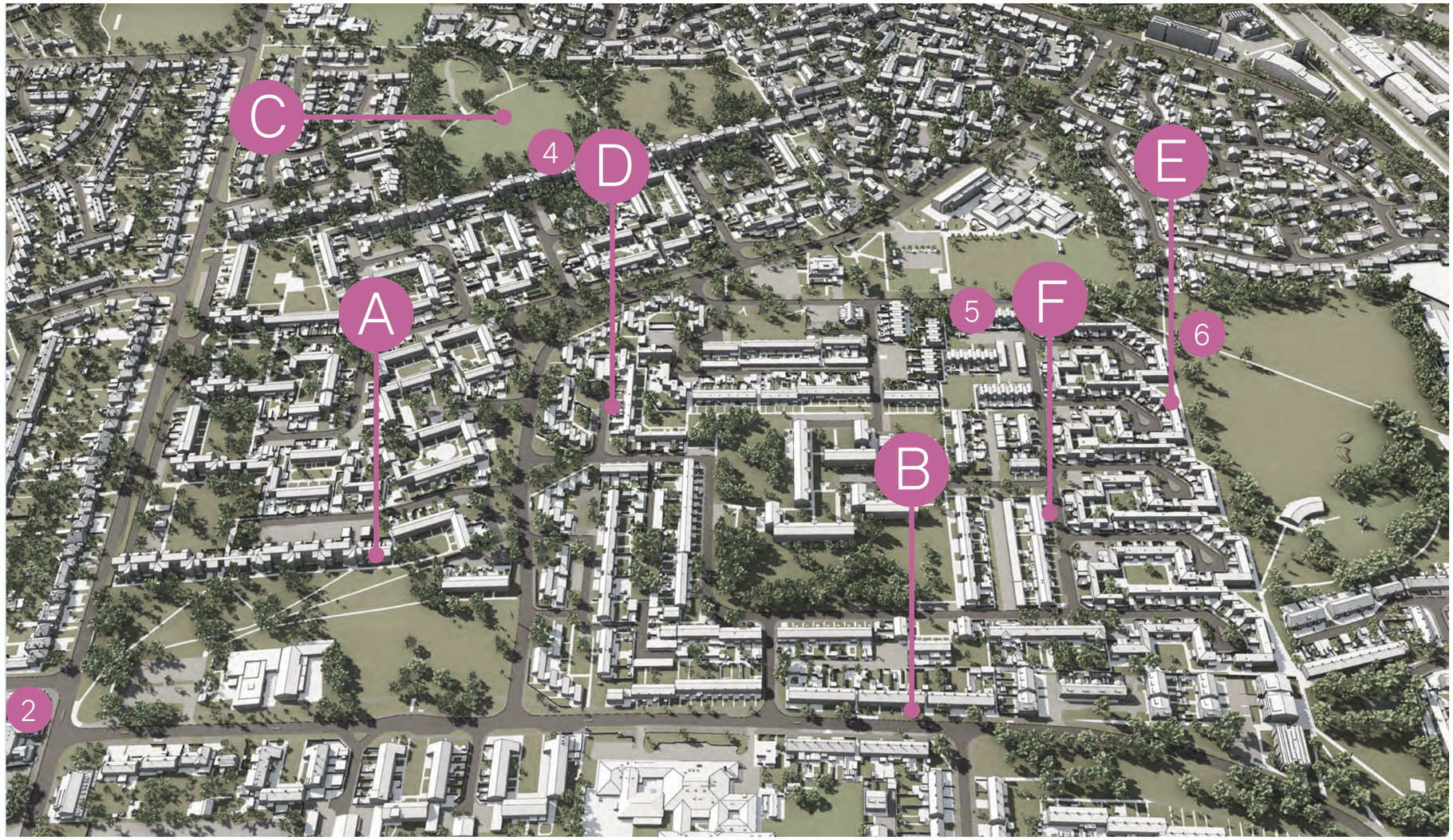
Streets are often poorly overlooked. The backs of homes and garages line long cul-de-sacs, large parking courts, and alleyways.

The Code Principles should be applied to enhance character and enable positive changes and improvements:

A. Improve access to nature and good quality green spaces
B. Retain good quality existing trees and promote trees and other planting in front of homes 'hedges for King's Hedges'
C. Encourage positive use for green spaces such as community gardening and food growing
D. Enable new socially, economically, and environmentally beneficial uses for redundant garages and garage areas to provide active frontages and improved safety from overlooking
E. Provide active frontages to streets, green spaces and parking courts
F. Streets not roads - strengthen character and sense of place with memorable green spaces, focal points, and sense of enclosure
G. Create a convenient interlinking network of safe and landscaped walking and cycling routes

Any significant proposals in both areas should be the subject of early consultation and local involvement to establish the brief and scope.

King's Hedges Estate



CGI Aerial over Kings Hedges Estate

4. Front elevation facing onto a green open space

5. Wide green verges near Nuns Way

6. Front Elevation of a typical Nuns Way facing on to a green open space

Routes & Destinations

Overall, the road network within the Design Code area is typically 'residential' in nature with a number of predominantly north-south 'main' roads providing a more strategic function in terms of providing access to the A14 to the north and central Cambridge to the south. These main links include King's Hedges Road, Arbury Road, the B1049 Cambridge/Histon Road and Mere/Carlton Way and are characterised by public transport provision and on and off carriageway cycle lanes and footways.

Bar the 'main' links, the majority of the remaining street network comprises more lightly trafficked 'neighbourhood' roads, 'quiet streets' and 'residential cul-de-sacs'. These typically perform a 'residential' function, are more lightly trafficked and accommodate cycling movements on road with pedestrian footways provided adjacent to the carriageway. On-street parking is typical on these more lightly trafficked roads.

Poor connectivity and legibility

A large number of cul-de-sacs frequently lead to poor connectivity and legibility between neighbouring streets and to parks, even though some of them may have cycle and pedestrian connections

The layout of the Kingsway Flats blocks desirable east-west pedestrian/cycle movements between Rosewood Road and Alex Wood Road and connections to Arbury town centre.

Where opportunities are identified to improve connectivity, this must be done prioritising walking and building on the cycle improvements done in Arbury, Histon and Milton Road whilst avoid increased traffic flows and rat-running.

Refer to the Cambridge Cycle Map for Cycle Network in Arbury and Kings Hedges and Kings Hedges walking route 1, 2, 3 here: https://www.cambridgeshire.gov.uk/residents/travel-roads-and-parking/active-travel-in-cambridgeshire/getting-started/cycle-routes-and-maps

KEY

- Main roads
- Neighbourhood roads
- Quiet streets and informal cycle routes
- Bus route and number
- Walking distances
- Formal dedicated cycle lanes
- Study Area

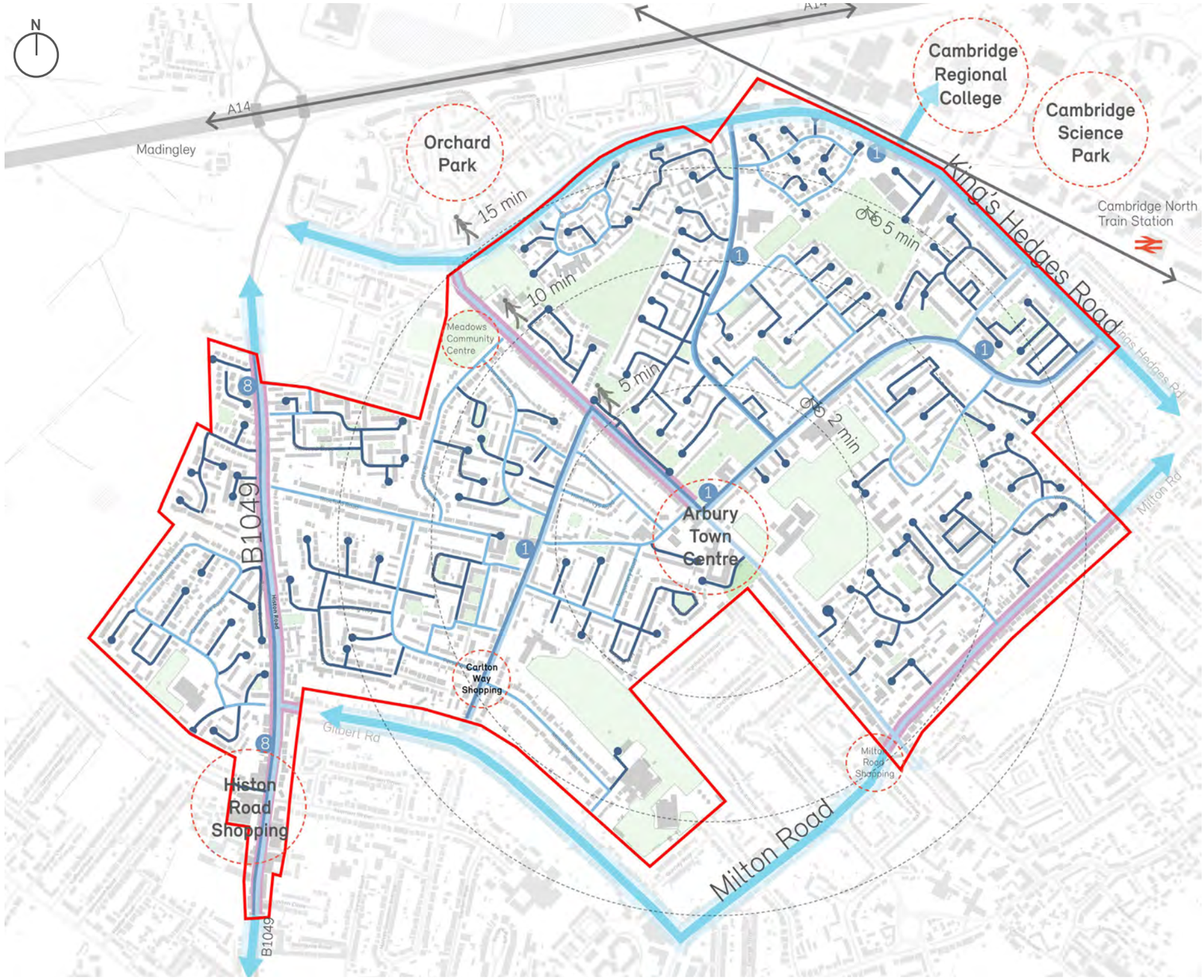


Image of a typical highway

Image of a service yard in a flat block being the predominant vista

Image of a typical residential cul-de-sac, Nuns Way

Sustainable Homes

A vital aspect of improving sustainability in the area is raising the energy efficiency of the existing buildings. Here in the area, reducing heating bills and improving comfort, health and well-being within the home is particularly important.

The plan opposite, interperated from publically available census data, is indicative of the challenge facing many of the buildings. The dark pink areas show those parts where homes fall below the anticipated 2028 minimum "C" rating for all private rented homes. Areas of red show areas where homes are below the minimum "E" rating (HM Land Registry data 2022).

Please note that this diagram is illustrative only. When looking to raise energy standards with improvement works or redevelopment is proposed, an up to date assessment of the building's energy performance should be carried out. Building owners should be encouraged and assisted to improve energy performance, with a particular focus on buildings with ratings below "C". Energy efficiency improvements must reflect the requirements set out in Principle 5, governing for example appearance, and where possible take opportunities to deliver on other principles.

Where buildings with the poorest energy performance overlap with other challenges to delivering the code principles (such as poor existing urban design, weak movement networks, and lack of urban greening) this can be indicative of larger-scale problems to tackle than basic refurbishment can deliver. Where this is the case then both refurbishment, partial, and full new-development options must be explored and tested for their effectiveness in delivering local improvement based upon the 5 principles.

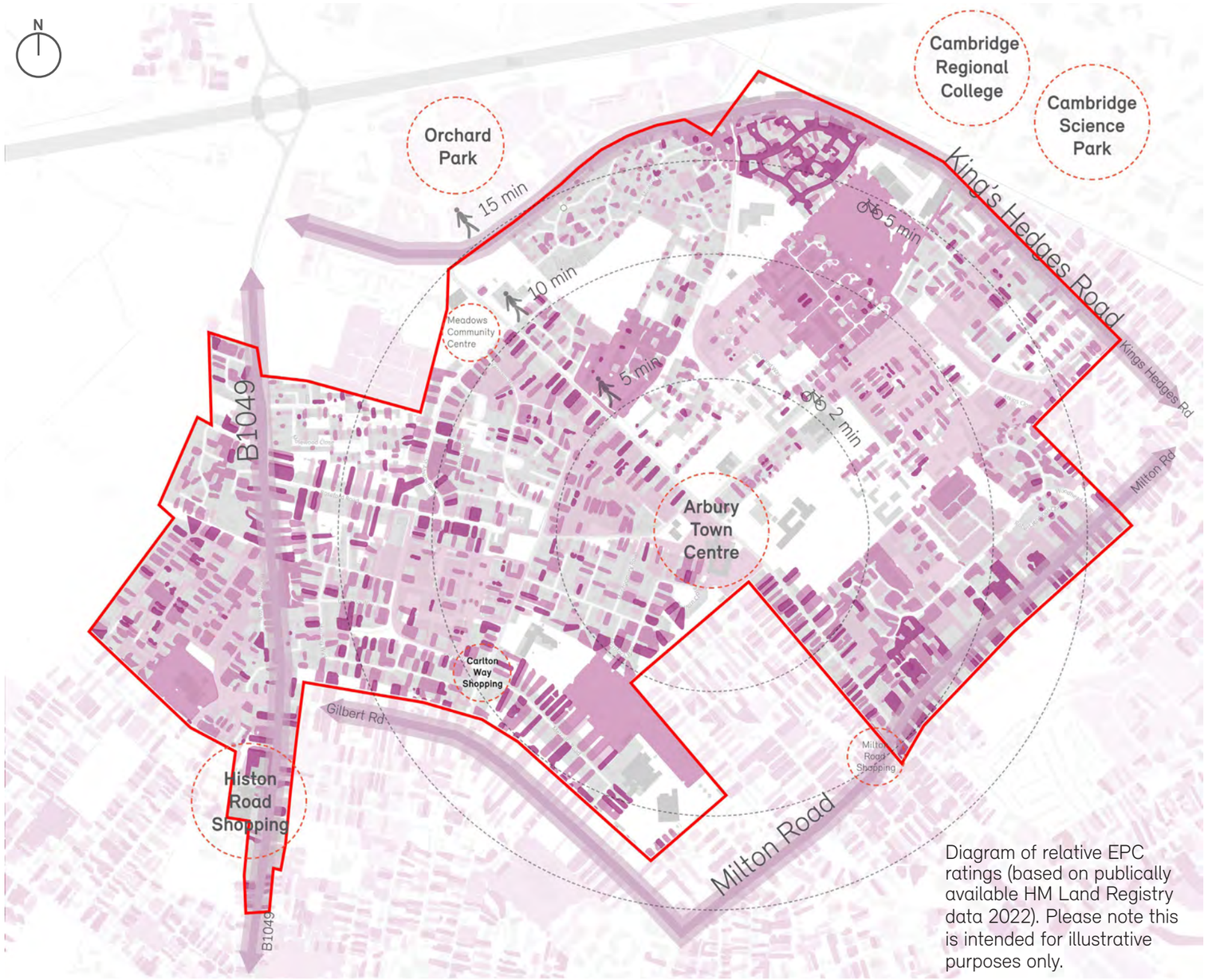


Diagram of relative EPC ratings (based on publically available HM Land Registry data 2022). Please note this is intended for illustrative purposes only.

KEY

- Band - **A-C**
- Band - **D-F**
- Band - **G**
- Study Area

Image of a flat block deck access

Image of a building elevation

Image of backgarden elevations

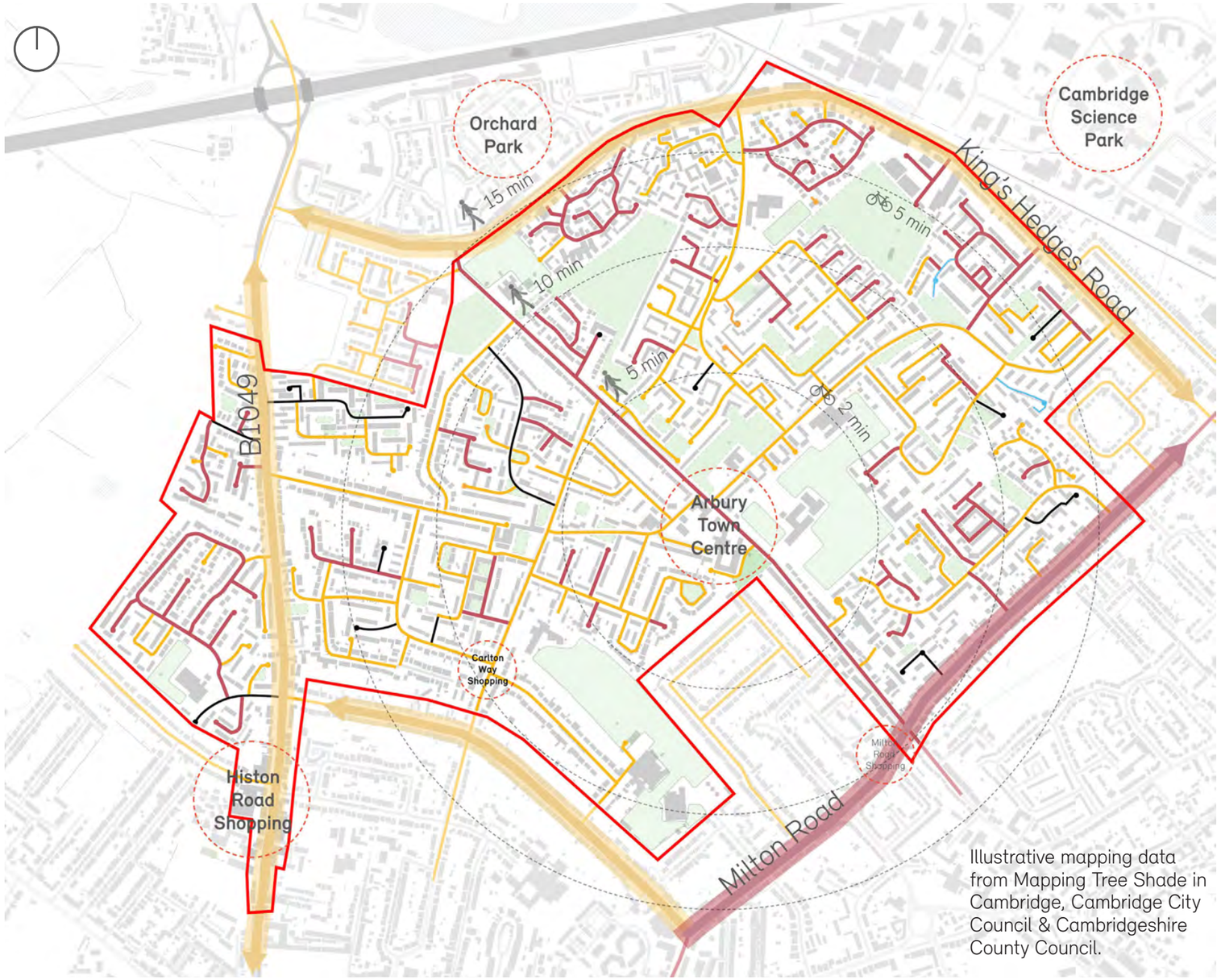
Tree Shading

Within the area set out by the Design Code, there is a deficit in tree shading on some streets, as shown in the adjacent map. Trees with large canopies will provide a greater degree of shading than trees with smaller canopies.

Tree shading is important for neighbourhoods because it offers a range of physical, ecological and social benefits. These include: street temperature regulation, air quality improvement, and the creation of wildlife habitat corridors. In short, tree shading contributes significantly to creating more liveable, sustainable, and enjoyable urban environments.

The “Make Spaces for Nature” section outline how tree canopy can be enhanced across Arbury and King’s Hedges and help improve the community experience and climate resilience of the area.

Data displayed on the diagram is from the document, “Mapping tree shade in Cambridge, Cambridge City Council.”



Illustrative mapping data from Mapping Tree Shade in Cambridge, Cambridge City Council & Cambridgeshire County Council.

KEY

Shade provided (%)

- 0 - 20 %
- 20 - 40 %
- 40 - 60 %
- 60 - 80 %
- 80 - 100 %
- Code boundary

Image of a parking court with garages with minimal trees

Image of a tight back garden access way

Image of a typical residential cul-de-sac, Nuns Way, with no street trees

Green Spaces and Landscapes

Within the area of the Design Code there is a range of existing green space, from small pocket parks, to large playing fields. Most of the green spaces are protected.

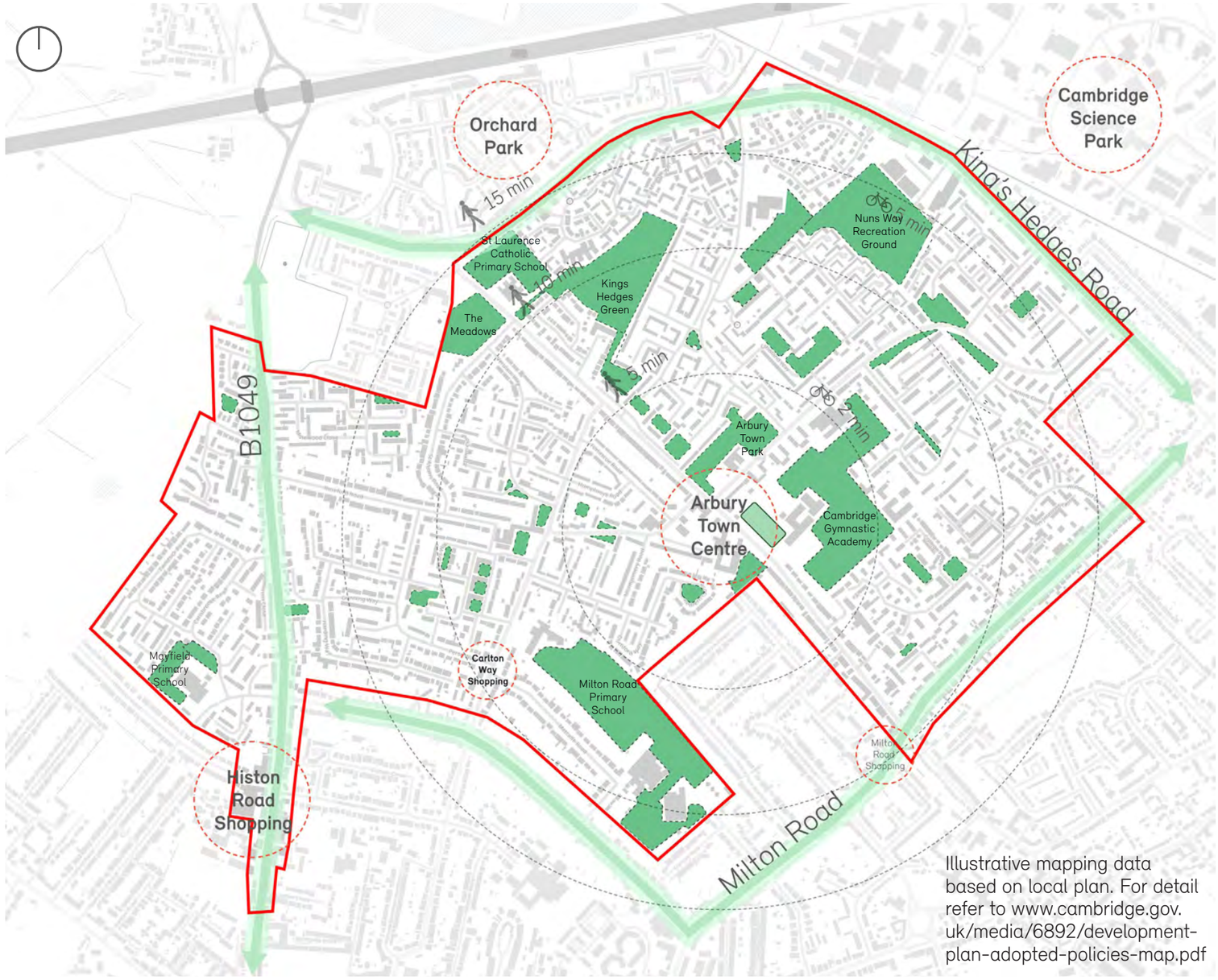
Parks and open green spaces play a crucial role in fostering healthy communities, promoting environmental sustainability, and enhancing the quality of life in urban areas.

However, because the parks and open spaces in this area are not easily accessible on the route networks, do not offer diversity or habitat, and have limited spaces for community activities, they are less well utilised than they could be.

The design code outlines how spaces can be revitalised to improve access, visibility, usability, safety, play, biodiversity and climate resilience. We emphasise the requirement for parks and open spaces to be integrated as parts of a thriving green network, with walking and cycling routes that can tie the area together through nature-based interventions.

It is anticipated that each green space can develop its own character to reflect its location, for example proximity of homes, or shops. This allows some for example to focus on providing play for all, while others can focus more on food growing or providing quiet natural oasis. What they need to share is all being safe, attractive and well connected to the walking and cycling network.

The area is identified as being located in Flood Zone 1, meaning that direct flooding from rivers is unlikely. However wet spots from surface water flooding have been identified, reinforcing the importance of incorporating effective Sustainable Drainage Systems (SUDs) planning as part of future proposals.



Illustrative mapping data based on local plan. For detail refer to www.cambridge.gov.uk/media/6892/development-plan-adopted-policies-map.pdf

KEY

- Protected green spaces (indicative)
- Other green spaces
- Code boundary

Image Nuns Way recreation ground

Image of a green courtyard

Image of Verge beside a carriageway

Opportunities Framework

> *"The more you look at the place, the more you can see that you can improve."*
>
> *Resident commenting during workshop 2*

Key spaces and focal points in the area offer significant opportunities for enhancement. As part of Next Steps, these should be explored through strategic plan making in close consultation with the local community.

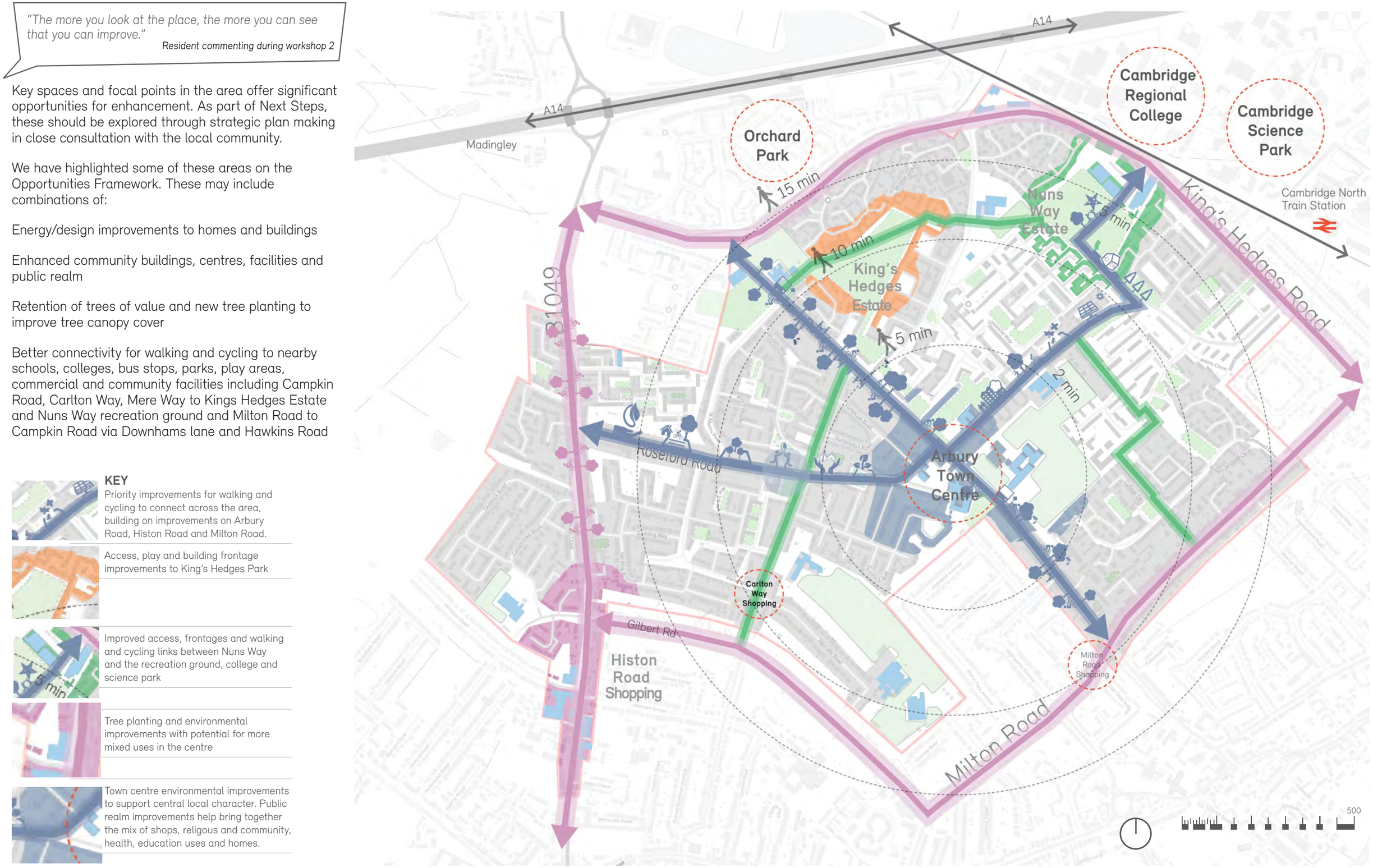
We have highlighted some of these areas on the Opportunities Framework. These may include combinations of:

Energy/design improvements to homes and buildings

Enhanced community buildings, centres, facilities and public realm

Retention of trees of value and new tree planting to improve tree canopy cover

Better connectivity for walking and cycling to nearby schools, colleges, bus stops, parks, play areas, commercial and community facilities including Campkin Road, Carlton Way, Mere Way to Kings Hedges Estate and Nuns Way recreation ground and Milton Road to Campkin Road via Downhams lane and Hawkins Road



KEY

Priority improvements for walking and cycling to connect across the area, building on improvements on Arbury Road, Histon Road and Milton Road.

Access, play and building frontage improvements to King's Hedges Park

Improved access, frontages and walking and cycling links between Nuns Way and the recreation ground, college and science park

Tree planting and environmental improvements with potential for more mixed uses in the centre

Town centre environmental improvements to support central local character. Public realm improvements help bring together the mix of shops, religous and community, health, education uses and homes.

The Five Principles

The Code

We have structured the document under the headings of Five Principles. They have been chosen to be memorable and to have an easily understood focus. Each principle includes a range of technical design guidance indicating how the principles can be delivered, how principles can work together, and where appropriate include key targets

The principles emerged through engagement with residents are listed to reflect the order of priorities that were expressed at the time.

Principle 1 - Make space for Nature

Incorporating nature is critical to delivering the priority of climate resilient sustainable communities and nurturing meaningful connections with the environment.

The components of nature need to be integrated as a network of natural spaces, sustainable drainage, and tree planting, to deliver an increased quality of life and improved micro-climate.

Principle 2 - Prioritise walking and cycling

Create a safe joined-up network for walking and cycling routes that can be combined with green space, trees and nature. Cycle ownership and use is very high in the neighbourhoods and one of the highest priorities for residents is a safer and better connected cycling and walking network for local trips.

Principle 3 – Thriving Public Spaces

Public space matters, and can range from local centres to a shared garden, small square or quiet street. Spaces need to feel safe by being visible and bring people, activities and nature together into attractive places.

Local centres need combined and multiple uses to help support them, including places to play, shop, work, worship, learn and live - and be well connected by the route network to surrounding neighbourhoods.

Principle 4 – Enhance Character

Residents want to strengthen the green character of the area, which is combined with a varied but gentle building scale. New developments need to work with the local scale of buildings and contribute safe, sociable streets and spaces, with focal points and memorable but harmonious buildings in key places. New developments and s106 contributions must be harnessed to benefit the local area, with the existing local environment invested in and seeing improvement when there is new construction.

Principle 5 – Increase Sustainability

Take opportunities to reduce energy use and carbon emissions, generate clean energy, and improve health and well-being for residents - both at home and around the neighbourhood.

When designing new developments plan to reduce whole life carbon by improving and reusing existing buildings, recycling elements, and using low carbon renewable materials.

Thinking Creatively

Art and creativity can play an important role in delivering and enhancing each of the above five principles. Engaging artists early in the process allows their creative practice and expertise to meaningfully connect local context with community and stakeholders. Artists can respond to any opportunities linked to the five principles to support consultation processes or develop site-responsive work that enhances the area's distinctive character, reinforcing local history, culture and identity, whilst engaging with community.

All developments must accord with inclusive design principles.

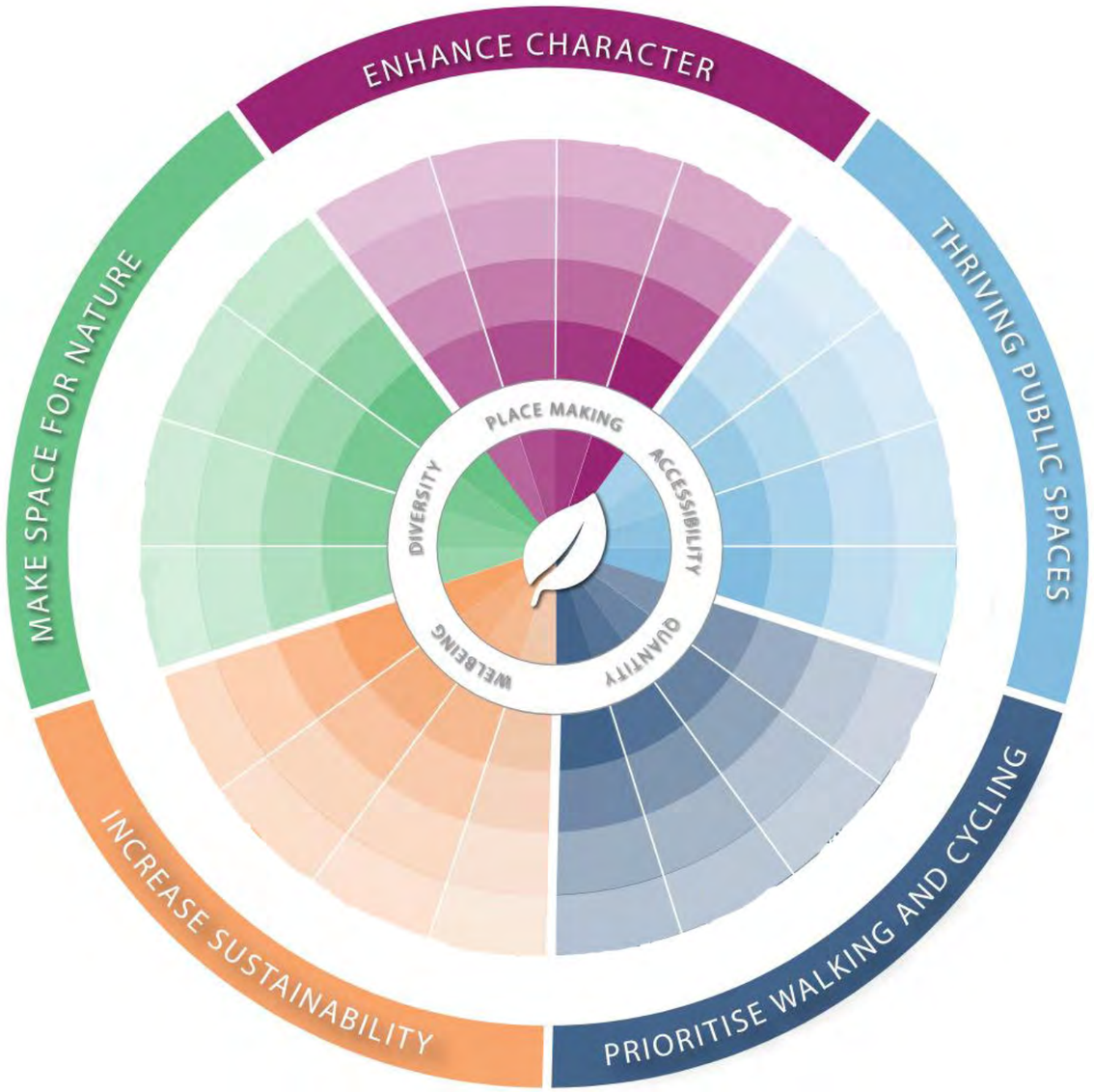


Diagram of the 5 principles

1 Make Space for Nature

Incorporating nature is critical to the delivering the priority of climate resilient sustainable communities and nurturing meaningful connections with the environment.

The components of nature need to be integrated as a network of natural spaces, sustainable drainage, and tree planting, to deliver an increased quality of life and improved microclimate whilst improving safety and providing for inclusive access.

"Make a place for people to relax when they're down or tired"

Grove Primary School Student

Image shows hypothetical street scene only to illustrate design requirements

Greening Opportunities

The plan opposite identifies the major green spaces in the area, and the opportunities to link these to create a thriving green network, with living infrastructure like, trees, plants, green roofs and other ecosystems greening the streets that connect between them. Opportunities to retain trees alongside new tree planting to improve tree canopy cover should be taken and views to open spaces should be exploited.

Apply the principles of the code to improve access, usability, safety, biodiversity and climate resilience within each of the green spaces.

Opportunities to see how open spaces can be enhanced and integrated with development proposals in accordance with policy 67 taking on board community input, should be discussed with the local planning authority at the earliest opportunity.

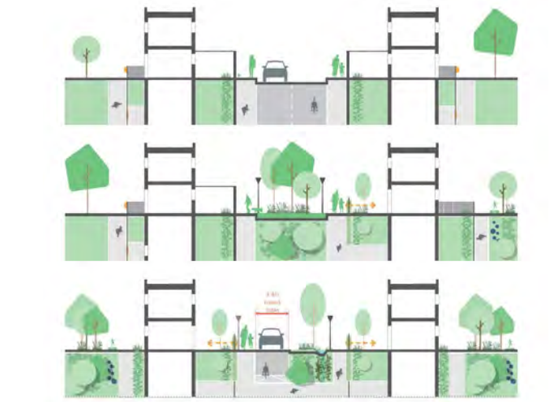


Illustration showing street greening ideas to tackle poor environments with combined tree planting, traffic restrictions and creation of front gardens

KEY

- Existing green spaces
- Greening for major routes
- Greening for minor routes
- Priority streets for tree canopy enhancement
- Code area boundary

N

0 100 200 300 400 500

METRES

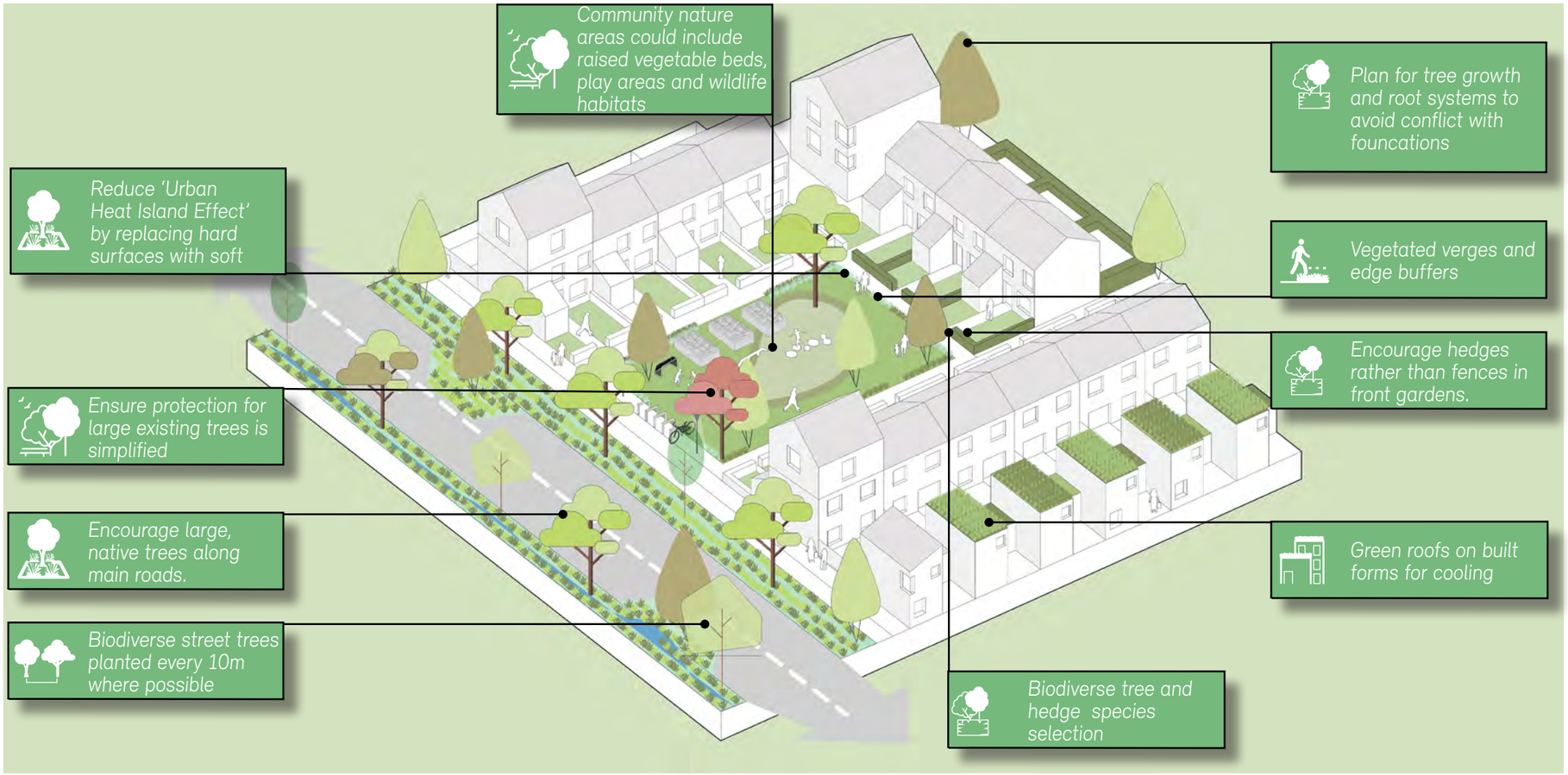
Urban Greening

"Increased green space means cleaner air in the long run. Good for physical and mental health."

Resident survey comment

Safeguarding for local large trees ensuring protection from disease and improve climate resilience

Reduction in the urban heat island effect through street trees planted every 10 metres where possible



Illustrative diagram showing urban greening principles

What is it and Why is it Important

Trees and Planting needs to be well integrated, incorporated into spaces and aligned with movement networks to keep routes attractive and shady on hot days. Green corridors can positively contribute to human health by improving the microclimate to reduce heat stress and exposure to harmful UV radiation.

Must:

- Canopy cover and hedge planting must be increased in local streets, as well as in open space and parks (Policy 71).
- Existing trees of value must be retained wherever possible. To provide long term protection to the area's tree cover a selection of biodiverse species must be chosen when planting new trees. This will help ensure climate resilience, robustness and disease resistance.
- Species selection take account of underground tree infrastructure required, foundations, and suitable to the function of the space.
- A process of consultation with the local authority for incorporating existing trees into new development must be undertaken at the earliest opportunity in order to comply with Policy 71.
- New developments must consider how shading will be incorporated at the early stages of design, and green roofs must be maximised on flat roofs (10 degree pitch or under) wherever possible, taking account of its management and maintenance (Policy 31f).
- Use conditions to ensure the establishment and long term management and maintenance of planting

Should:

- To help reduce the urban heat island effect street trees should be planted at ten metre centres to achieve combined canopy cover over time (Policy 71c). Spacing should balance ecological needs, safety, infrastructure considerations, street function and aesthetic goals to ensure trees can grow and thrive.
- Green roofs should be included on public buildings and homes, cycle storage units, garages, bus stops, and other buildings in the area.
- Creation of tree canopy should be achieved with clear views at ground level for visual openness, safety, security and away from footpaths.
- Where space permits, there will be a presumption in favour of large, shade-producing, large-scale trees, particularly along key streets and spaces.

Resources

- Forest Research - Urban Tree Manual (2018)
- Natural England - Green Infrastructure Framework (2023)
- Trees for Streets Scheme
- TDAG - Tree Species Selection for Green Infrastructure: A Guide for Specifiers (2019)
- The AA - Tree Preservation Orders Guidance
- The GRO Code of Best Practise (2023)
- Citywide Tree Strategy 2016-2026, Cambridge City Council: Part 1 and Part 2

Broad leaf trees and a vegetative buffer provide shade, protection and biodiversity along a residential street

Involve the community in tree planting schemes

Nature Conservation

"Mandate the inclusion of habitats for wildlife in the design code, bat boxes. This is low cost, low maintenance and has a positive environmental impact."

Resident survey comment

Target 20% Biodiversity Net Gain to be delivered locally, particularly for larger developments.

Seek to Enhance habitats of existing species by incorporating bee bricks, bat boxes and bug hotels

What is it and Why is it Important

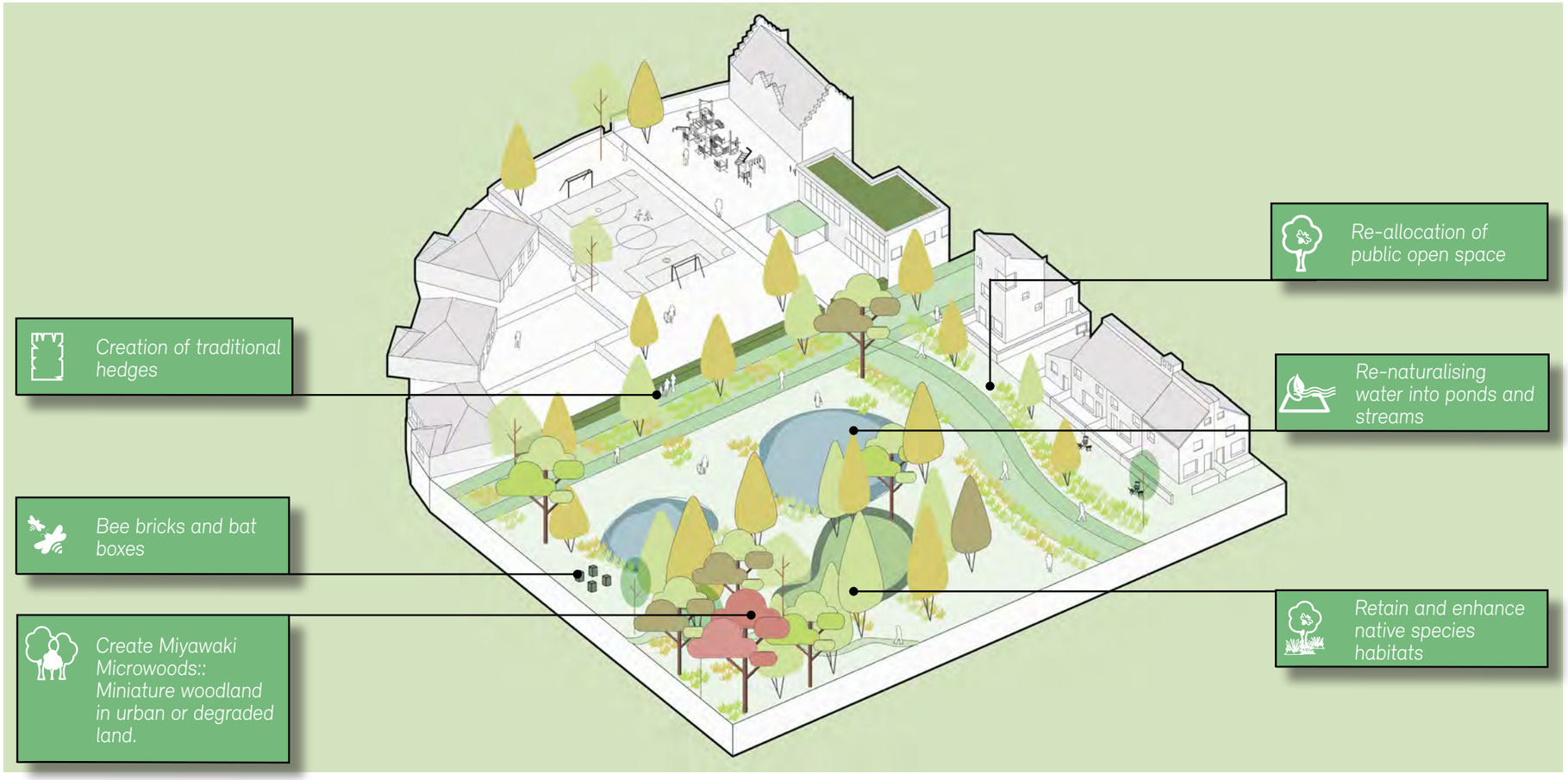
Through a comprehensive nature conservation approach, landscape can be enhanced for all life across the area. Natural assets and habitats that already exist should be protected, maintained and enhanced.

Must:

- New developments must meet Biodiversity Net Gain improvements at a minimum of 10% (Greater Cambridge Shared Planning Biodiversity SPD, adopted in February 2022). This should be delivered on site and if this is not possible, it must be allocated within the design code neighbourhood, before being placed in wider habitat banks in Cambridge.
- If protected space is allocated for re-development for better placemaking, natural surveillance, good pedestrian and cycle connectivity, should there be a need for some development on protected open space, the same size and scale of land must be reprovided for within the boundaries of the design code (see p.6), preferably within walking distance of the existing site (Policy 67).
- In new developments habitats of existing species must be enhanced rather than removed (Policy 59c & 69c). Ensure wildlife habitats are created, linked and managed wherever possible.

Should:

- Target 20% of locally delivered biodiversity net gain, particularly for larger developments
- The goal is to apply local management practices in Cambridgeshire to help maintain the area's existing and new habitats. This could include actions like grazing cattle or sheep, laying hedges, planting small woodlands, and restoring covered-up waterways to their natural state.
- Connective hedges should include native species such as Crataegus monogyna (Hawthorn), Prunus spinosa (Blackthorn), and Corylus avellana (Hazel). These can be coppiced and managed seasonally by the local community, with support from local officers.
- New development proposals should incorporate dark corridors for wildlife through open spaces. It should prioritise zones for nature: accessible for viewing only, where possible. Eco-sensitive lighting should be considered early on and balanced against the needs for safety along key routes.



Illustrative diagram showing nature conservation principles

Incorporate homes for animals - detail of child's bird feeder design

Hedgehog highway through fences and back gardens

Specify species rich planting

Living Landscapes

"Benches and perennial planting or beds of flowers would make the space feel loved and nurtured and if the local community used the space to grow vegetables."
Resident survey comment

Use living spaces help bring people together through play, social meeting, food growing resting, and being in nature

Work with local people to create and care for spaces for the community to enjoy and share

Illustrative diagram showing living landscapes principles

What is it and Why is it Important

Living Landscapes can create sensory experiences in public and shared spaces by providing biodiverse planting alongside spaces for the community to gather, grow food and enjoy natural spaces to stop and rest.

Must:

- Improvement works to community amenity centres, such as Arbury town centre, must include accessible places to stop and rest amongst planting that is appropriate to both the scale of buildings and space (Policy 56i & 59). For example benches nestled in biodiverse planting, which are surrounded by a variety of tree species, supports the everyday integration of nature and social well-being.
- Accessible and safe places to grow food must be provided for in larger new developments, for the local community to steward and enjoy. This is flexible and can include community orchards, community gardens & collective vegetable plots (Policy 31b).
- Landscape and green infrastructure must be designed with minimal maintenance requirements. When maintenance is required it must be achievable for local residents to carry out, and contribute to a no net loss in biodiversity (Policy 59: 7.15).

Should:

- Climate resilient planting interventions should provide year round sensory stimulation with vibrant colour and texture choice (Policy 59h). For example - spring bulbs, summer grasses, autumnal flowering communities, and shrubs with winter interest.
- Community growing spaces should be accessible, manageable and cooperative. In new developments size should be considered, with pocket spaces often preferable for residents, than large sites, which can be difficult to maintain.
- Consultation should be carried out to see how residents can be involved in the care, maintenance, management and stewardship of spaces.

Resources

- Natural England - TN104 Planting Trees and Establishing Fruit Trees (2010)
- Paths for All - Outdoor Accessibility Guidance (2023)
- Social Farms & Gardens - Resource Library
- Town & Country Planning Association - Guide 9: Long Term Stewardship (2017)
- UK Gov - Garden Communities Toolkit (2019)

Use innovative design to bring habitat and nature into public spaces - detail of a Grove School student design for a 'leaf bench'

Enable community growing projects to green streets

Activate spaces with community food growing schemes

Water Responsiveness

Ensure adequate protection in new developments for the **1 in 100 Year Flood**

Use natural drainage features to create attractive spaces for people, plants and wildlife

What is it and why is it Important

A water responsive approach will ensure that the area is focussing on climate resilient measures to help protect homes and reduce flooding. SuDS improve climate resiliency by lowering flow rates, increasing water storage capacity and reducing pollution run off. Water should be seen as a resource, to be captured and reused.

The area is located within flood zone 1, meaning flooding from rivers is unlikely. However, wet spots from surface water flooding have been identified - reinforcing the need for Sustainable Drainage Systems (SUDs).

Must:

- Improvement works and new developments must implement adequate flood attenuation schemes for 1 in 100 year floods, as well as surface water flooding at a minimum (Policy 32).
- Water responsive interventions must include natural and green SUDs for the source capture of surface water flooding. These can include swales, attenuation ponds and raingardens.
- Care and maintenance - post event recovery and/or repair must be factored into the designs.

Should:

- Install rainwater butts on all suitable buildings
- New developments should aim to utilise an all natural approach to attenuation negating the need for underground water storage tanks and aiming for large attenuation basins for habitat creation (Policy 32)
- Where possible flood attenuation schemes should also double as spaces for recreation when not in flood and avoid barrier railings for example by using shallow gradients. However, these spaces cannot contribute towards formal open space requirements or play provision.

Resources

- Cambridgeshire County Council - Surface Water Management Plan (2014)
- CIRIA - The SuDS Manual (2015)
- Greater Cambridge Integrated Water Management Study (2021)
- Institute of Civil Engineers - SuDS Route Maps (2018)
- National Planning Practice Guidance - Green Infrastructure Guidance (2019)

Illustrative diagram showing water responsiveness principles

Green and lush Swale integrating playful route

Biodiverse Raingarden alongside transport corridor

Integrating play within sustainable storm water management

2 Prioritise Walking and Cycling

Create a safe joined-up network for walking and cycling routes that can be combined with green space, trees and nature. Cycle ownership and use is very high in the neighbourhoods and one of the highest priorities for residents is a safer and better connected cycling and walking network for local trips whilst ensuring essential vehicle access and use for the community, visitors and services is maintained.

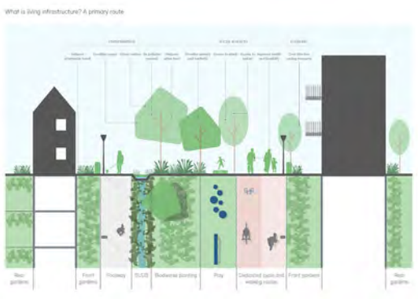
> *"King's Hedges was designed for walking so lends itself to being a good candidate for making it a truly active ward"*
>
> Resident comment via interactive map

Image shows hypothetical street scene only to illustrate design requirements

Movement Opportunities

The plan opposite identifies opportunities to create a hierarchy of key walking and cycling routes across the area. These join up the social infrastructure of the area and form attractive connections to the surrounding neighbourhoods and employment. Opportunities for improving these routes for walking and cycling whilst improving access for all users should be incorporated into designs when development opportunities arise.

- Improved east-west walking and cycling connectivity between Histon Road, Arbury Town Centre and Cambridge Regional College and Science Park. Improved connections around Kingsway to link Roseford Road, Alex Wood Road, Campkin Road to Milton Road through, Hawkins Road, Downhams lane and connecting Kings Hedges park to Nuns way Recreation Ground.
- Traffic reduction and improved cycling and walking infrastructure on Arbury Road, with speed control features to form safe pedestrian crossings in Arbury Town Centre and other major crossing points on Arbury Road.
- Deter unallocated parking and reduce traffic and speeds near schools.
- Improved cycling infrastructure and greening on Histon Road and Arbury Road taking account of improvements work already taken place.
- Prioritise, improve existing or create new walking and cycling routes, making them safe and integrate them with new development.
- Management and adoption of new road infrastructure needs to be considered at the design stage to be of high quality durable and longlasting.



Improving the route infrastructure is more than just the paths themselves, and includes integration of tree planting, sustainable urban drainage and natural planting, with convenient attractive places to sit and rest on the way.

Green and Active Travel

Active travel and how to **encourage** it must be considered first in **any design proposals**

Active travel facilities should be provided **away** from **vehicle traffic** wherever possible

What is it and Why is it Important

Promoting walking, cycling and wheeling trips with convenient routes, inclusive access aligned with urban greening, natural habitat creation and well overlooked spaces will increase the permeability of the area and encourage residents to make shorter journeys by more sustainable means.

Must:

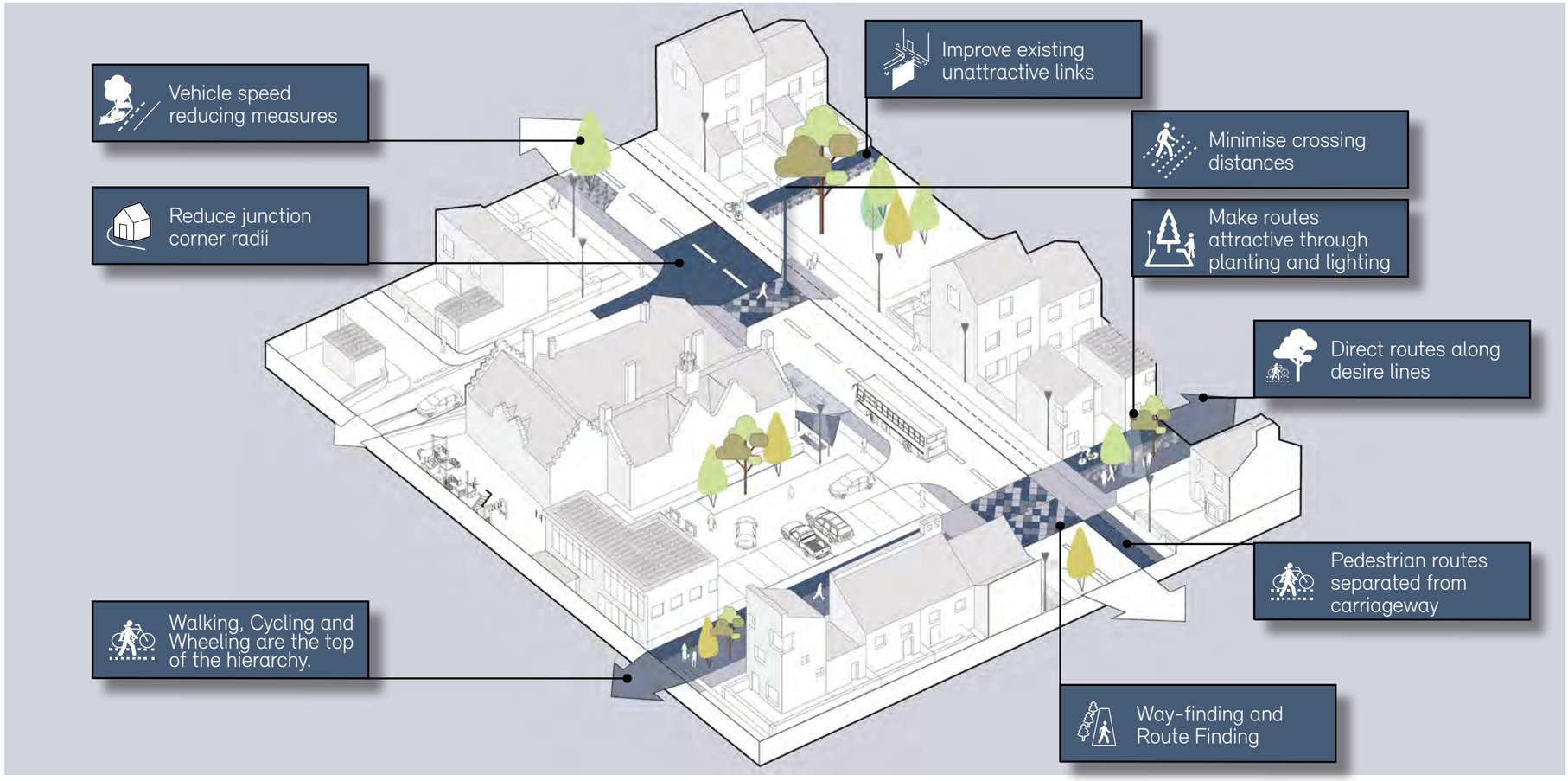
- Prioritise walking first, followed by cycling and wheeling, and ensure their places at the top of the travel mode hierarchy providing inclusive access. (Policy 5)
- Design direct and legible routes along key desire lines. (Policy 80)
- Provide smooth walking, cycling and wheeling surfaces preferably segregated from motor vehicles. (Policy 59i)
- Provide appropriate way-finding and route marking where required but limit use where possible.
- Maximise the attractiveness of the routes by providing appropriate width, lighting, planting and where appropriate, rest and contemplation areas. (Policy 59 and 69)
- Include vehicle speed reducing measures to mitigate active travel user safety concerns and re-prioritise road space. (Policy 80)
- The design of footways for pedestrians must follow the guidance on Inclusive mobility- A guide to best Practice on Access to Pedestrian and Transport Infrastructure

Should:

- Provide separation from carriageways and vehicles through planting and verges (minimum width 1m)
- Reduce crossing distances and provide continuous pedestrian/cycle and wheeling routes along direct desire lines.
- Open up and improve existing, unattractive pedestrian, cycling, wheeling links to provide natural surveillance.

Resources

- Cambridgeshire's Active Travel Strategy (Cambridgeshire County Council) 2023
- Cambridgeshire's Active Travel Design Guide (Cambridgeshire County Council) 2023



Illustrative diagram showing green and active travel principles

Making routes attractive through planting and lighting, ***Abode, Cambridge, Proctor Mathews***

Direct routes along desired lines.

Improving existing unattractive links, ***King Square, London Borough of Islington, Pollard Thomas Edwards***

Cycle and Wheeling Trips

"All users need to be far more aware of others and there needs to be marked Road space for bike, pedestrian and car. There must be a solution that will suit everyone"

What is it and Why is it Important

In addition to wider active travel considerations, specific consideration needs to be given to encourage cycle and wheeling use for shorter and medium length trips. Cycling and walking work well together in the context of a well proportioned shared surface, but should otherwise be segregated.

Must:

- Maximise the provision of cycle parking at least in line with Cambridge City Council guidance. (Cycle Parking Guide For New Residential Developments' (2010) SPD and Policy 82)
- Ensure residential cycle parking (preferably sheffield cycle stands) is covered, secure, lit and benefits from natural surveillance.
- Plan for cycle parking to be at least as convenient as car parking where possible at the front of all buildings.
- Design for cycling/wheeling movements in the first instance separate from vehicle traffic applying LTN 1/20
- Design for all types of cycling/wheeling movements including larger adapted cycles, cargo bikes, mobility scooters, buggies and wheelchair users.
- Seek to provide new cycle/active travel corridors to link with existing provision and address 'pinch-points', barriers and missing links considering safety of pedestrians as well. (Policy 5d)

Should:

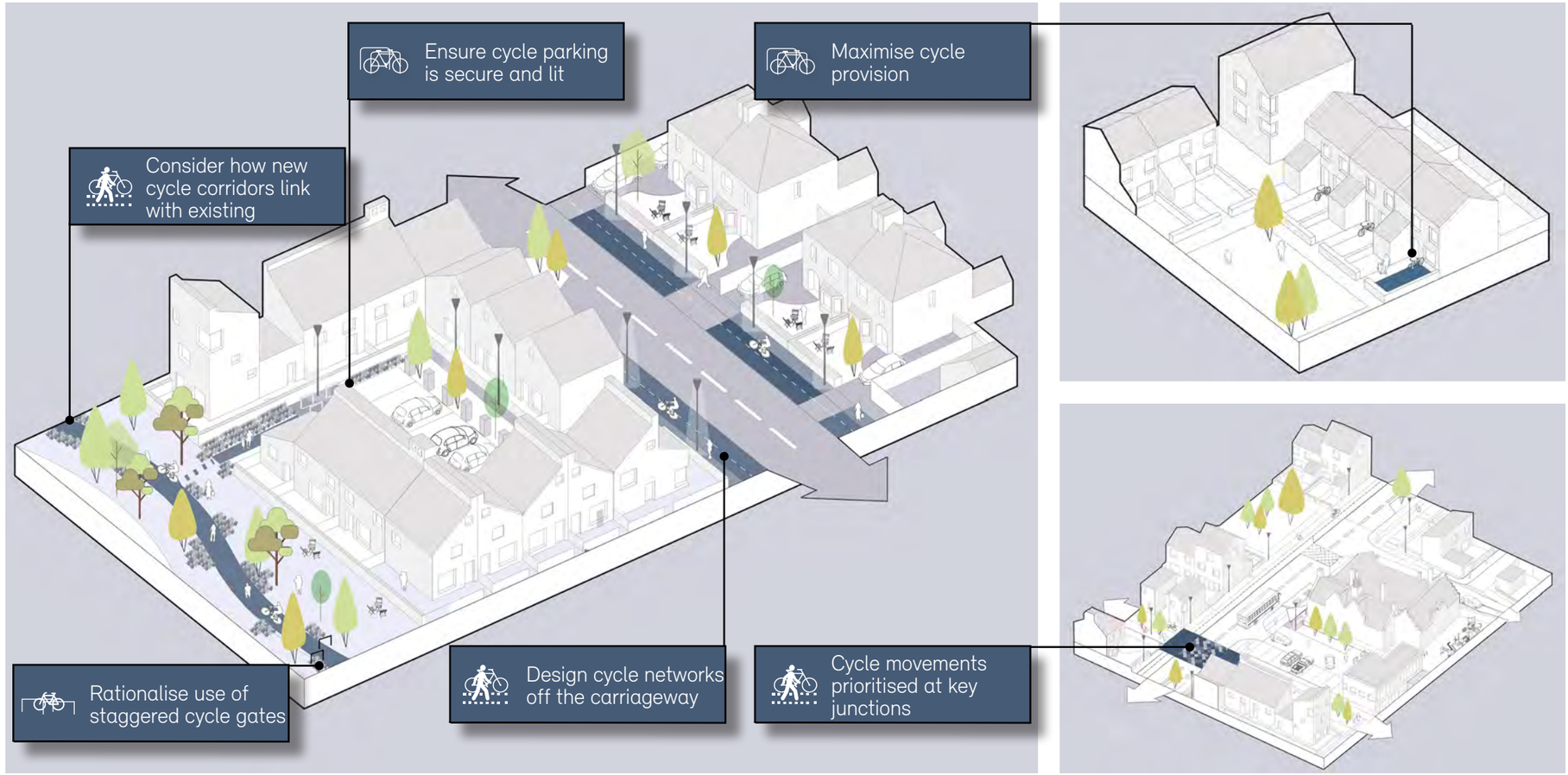
- Seek to provide cycle movements prioritised over vehicles at key road junctions with formalised safe cycle crossing points or incorporating cycle provision in to an existing junction design.
- In major developments seek to provide improvements to offer development links such as existing shared use paths that would benefit from widening, segregation, lighting.
- Avoid piecemeal, patchwork cycle infrastructure.
- Avoid the use of staggered cycle gates which restrict movement for other active travel users.
- Incorporate electric charging as part of cycle parking provision.

Resources

- Cambridge City Council Local Plan 2018 – Appendix L (Car and Cycle Parking)
- Cycle Parking Guide For New Residential Developments' (2010) SPD.

New **cycling** and **walking proposals** must **aim** to achieve **compliance** with **LTN 1/20 design requirements**

Improvements to the **cycling network** should always be considered as part of **any larger proposals**



Illustrative diagram showing cycle and wheeling trip principles

Shared street prioritising walking and cycling. ***Marleigh, Pollard Thomas Edwards***

Thoughtful integrated cycle stores that are secure and found close to entrances, ***Charter Place, Hounslow Council, Pollard Thomas Edwards***

Segregated walking and cycling paths

Public Transport Use

"My mother struggles to walk all the way down Histon Road to the shops. It would be much easier if there were benches placed at regular intervals for her to rest."

Resident comment via interactive map

Development must always **consider** how access to **existing public transport** facilities can be improved to encourage **sustainable travel**

Improvements to **existing public transport infrastructure** and services to connect key destinations including Cambridge North, Town Centre, City Centre, Science Park, Regional College within easy reach, should be considered wherever viable during plan making or services review stages

What is it and Why is it Important

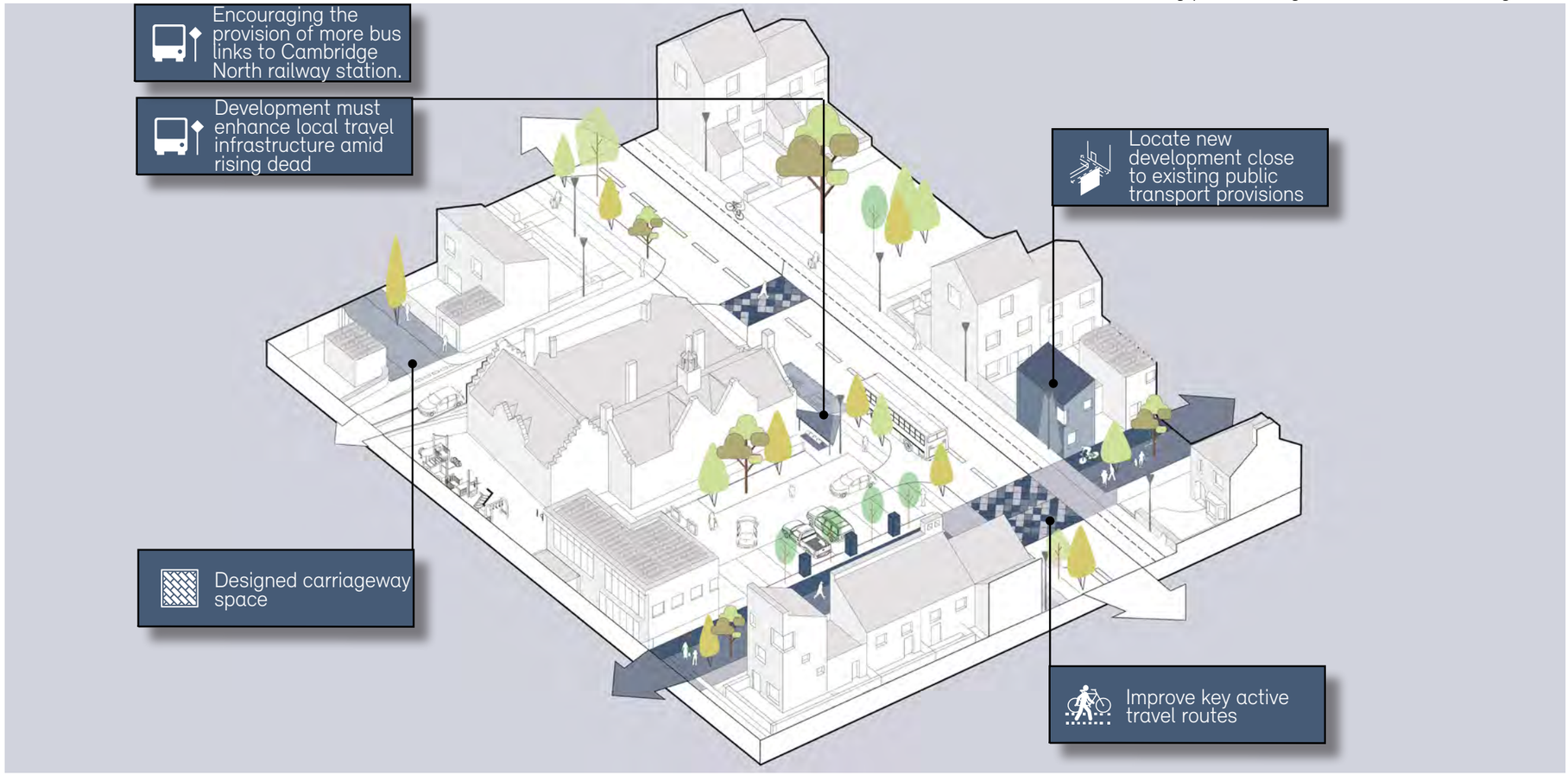
Public transport use can, where appropriately encouraged and facilitated, make a significant contribution to longer sustainable travel journeys and when linked with appropriate green infrastructure, make up the longer leg of a fully sustainable trip.

Must:

- Improve walking, cycling and wheeling routes and links to allow easy access to all for existing public transport provision (Policy 80)
- Maximise public transport use for larger developments , i.e. what could be included, how the design could be tailored to fully encourage public transport use (Policy 5, 80b, 81)
- Provide upgrades or contributions to local public transport infrastructure with developer contributions. Always consider the provision of a shelter, real time information boards and seating in the first instance. (Policy 85)

Should:

- Target larger developments within 200m of existing public transport facilities/bus stops.
- Seek to provide new public transport facilities/bus stops when new demand is being created.
- Seek to provide designated carriageway space and provision at existing road junctions where appropriate.
- Review the potential to provide sustainable transport hubs to encourage linked sustainable transport journeys.



Illustrative diagram showing public transport use principles

Resources

- Manual for Streets (Department for Transport) 2007;
- Manual for Streets 2 (CIHT) 2010;
- Cambridgeshire City Council Local Plan 2018 – Appendix A (Public Transport Accessibility)

Examples of smart bus stop systems

*Improving key active travel routes, **Kings Crescent Estate, Hackney Council, Henley Hale Brown***

*Bus stop accessible from front entrances. **Knights Park, Pollard Thomas Edwards.***

Reducing Car Dominance

"Parked cars making it difficult to access safely with a pram - you end up walking in the road"

Resident comment via interactive map

What is it and Why is it Important

Historically some roads, streets and wider developments have been designed to facilitate car use which has led to vehicle dominated neighbourhoods. This Code should change how public space and travel modes are prioritised to encourage more sustainable, active travel modes whilst making sure that essential vehicle access and use can be accommodated.

Must:

- Design for sustainable active travel in the first instance and do not prioritise car/vehicle movements. (Policy 5b)
- Accommodate essential vehicle access and parking
- Provide infrastructure for Electric Vehicle (EV) charging points at all developments.
- Minimise car parking provision on new developments where possible and prioritise parking for disabled/blue badge users
- Design car parking to relate to but not dominate the street scene that designs out parking on pavement verges and cycle infrastructure.
- Aim to comply with LTN/120 design requirements (or successors)

Should:

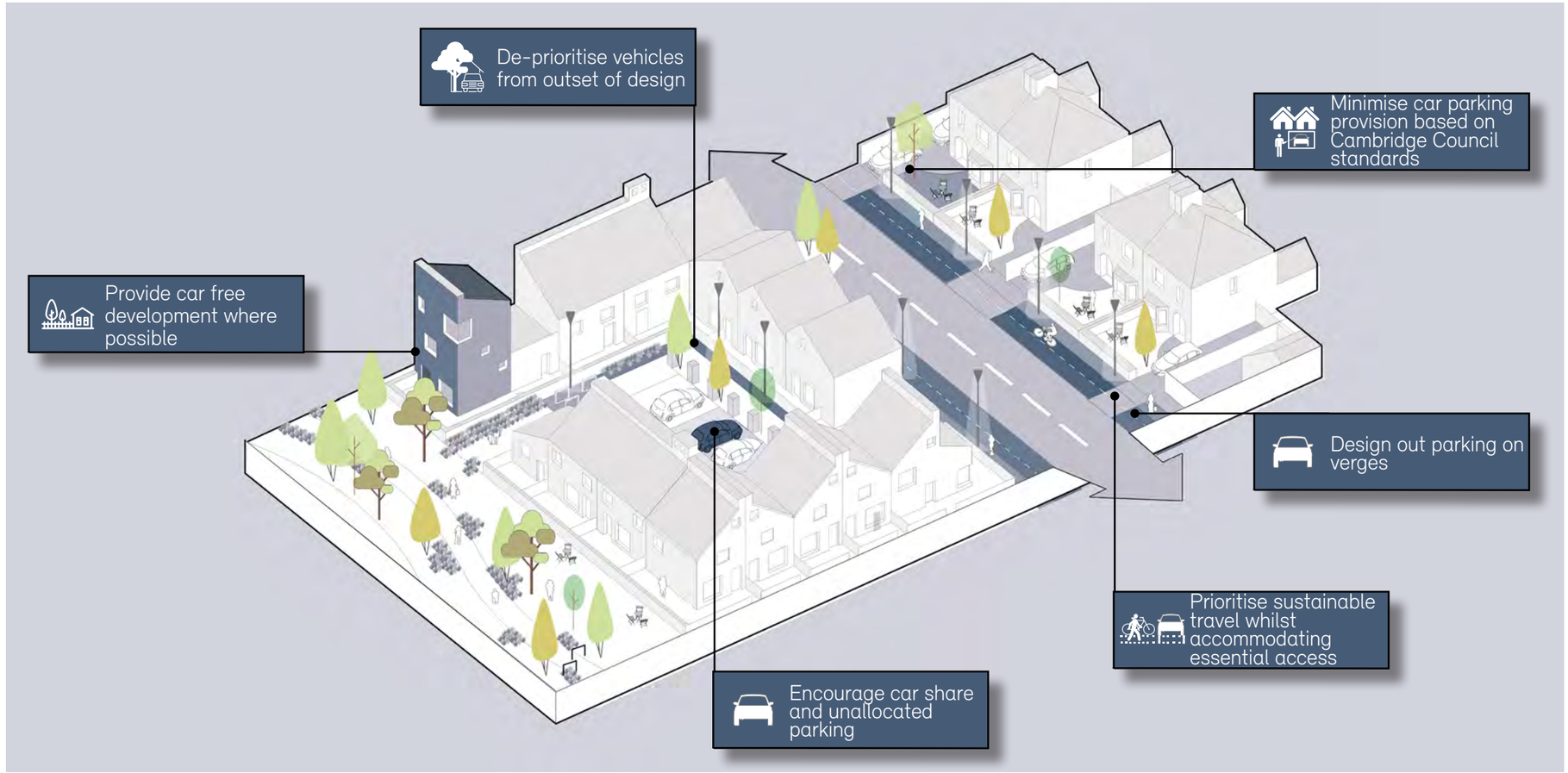
- Look to provide car free development where this can be justified based on accessibility and existing car ownership/use data.
- Prioritise shared use of unallocated car parking to maximise usability.
- Promote and provide/fund Car Club vehicles to reduce the requirement for residents to own a vehicle.
- Re-prioritise road space to encourage safe and convenient active travel movements.
- Explore alternative parking typologies that are better integrated into the development

Resources

- Cambridgeshire Highways Development Management (General Principles for Development (2023); and
- Housing Estate Road Construction Specification (Cambridgeshire County Council) 2023;
- Local Transport Note 1/20 – Cycle Infrastructure Design (Department for Transport) 2020;

All **developments** must consider the **'actual' car parking requirements** of a site rather than provide based on **standards**

Open space should be **prioritised** for **sustainable** and **active travel movements** over car parking provision



Illustrative diagram showing reducing car dominance principles

Car free streets that incorporate community planting, ***Accordia, Maccreanor Lavington & Alison Brooks Architects***

Houses looking over landscape with SUDs. Services hidden away at the rear. ***Marleigh, Pollard Thomas Edwards***

Car free streets that prioritise walking/cycling and landscape, ***Knights Park, Pollard Thomas Edwards***

3 Thriving Public Spaces

Public space matters, and can range from local centres to a shared garden, small square or quiet street. Spaces need to feel safe by being visible and overlooked and bring people, activities and nature together into attractive places.

Local centres need combined and multiple uses to help support them and to be well connected by the route network to surrounding neighbourhoods.

"Its good to live in Arbury town centre because there is a good park and lots of shops"

Grove Primary School student

Image shows hypothetical street scene only to illustrate design requirements

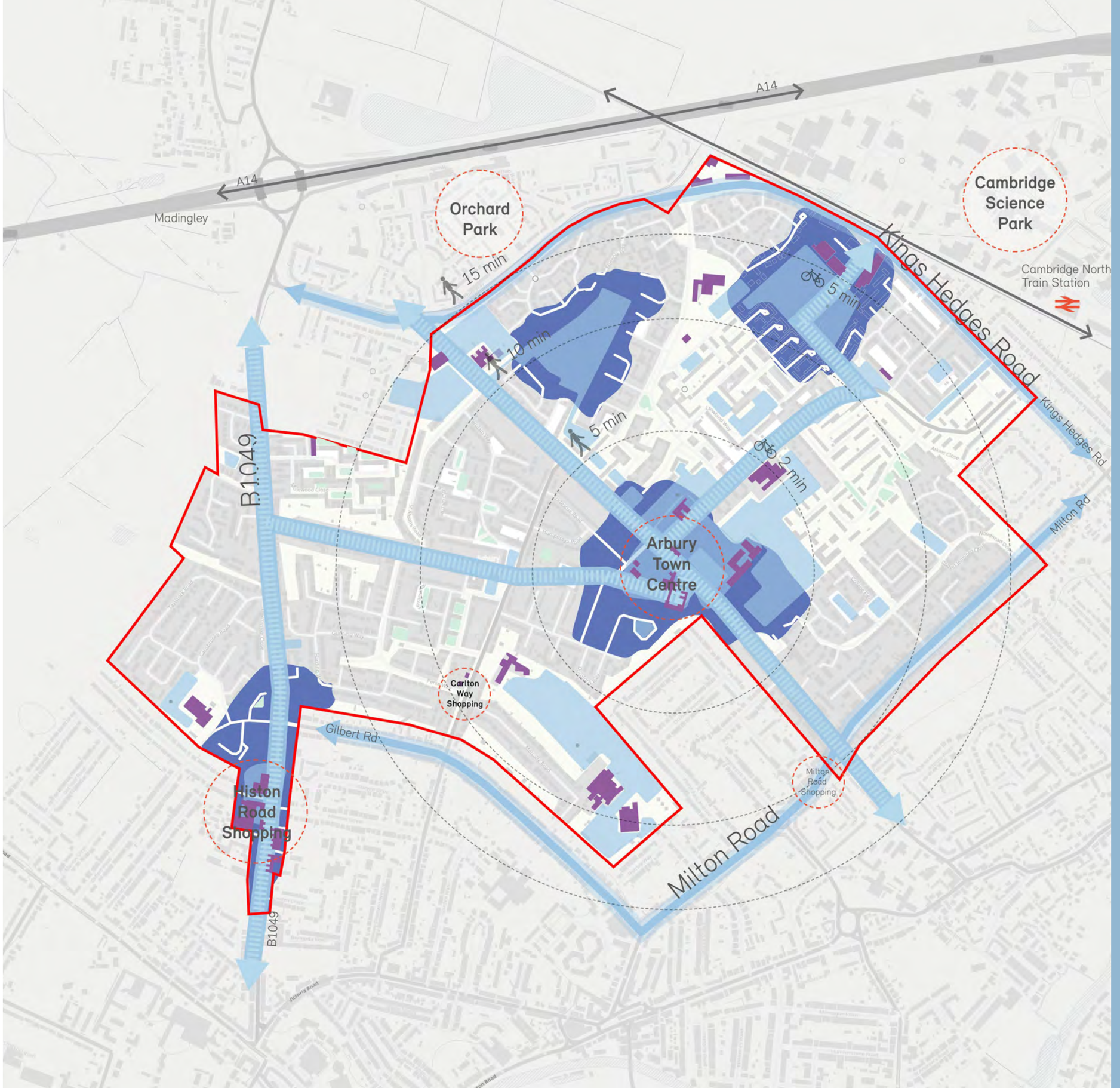
Public Space Opportunities

The plan opposite identifies some initial opportunity areas to improve the quality of public spaces. Focus has been given to spaces where community uses and businesses come together, where physical connections between uses can be improved and outside spaces activated by the surrounding uses. An example of this is Arbury Town Centre itself.

Arbury Town Centre opportunities

- Opportunities to improve diversity and visibility of shops and other facilities from surrounding streets including Arbury Road, connections between uses, and increased flexible use of the pedestrian square
- Opportunities to enhance the setting and natural surveillance of the park with active building frontages
- Opportunities to remodel and improve the existing large car parking and servicing areas surrounding to integrate it as a positive part of the town centre and improve the setting for nearby homes, church and other communal uses.
- Opportunities to reinstate lost street frontages on Arbury Road, for example by relocating, redesigning or reducing existing car parking.
- Explore opportunities to improve public realm in residential streets and provide town centre homes above places to work and other community uses including areas of worship.

For public space improvements prioritising pedestrians, making them welcoming and safe, proposals should not be restricted to the neighbourhood centre, but could also extend to other streets and spaces associated with communal, social of commercial function including Histon Road, Milton Road shopping, Carlton way and Campkin Road shops. The streets and small pocket spaces that connect to them have an important roles to play as public space too. Opportunities to enhance or improve the existing shopping and community facilities within the area should be taken.



KEY

- Major connecting routes
- Locations of public spaces and parks
- Focal point areas with opportunity to improve frontages on to public spaces
- Locations of existing community and commercial uses
- Code boundary

N

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METRES

Cambridge Neighbourhoods

Cultural Sociability

"If we think of King's Hedges more as a village we should have a park that's properly at the heart of the community"

Resident survey comment

Community Focal Points must be flexible creating public realm that can be used to cater for events

New developments should incorporate **artist-led public art projects**

Illustrative diagram showing cultural sociability principles

What is it and Why is it Important

Public spaces can be large or small. They combat loneliness and isolation with a range of attractive, safe, well overlooked, and accessible places for social activities, meeting up, playing, and making connections.

There is a desire to enhance existing public spaces rather than create major new ones. Consider the hierarchy and identity of public spaces, from streets and pocket parks between homes, to the major parkland and shopping areas.

Must:

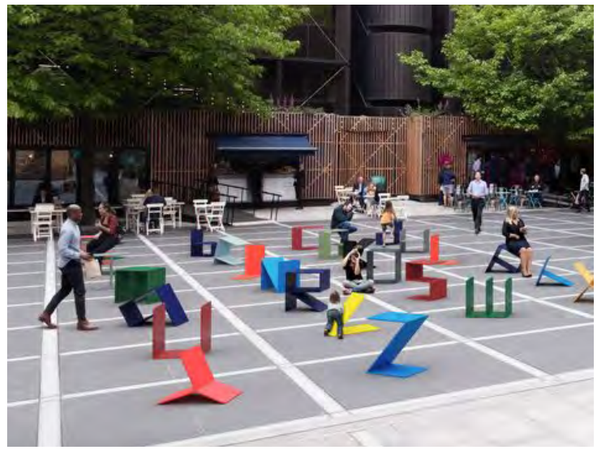
- Adaptations to the existing public realm must be inclusive, durable and fit for purpose. This includes lighting, way-finding and materials (policy 56, 59)
- Public spaces must be well defined e.g. by their form and enclosure, location on the route network, uses, and landscape treatment (policy 56).
- A diverse offering of shops, other active uses that cater to the needs of all ages must be enhanced and co-located in the town centre.

Should:

- Community focal points should be able to cater for adaptive and flexible uses. This includes temporary social events and community festivals.
- Streets should be treated as public space, not just movement corridors by considering walking journeys, tree shaded places to sit, and play-on-the way.
- Public space design should support surrounding community and retail uses, for example sheltered external seating and pop-up events.
- Space designs should encourage involvement from local people in their design and future care.
- Public art should prioritise an artist-led approach that actively engages the community with quality outcomes developed in accordance with Public Art SPD.
- Public spaces should provide cultural infrastructure to support the creative economy. For example access to power supplies, adaptable layouts, storage, and lighting and designing spaces that are functional, adaptable, and inclusive.
- Public destination spaces, such as play, community uses and shopping should provide secure and well located cycle parking using Sheffield stands.

Resources

- Arts & Planning Toolkit - Public Art
- Design Council - Inclusion by Design (2008)
- Local Government Association - People, Culture, Place: The Role of Culture in Placemaking (2017)
- Public Art Online - Public Art Commissions Good Practice (2007)
- Spaces - Streets as Places Toolkit (2015)



Moveable furniture for temporary events

Vibrant public art

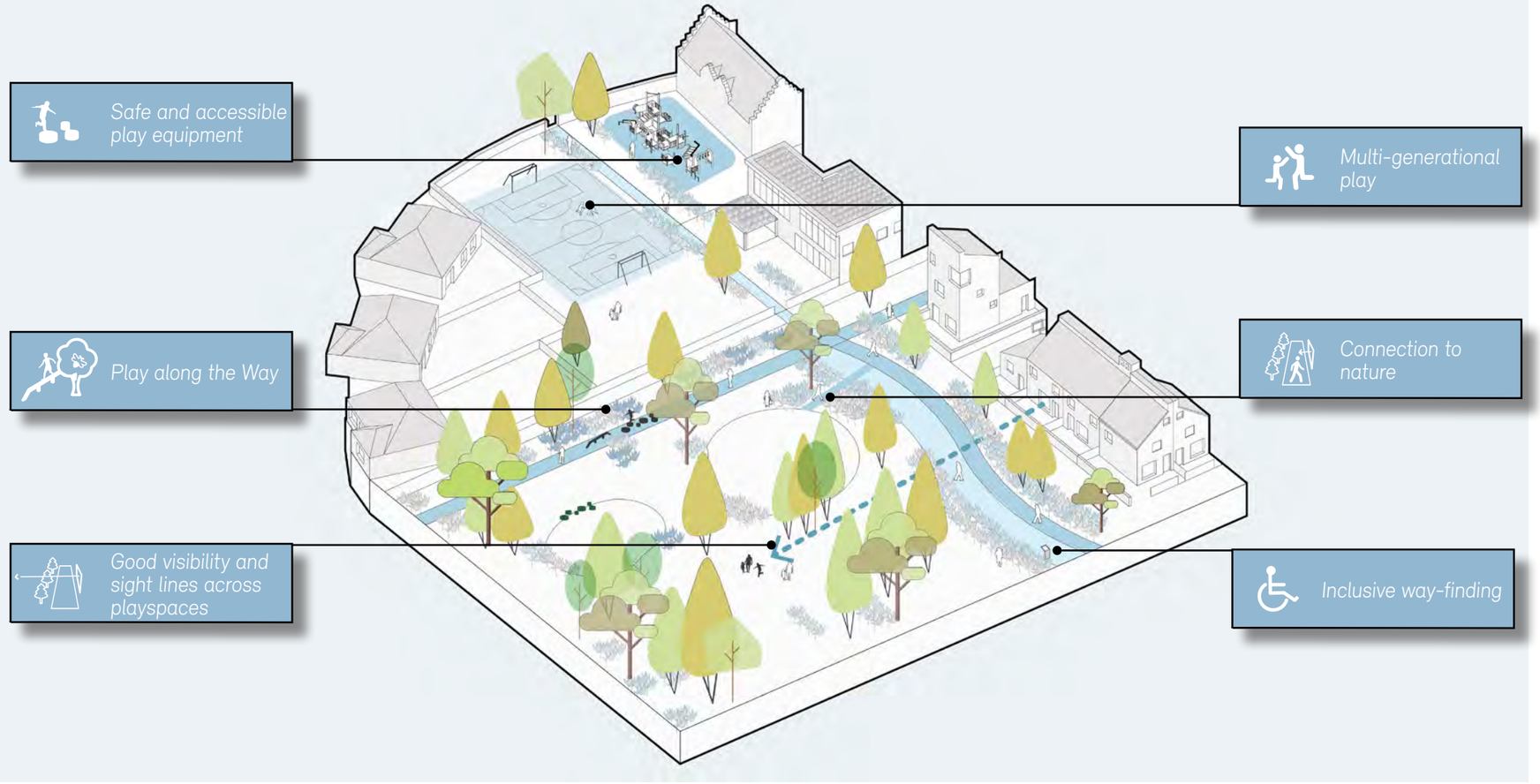
Nature Based Play

"I'd love to see a little more play equipment that's in keeping with the 'natural' feel of the area and to see this area protected from development area."

Resident survey comment

Play should be used as a driving principle to create **flexible and multi-generational recreational space**

Outdoor play teaches children how to become **stewards for nature** and care for their natural play spaces.



Illustrative diagram showing nature based play principles

What is it and Why is it Important

There are different kinds of play, which can range from quiet and social, to very physical, and need to cater for many different age groups and abilities. Play can integrate with landscape and nature.

Must:

- New play spaces must be in areas that are open, accessible and visible, and have good connections to residential areas and community amenities (Policy 56k).
- The provision must be diverse and integrated within streets and spaces with an emphasis on play for all ages, groups, and abilities (Policy 56, 59, 68).
- Noisy play must be located away from homes.

Should:

- Larger developments should contribute to a play network to help provide a hierarchy of opportunities for play near to every home.
- Apply an appropriate play tool kit to control the quality and character of play space and its equipment e.g. Play England Charter for Children's Play
- Playscapes and play equipment should incorporate natural materials, for example wood and sand, and the incorporation play into SuDS schemes.
- Playspaces should encourage environmental awareness and stewardship from an early age - for example highlighting habitat for insects and birds.
- Innovative approaches to play provision should be explored

Resources

- Arup - Nature-Based Play (2022)
- "Biophilic Playgrounds as Playscapes in Child-Nature Interaction" Cengiz & Demir (2019)
- Play England - Charter for Children's Play (2020)
- Sense - Toolkit: Making Play Inclusive (2016)
- UNICEF Child Friendly Cities and Communities Handbook (2018)

A natural material palette

Intergenerational play

Play along the way

Active and Healthy Lifestyles

Prioritising **walking and cycling** within the area supports residents physical health, mental-well-being and is beneficial for the environment.

Places to stop and rest should be created every 50m through the streetscape

What is it and Why is it Important

Public spaces encourage active and social lifestyles through parks, trim trails, playscapes and community event spaces. Designs for activity need to be safe, accessible and fun for all, promoting physical and social well-being.

Must:

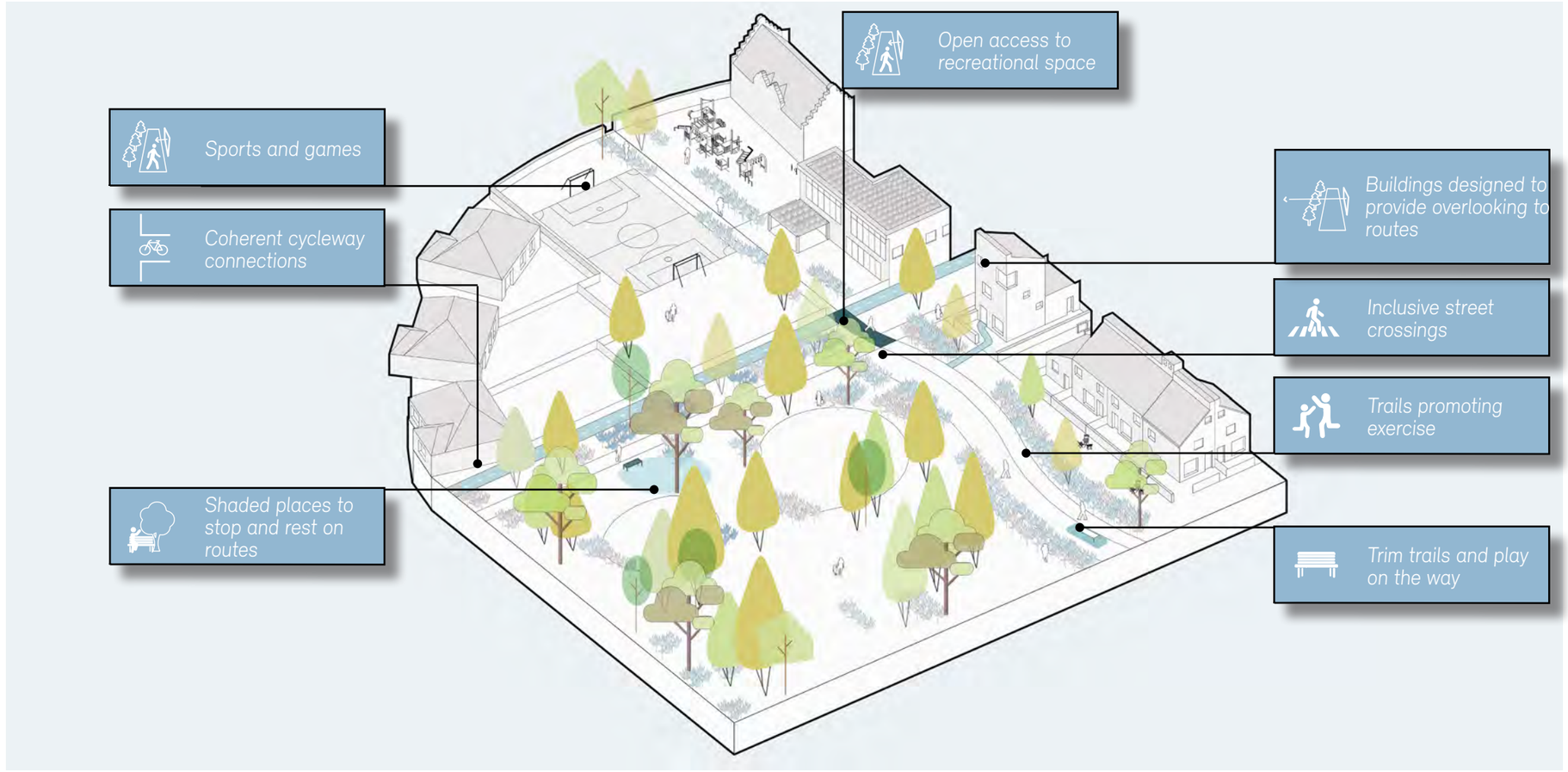
- Active and healthy lifestyle design interventions such as places for walking, jogging, exercising, running etc must be incorporated, accessible and enjoyable for all ages, groups and abilities. Level access at all road crossings is essential (Policy 56, 59)
- Public spaces must provide adequate opportunity to stop, rest and enjoy social interaction. Trees, vegetation and playful structures must be provided to shade and shelter these places (policy 59, 71)
- Public parks must provide secure and well located cycle parking using Sheffield stands in line with the requirements of appendix L (policy 82)
- Open green spaces must safely combine necessary movement routes and social activities without having to resort to fenced enclosures (policy 56, 59, 70, 71).

Should:

- Recreational spaces should not be security gated or fenced whilst ensuring safety of all (policy 56). As part of future works, consult to remove existing physical and perceived barriers, such as busy roads, for local people to green spaces.
- Avenues of trees, hedges and contrasts of mown/ longer grass should be used to create contrast and zoning for green space for public use.
- Integrate trim trails and playscapes or play-on-way alongside the route network. These are in addition to formal play. (policy 59).
- Expand the local cycle network to connect to other employment, transport, and cultural spaces including the science park and Cambridge North railway station

Resources

- Cambridge City Council - Open Space and Recreation Strategy (2011)
- Department for Transport - Inclusive Mobility Report December (2021)
- Move The Masses - The Move Map
- Make Space for Girls *makespaceforgirls.co.uk*
- Sport England active design guidance



Illustrative diagram showing active and health lifestyle principles

Places to stop and rest amongst biodiverse planting

Multi-generational trim trails

A multi-modal plaza with biodiverse planting and shaded seating

Materials and Elements

"Large panels are very enticing to tag whereas thinner metal bars are very difficult. [Otherwise] it looks terrible after a few years which encourages vandalism more."

Resident comment via interactive map

An attractive, long-lasting approach to public space elements & using natural materials to create a legible, safe and accessible public realm

Hard surfaces must be **accessible for all,** have natural tones and encourage walking and cycling alongside social activities

What is it and Why is it Important

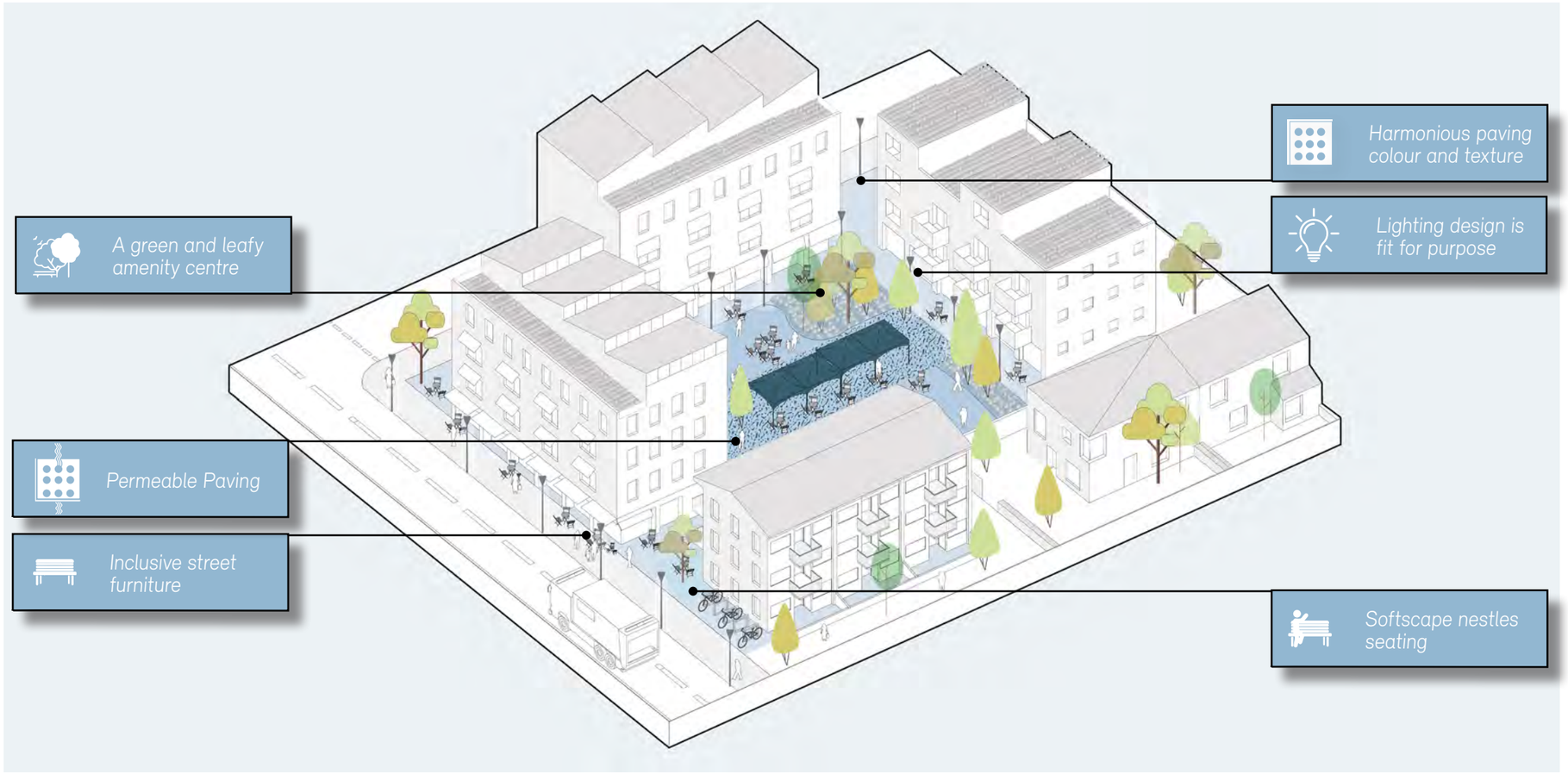
Thoughtful use of planting, materials and details in our public spaces will contribute to sense of value, the aesthetics of their long term care, their elegant usability, and their sustainability.
Good place design need not be expensive and can even save money, for example reducing large areas of costly paving reduces overheating risks and leaves more space for nature.

Must:

- Community amenity centres must include significant planting and trees to help shelter the space and foster social cohesion within a natural environment (policy 56, 59, 70, 71)..
- All new public spaces must be designed for inclusivity including textured paving blocks, level surfaces and 20mm kerbs. Surfaces must be robust, and loose gravel paths avoided (policy 56, 59, 80).
- Hardscape materials must be used in a consistent way to avoid a patchwork appearance (policy 55, 56, 59).
- Non-adopted paved surfaces must be permeable (policy 31, 56, 66).
- Paving colours and textures must be chosen to work harmoniously alongside surrounding building finishes for example Cambridgeshire's material vernacular of limestone and gault brick (Policy 55, 56, 59).
- Use a simple, high quality and consistent palette of hard, soft materials and street furniture and elevation materials and surface treatments, Use appropriately whilst providing diversity and differentiation across a wider area of the design code (policy 59).

Should:

- Prioritise the use of natural materials where possible that are robust, that age gracefully, that have low embodied energy and easy to maintain, repair and replace.
- Artificial grass should be avoided particularly in public facing areas, communal and private gardens.



Illustrative diagram showing material and element principles

Resources

- A Small Studio - A Bat's Highway: Lighting Design for Bats (2020)
- Department for Transport - Guidance on the Use of Tactile Paving Surfaces (2021)
- UN Habitat - Global Public Space Toolkit (2016)

Playful way-finding

Harmonious surface material and planting palette

4 Enhance Character

Residents want to strengthen the green character of the area, which is combined with a varied but gentle building scale. New developments need to work with the local scale of buildings and contribute safe, sociable streets and spaces, with focal points and memorable but harmonious buildings in key places. New developments and s106 contributions must be harnessed to benefit the local area, with the existing local environment invested in and seeing improvement when there is new construction.

"We need more homes.... I hope this isn't code for 'no taller or denser developments allowed."

Resident comment at workshop 3

"Everyone needs to benefit, not just new residents, what about looking after what we've already got!"

Resident comment at workshop 3

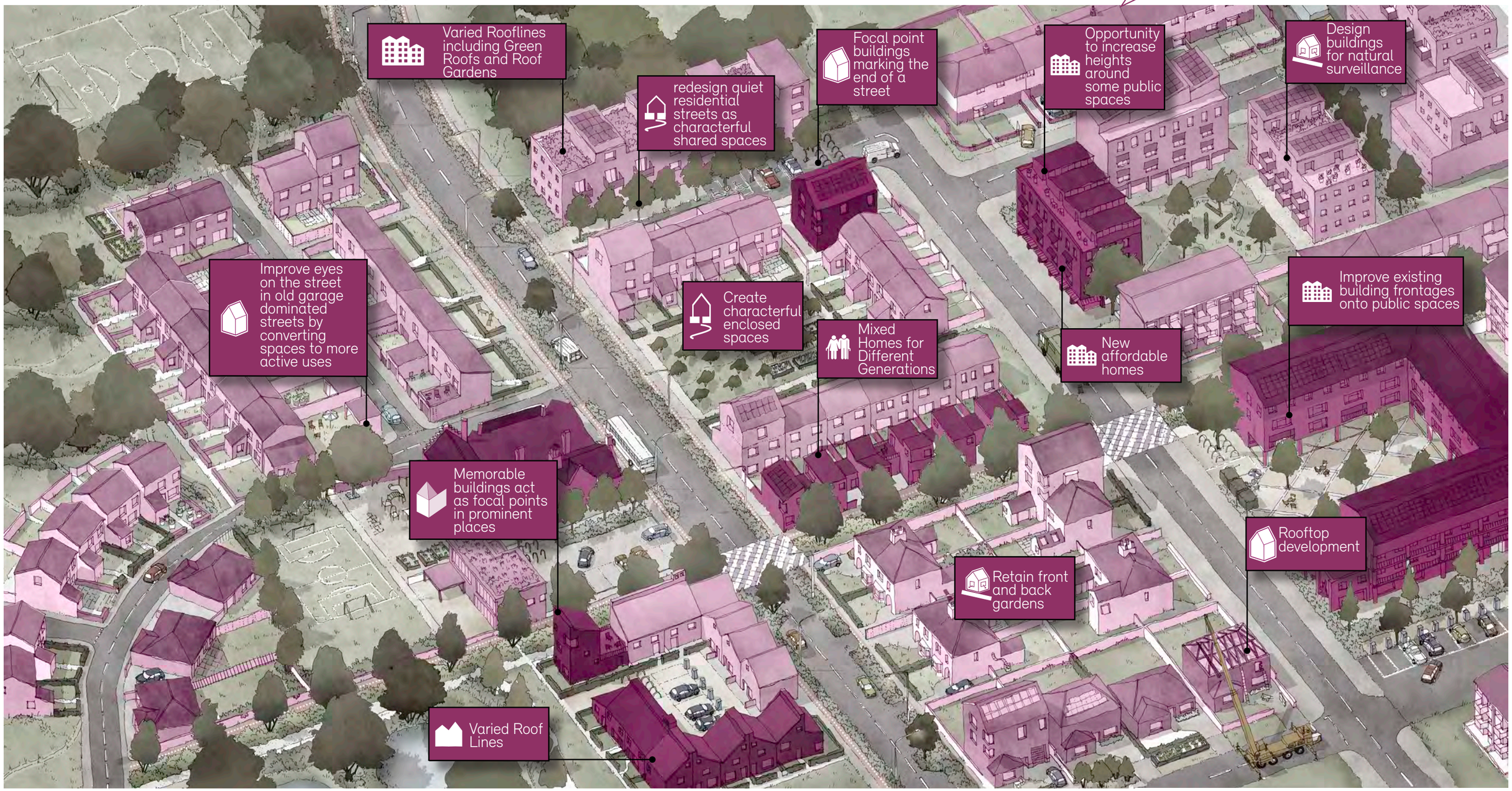


Image shows hypothetical street scene only to illustrate design requirements

Placemaking Opportunities

The plan opposite identifies key opportunities for strengthening sense of place. These areas combine opportunities to enhance frontages, routes, quality of public space and urban greening.
Proposal must take the opportunities to retain the distinctive characteristic of Arbury and Kings hedges and address issues highlighted on pages 14 and 15 of the design code

Priorities include:

- Retain pedestrian priority, car free characteristic of parts of King's hedges ward whilst improving frontages, eyes on the street and access
- Retain existing trees of value ensuring public spaces and parks are framed with attractive active frontages and eyes on the street
- Creating focal points for prominent places/activities
- Combining community and other non-residential uses with different types of new homes for different generation (including accessible accommodation, family housing) to make sustainable mixed use places in accessible locations.
- Use building design to improve visibility, natural surveillance and accessibility in areas with poor access including Nuns way recreation ground, Kings Hedges park, Kingsway and Arbury Town Centre.
- Combine improved building frontages with walking and cycle routes, urban greening and tree planting.
- Take opportunities to improve areas making effective and efficient use of land including, buildings coming to the end of life, underperforming buildings (residential and non residential), underused garage sites, under utilised land for transport infrastructure and incidental spaces, where possible.
- Proposals coming forward should take the opportunity to positively engage with communities and stakeholders at the earliest opportunity to collaboratively develop design in accordance with the code.
- Developments must provide diversity of built forms, having a distinct identity, of its time, avoiding it looking like everywhere else.

Create new enclosures and frontages with eyes on the street to give each home, building or community use a pronounced street facing identity.

Identity of Home

"create a piece of multipurpose sculpture that acts as a seating area and play structure"

Resident comment via interactive map

What is it and why is it Important

Never forget that every "unit" is somebody's home and look to improve existing homes as well as providing better new ones. The identity of the home can be part of a shared group, for example a composed design of buildings looking on to an attractive green space.

Must:

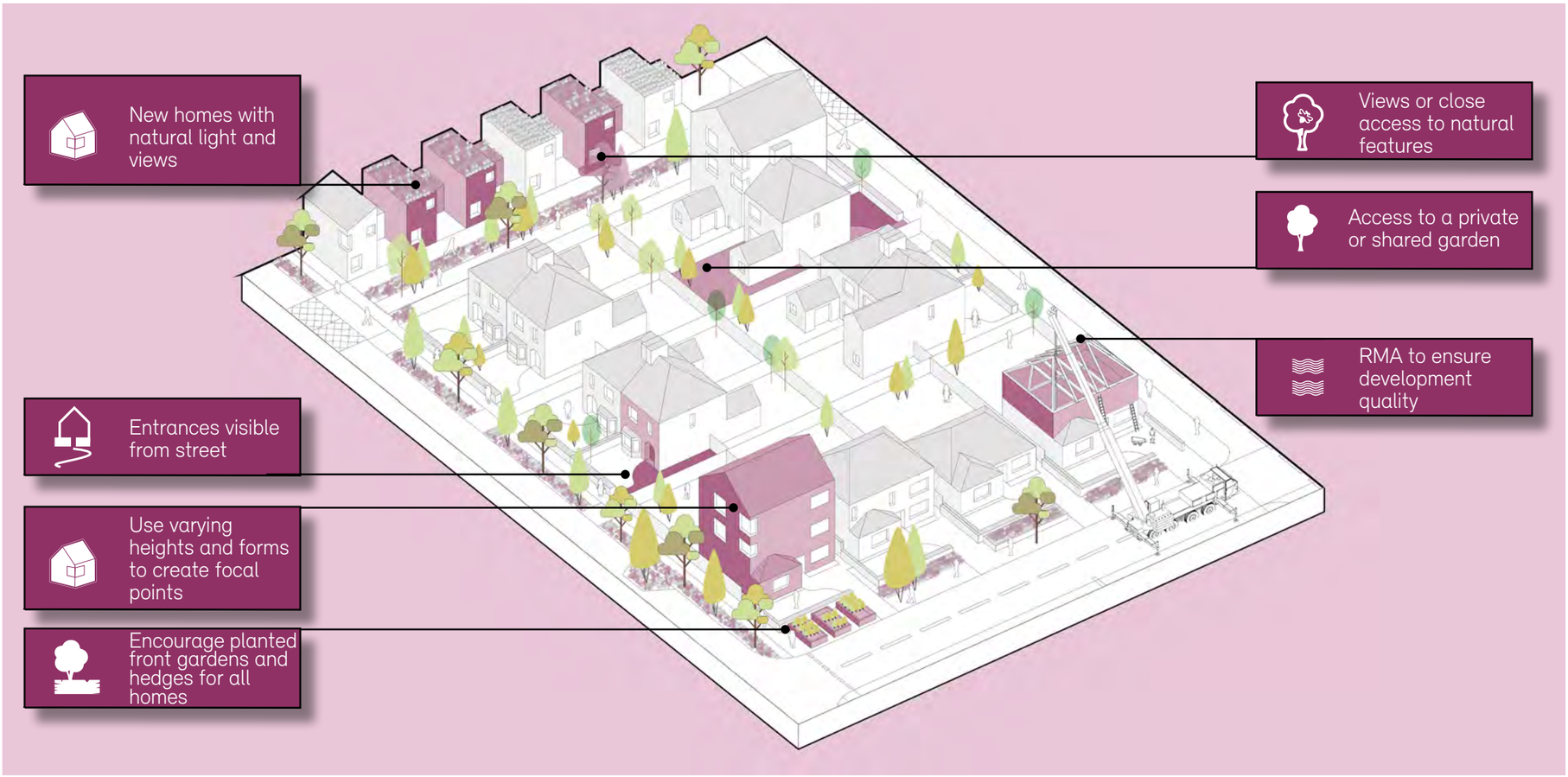
- Every new home must have access to a usable private or private shared garden, roof garden, or balcony that allows for effective and practical use by its residents (policy 50).
- To promote health and wellbeing homes must have views or close access to significant natural features such as tree groups, raingardens and green spaces (Policy 71).
- To ensure development quality is captured at planning stage, critical details and description of materials must be provided as part of building design reserved matters applications, including:
  - Window reveals, sills and heads to create shadow depth and articulation of the facade.
  - Roof eaves and verges avoiding bulky proportions and designs
  - Bins, bikes, car ports and services with well integrated designs
- Other features important to the design, agreed with planning in advance.
- The design of buildings should take account of their long term management and maintenance, avoiding poor detailing, construction and need for constant repairs.

Should:

- For new buildings, front doors and building entrances should be included that are visible from the street or public space (Policy 56e).
- Incorporate planted or hedge thresholds for new homes and retain areas of planted front gardens and hedges.
- Use sympathetic design and material treatment to subtly highlight important features such as entrances, windows, or create appropriate focal points.
- Test proposed external materials and important details by constructing sample panels.
- The design of new homes should adhere to local plan policy (47) for 'specialist housing' (for older people, disabled people, and vulnerable people with specific housing needs) and policy 51 for accessible homes'.

Remember that **every "unit" is somebody's home**

Establish **quality** materials and details at the planning and pre-construction stage



Illustrative diagram showing Identity of home principles

Resources

- DLUHC National Design Guide
- Cambridgeshire Quality Charter for Growth
- Cambridge City Council Local Plan (2018) policies 47 (Specialist housing) and 51 (Accessible Homes)

Homes that have views or close access to natural features, ***New Ground Cohousing, London Borough of Barnett, Pollard Thomas Edwards***

Entrances visible from public spaces, ***The Avenue, Pollard Thomas Edwards***

Enclosure and Focal Points

Improve **natural surveillance** on all routes and public spaces

Co-design new developments by **engaging** with local people early

What is it and why is it Important

Streets and spaces need to be lined with attractive building frontages and hedge boundaries to provide well defined public and private spaces. Design can be used to help way-finding by creating memorable buildings and landscapes with distinctive tree planting or composed clusters of buildings and frontages.

Must:

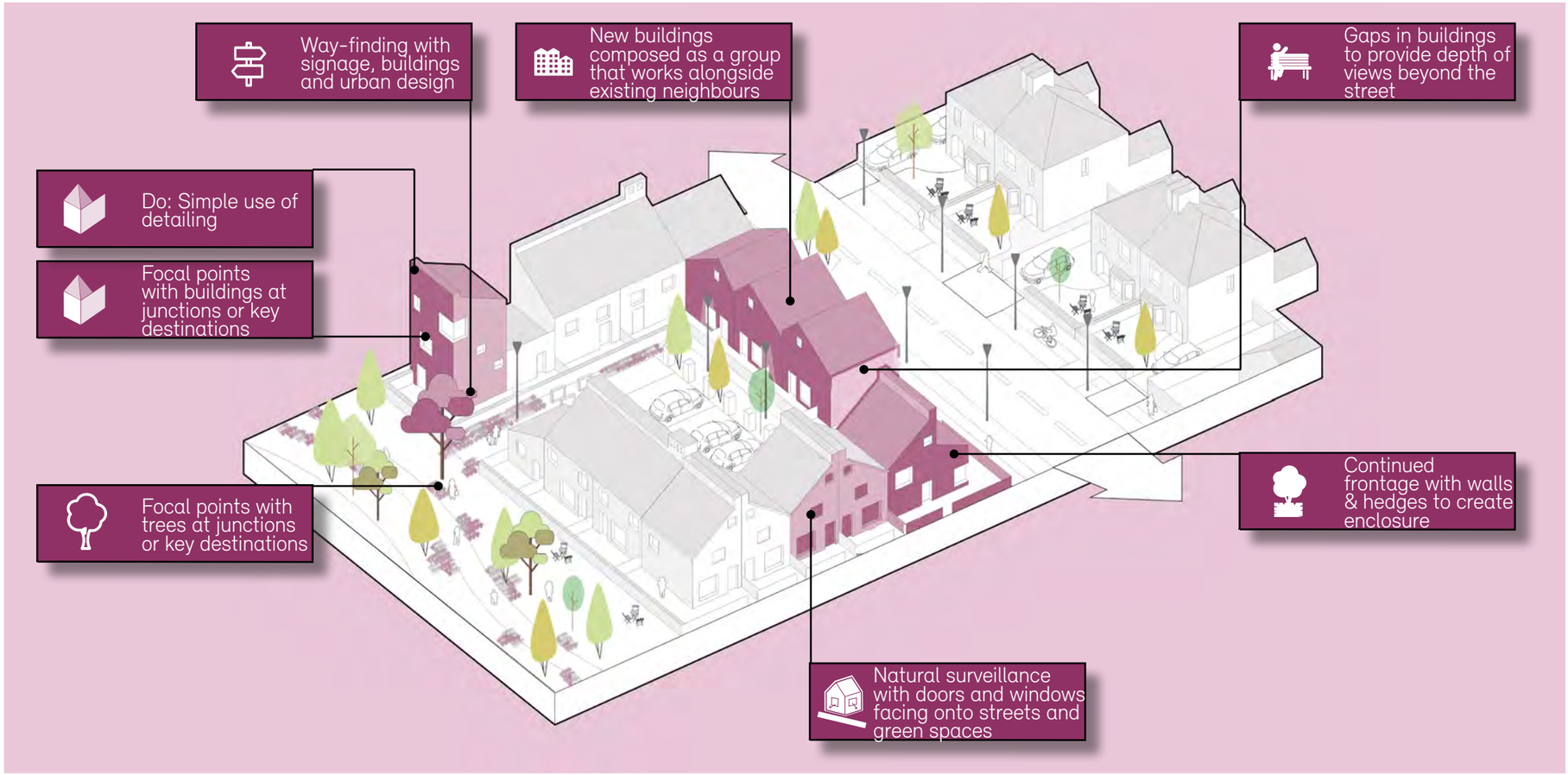
- Provide a continuity of frontage by connecting plots together with walls and hedges to give a sense of enclosure onto the street and public spaces (Policy 56a).
- Emphasise "eyes on the street". Layouts must provide natural surveillance with front doors and windows for active uses for example living and dining rooms and kitchens facing onto streets and green spaces. (Policy 56d, 57b).
- Large developments must be shown to be composed as a group that works alongside existing neighbours to contribute to a distinctive sense of place (Policy 56a).
- Seek to provide way-finding at the planning stage. Show how signage, buildings, and urban design will combine to help people navigate the area (policy 65).

Should:

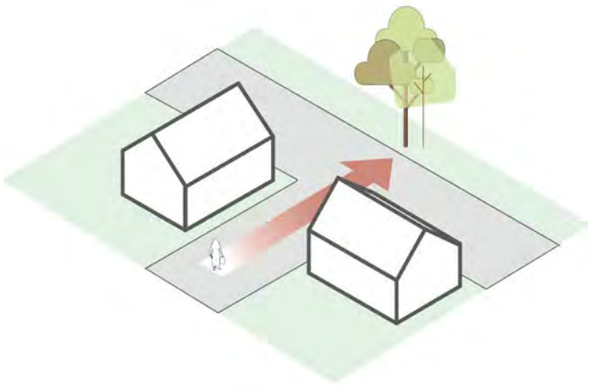
- Create special places and moments. Identify opportunities for legibility with memorable trees, buildings, and clusters of building frontages when working at junctions, landmarks, flagships, introductions or destinations.
- Future projects should seek to improve existing rear garage courts, large parking areas, and rear service areas with landscaping and new frontages. For example, tree planting by amending existing frontages, or providing new mews homes that help enhance safety natural surveillance (policy 55, 56, 59, 71).
- While retaining enclosure seek to incorporate some gaps in buildings and dense trees to provide depth of views with glimpses of buildings and landscapes beyond the street.

Resources

- DLUHC National Design Guide
- Cambridgeshire Quality Charter for Growth



Illustrative diagram showing enclosure and focal point principles



A carefully located tree can contribute to more than one street and view

Homes that combine to create a continued frontage, ***Woodside Square, London Borough of Haringey, Pollard Thomas Edwards***

Suburban home creating a focal point at the end of the street, ***The Avenue, Pollard Thomas Edwards***

Scale and Form

"A reasonable step-back on new multi-story buildings, their impact can be lessened"

Resident survey comment

Apply **20% biodiversity net gain** on all developments. Prioritise on-site landscape improvement to maintain leafy character.

Significantly **increase natural surveillance** on poorly overlooked "garage" streets

What is it and why is it Important

The neighbourhood needs to maintain a domestic scale of building with an emphasis on gentle density principles when handling variation in height and scale.

Scale and form of buildings is important in terms of design as it provides a sense of identity for the home, both at the scale of the individual home, its role in the street, and a group of homes where this is appropriate.

Must:

- Heights must retain the low-mid rise character of the area in which buildings range from 2 up to 6 storeys.
- Scale and form must be carefully composed and demonstrate through drawings and/or models to show relationships to nearby buildings, spaces and routes providing justification for any increase in height, scale and form i.e. creating a focal point for a street, to highlight corners and junctions, or overlooking public spaces.
- Buildings with large footprints, such as apartment buildings, must be composed as part of the wider area and demonstrate how they avoid creating a bulky appearance in the townscape, for example by incorporating stepping and varied rooflines. (policy 60)
- Must avoid dense clustering of tall buildings (policy 60)
- Incorporate roof plant/service sensitively into building design, having a positive impact on the townscape

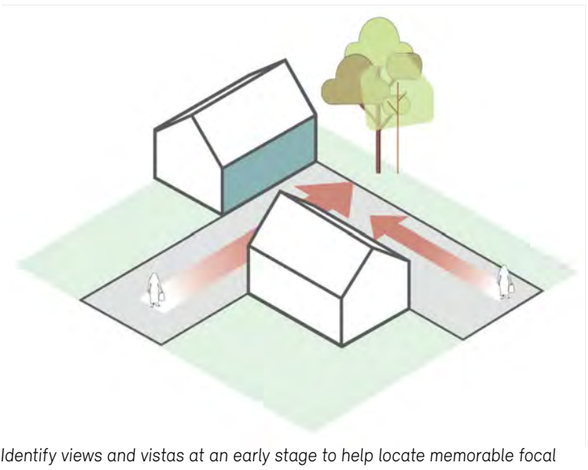
Should:

- Larger developments should include varied rooflines such as combinations of green roofs, roof gardens and tile sloping roofs where appropriate.

Illustrative diagram showing scale and form principles

Car-free street with building's overlooking green spaces, ***Abode, Cambridge, Proctor Mathews***

Varied roofline and use of roof terraces gives harmonious variety to the street, ***Woodside Square, London, Pollard Thomas Edwards***



Identify views and vistas at an early stage to help locate memorable focal point buildings and important landscape feature such as large trees

Resources

- DLUHC National Design Guide
- Cambridgeshire Quality Charter for Growth

Dos and Don’ts

“No good making improvements and then just sitting back. Continued upkeep needed.”

Resident survey comment

Do:

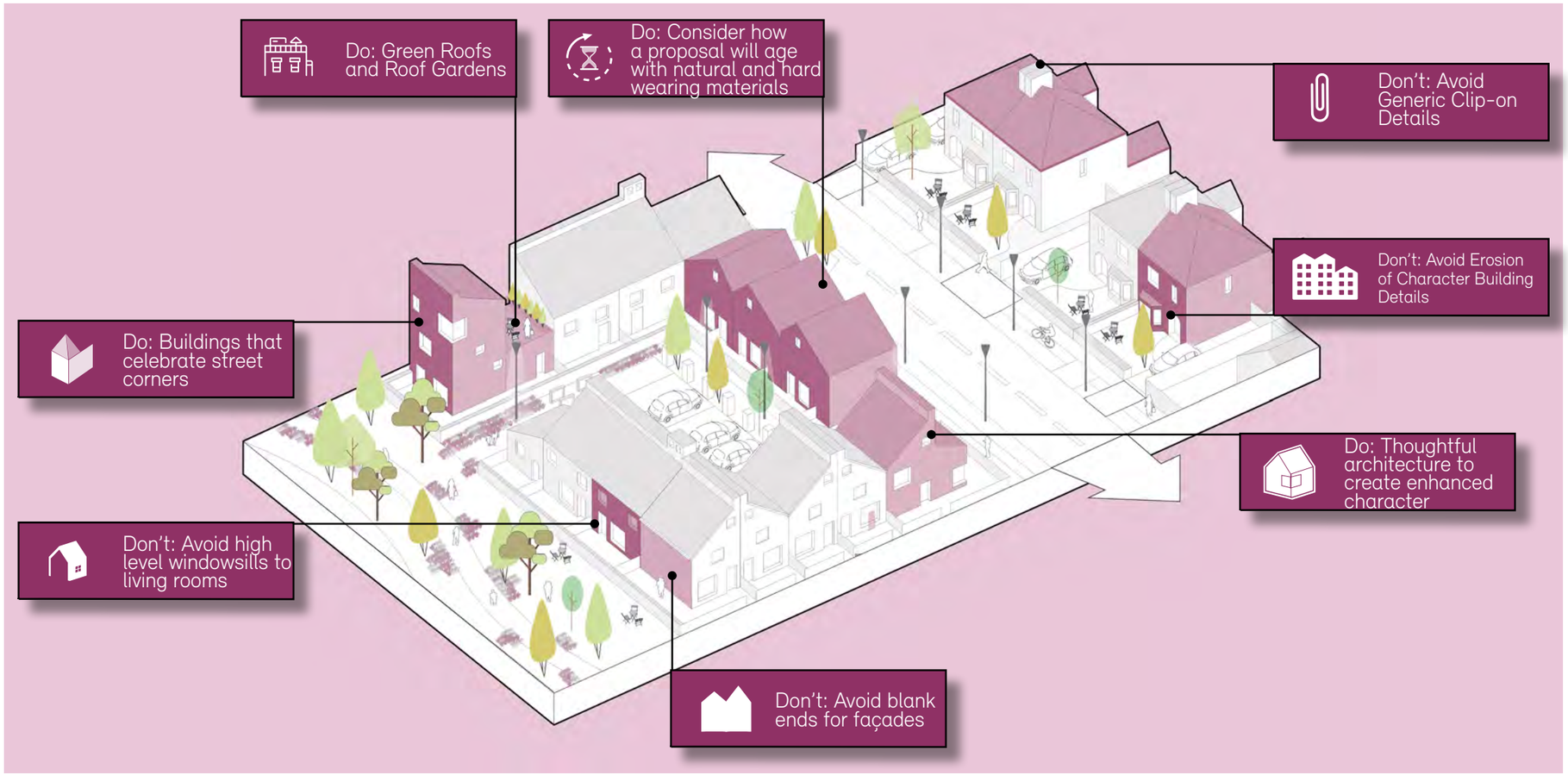
- Face the street. Design buildings at street corners that celebrate their location and where both street elevations are treated as important frontages.
- Incorporate green roofs and roof gardens to help offset loss of associated green spaces when extending or developing buildings
- Seek to provide a proposal that will age well, be maintained and prioritise the use of natural and hard-wearing traditional materials for example using brick, tile, and quality timber.
- Use thoughtful architecture to create enhanced character while maintaining privacy to neighbours in constrained areas, for example by modelling buildings at upper floors or including angled windows to avoid unwanted overlooking.
- Incorporate simple quality details for example deep full brick reveals to windows. Such modelling can help shade openings and reduce the need for other shading to be added.

Don’t:

- Design stretches of repetitive blank or near blank façades and flank ends to buildings. This is to provide eyes on the street, but also to create varied and characterful frontages at a human scale.
- Design generic clip-on details that do not reflect the character of Cambridge or the neighbourhood. This is to encourage high quality, long lasting, and quietly contemporary detailing on all new buildings.
- Design high-level window sills to living spaces that cut off views of property gardens and street life.
- Design-in the window frames on small window openings, which can unintentionally reduce available light and views. Because of this it is usually best to keep window design and openings generous and simple.
- Erode character in building details. When replacing roofs, windows, and doors aim to retain sympathetic original designs. Most buildings, even apparently simple ones, are composed designs, and so the details matter to keep them looking attractive and aging gracefully. If your home is missing detail, you can often see original designs on neighbouring properties.
- loss of characterful uses where the prevailing use of the site is unique or positively contributes to the area.

Provide **new homes** with **no loss of protected green spaces**

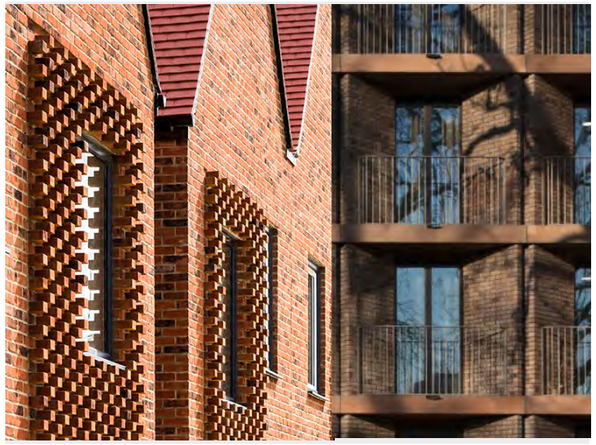
Apply **all code principles** for all large planning applications



Illustrative diagram showing do’s and dont’s

Avoid poor quality pastiche building products

Avoid visual clutter from building services and service boxes



Incorporate simple quality details to make every home feel special

5 Increase Sustainability

Take opportunities to reduce energy use and carbon emissions, generate clean energy, and improve health and wellbeing for residents – both at home and around the neighbourhood.

When designing new developments plan to reduce whole life carbon by improving and reusing existing buildings, recycling elements, and using low carbon renewable materials.

"Solar panels were mentioned and these are great, but more important are heat pumps for removing gas heating."

Resident survey comment

Image shows hypothetical street scene only to illustrate design requirements

Sustainability Opportunities

There is a general requirement to improve energy efficiency and help reduce the urban heat island effect that is a legacy of the post-war buildings and streets in the area.

Existing information for similar structures suggests that many of the estate buildings are reaching the end of their original design life, and would require significant uplift to meet modern standards. Many homes are also in private ownership and it is likely these will also require upgrading over time. We have included a householders guide to improvements and links to further information as part of this section.

At the same time as the houses and flats were constructed, the surrounding streets and trees were laid out and planted, and this also creates similar challenges of ageing or outdated infrastructure and spaces, and a lack of urban greening highlighted by the "shady Streets" study.

When improvement works or development is proposed to existing buildings, an up to date assessment of the building's energy performance should be carried out. Darker orange on the plan opposite identify possible priority areas:

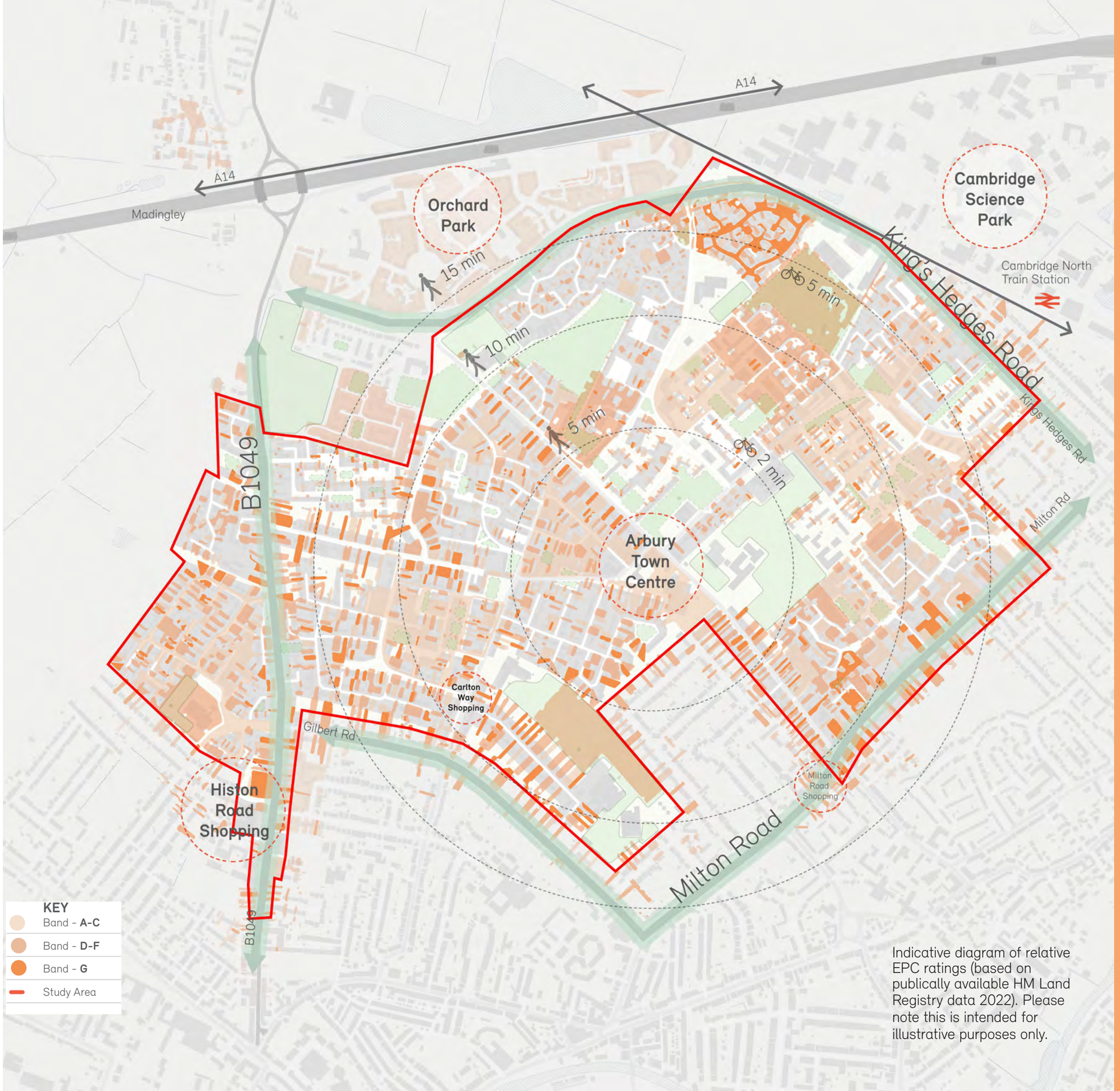
Priorities include:

- Improving home energy efficiency and reducing bills. The plan shows in shades of orange publicly available data for the EPC (energy performance certificate) ratings for the homes within the area. Pale orange indicates homes with EPC ratings of C and above. The darker colours rate indicate poor or very poor ratings of D to G (HM Land Registry data 2022) (around 50% of the homes are in these categories).

- Where significant uplift is required, home energy and environmental health improvements may be delivered through combinations of 'deep retrofit,' mixed new and retrofit development, or with new homes. It is essential that these options are explored working with residents themselves.

- Tackling the urban heat island effect with improved tree canopy cover. See red hatched areas on page 18 that show streets to prioritise, which currently have little or no shelter from tree canopy.

- Opportunities to include sustainability measures at an area wide scale should be explored such as community energy generation (district heating), ground source heat pumps, solar PVs on roofs, car park etc.



Indicative diagram of relative EPC ratings (based on publically available HM Land Registry data 2022). Please note this is intended for illustrative purposes only.

Highly Sustainable New Buildings

"My part of this neighbourhood is too old now to be enhanced, it needs serious redevelopment"

Resident comment via interactive map

Calculate **whole life carbon** for larger new developments

Target **100% dual aspect** for new homes wherever possible

What is it and Why is it Important

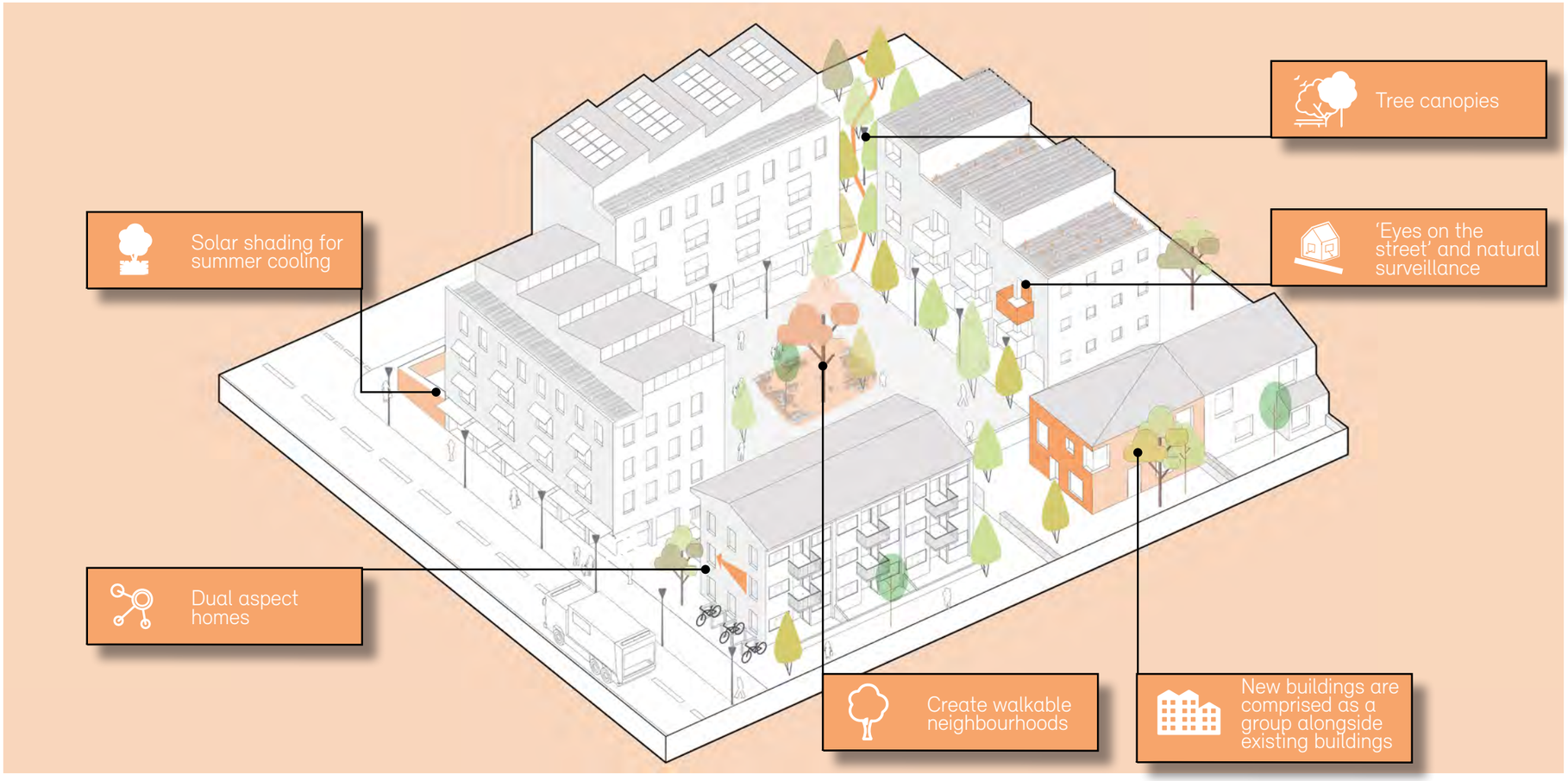
The requirements here are primarily intended for new homes in multi-home developments. New homes are a once in a lifetime opportunity to provide better living spaces that efficiently meet the need for more homes without new greenfield development, use fewer resources, and have built-in resilience for the future.

Must:

- Avoid overheating homes. Dynamic thermal modelling for overheating must be carried out prior to detail planning submissions for all major developments of 10 homes or more. This is to promote a holistic approach to sustainable building design including installing shading for windows.
- All new-build homes must seek to provide dual aspect wherever possible, and demonstrate adequate access to daylight and sunlight where they are not. This is to help provide sunlight at different times of the day and support natural ventilation and cooling (policy 53, 57, 60)
- New development must incorporate water efficiency measures and follow the water neutrality hierarchy and conserve water. New homes must achieve water use of no more than 110 L/pppd and we would encourage all schemes to strive for water use of 100 L/pppd via water saving devices, with consideration given to rainwater harvesting and reuse/recycling water (Policy 28 and 31).

Should:

- All larger developments (over 50 units) should calculate whole life carbon with the aim of significantly reducing carbon in their construction and operation. Carbon Methodology Reports are to be prepared to establish relevant targets (policy 28, 29, 30)
- All major developments should aim to provide at least 20% biodiverse planted green roofs. This is to help maintain biodiverse green spaces in the area and mitigate lost green space (policy 57, 69, 70, 71)
- All major developments should include post-occupancy evaluation (POE). This is to help check that developments are working well, and to learn lessons for future projects.
- Larger developments (over 50 units) should consider alternative waste management solutions, e.g. underground bins, early in the design of proposals in consultation with Greater Cambridge Shared Waste Service. Refer to Waste storage and collection guidance for developers, Nov 2021 or successor document.



Illustrative diagram showing new building principles

Flats overlooking a secure shared garden ***New Ground Co-Housing, Pollard Thomas Edwards***

Balconies for all upper floor flats , ***Colby Lodge, Pollard Thomas Edwards***

Dual aspect homes, ***Colby Lodge, Pollard Thomas Edwards***

Generating Clean Energy

"Could the council consider a requirement for solar PV to be fitted on all new build properties?"

Resident survey comment

Include **solar shading** for windows to avoid overheating instead of reducing window sizes

Save water target 100 L/pppd for new homes

What is it and Why is it Important

Rooftop PV (solar) panels generate electricity for the home to use, or to be sold to the grid. Heat Pumps together with Mechanical Ventilation and Heat Recovery (MVHR) efficiently extract and heat from the atmosphere.

Only 4% of homes in the UK generate clean energy from PV panels, and even less have heat pumps.

With costs of fuels increasing, this code intends to encourage homes in the area to adopt clean new energy technologies.

Must:

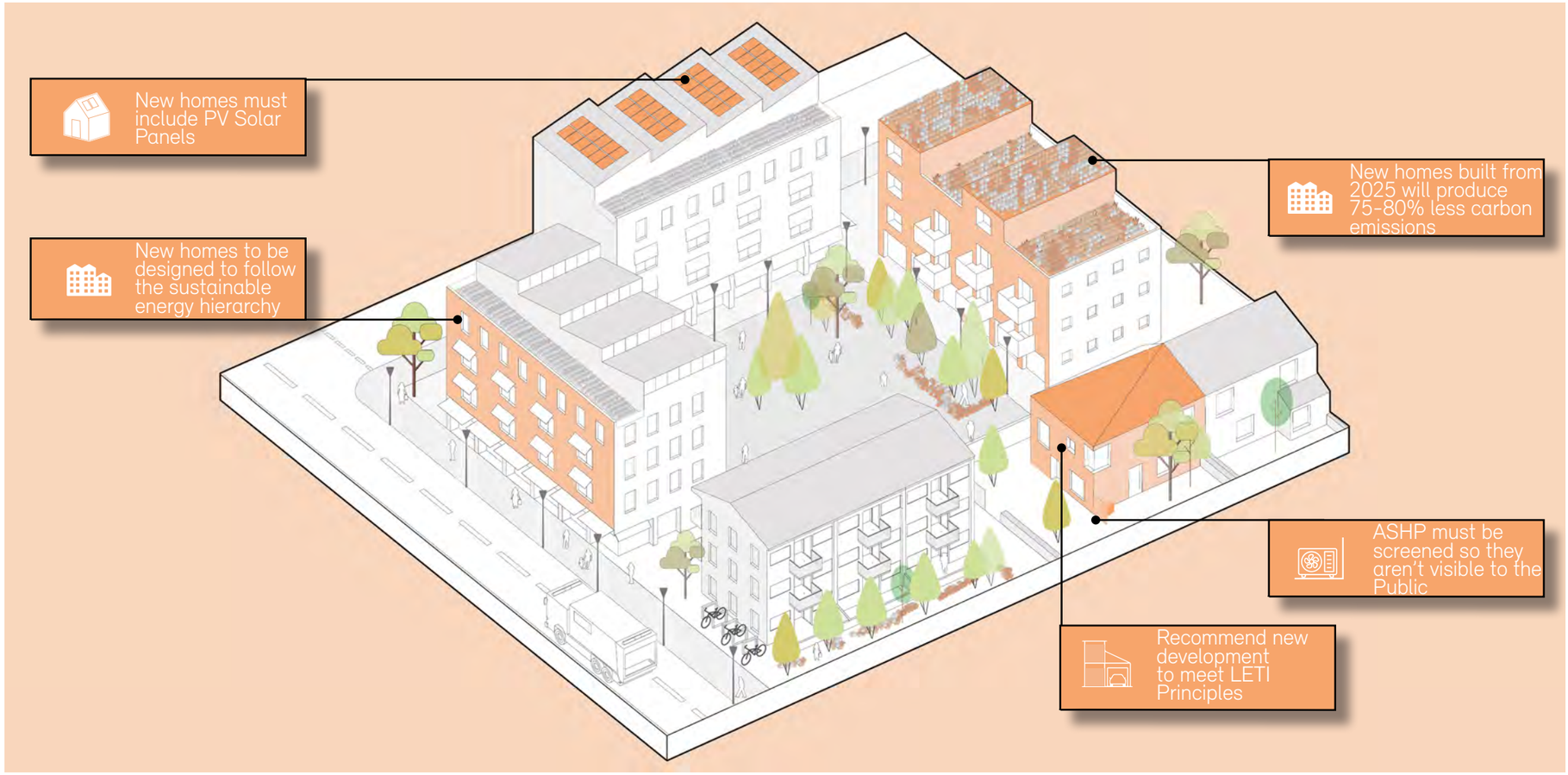
- All new homes and buildings must be designed to follow the sustainable energy hierarchy (policy 1, 28, 57)
- All new housing developments must include an element of on-site energy generation through rooftop PV solar panels. PV panels can be successfully incorporated with a biodiverse planted roof (policy 1, 28, 29)
- Where Air Source Heat Pumps (ASHP) are visible from the street or other public spaces they must be appropriately screened visually and mitigate against noise. (policy 55, 56, 57, 58)

Should:

- All new homes should be all electric powered and maximise opportunities to generate clean low-cost energy for the home.
- Install ASHP and MVHR (Mechanical Ventilation with Heat Recovery) to provide fresh filtered air into a building whilst recycling heat
- PV panels on existing buildings should be carefully arranged in neat and even groups to avoid visual clutter.

Resources

- Action on Energy Cambridgeshire - Action on Energy Cambridgeshire (actiononenergycambs.org)
- Open Eco Homes - Case Studies - Cambridge Carbon Footprint
- LETI www.leti.uk/cedg



Illustrative diagram showing clean energy principles

Sustainable energy hierarchy

Patterned brick work expressing entrances and hiding services, ***Abode, Proctor Mathews***

Screened ASHP integrated into Public-Realm, ***Marmalade Lane, William Green Architects***

Climate Change Resilience

"Design with and by the community, not just for it. Enshrine and fund community co-creation in all aspects of planning and development."
Survey comment

Refer to **Mapping Tree Shade in Cambridge** study by Cambridge City Council & Cambridgeshire County Council.

Minimise hard landscaping and use natural and cool materials as much as possible.

What is it and Why is it Important

Cooling and shading applies both inside and outside buildings, creating pleasant usable spaces. Through a comprehensive heat resiliency approach, overheating and exposure to harmful UV radiation can be addressed through combinations of architectural shading, trees, and green planted surfaces including green roofs. The requirements in the section are primarily intended to be applied in suitable large e.g. multi-home or highways developments.

Must:

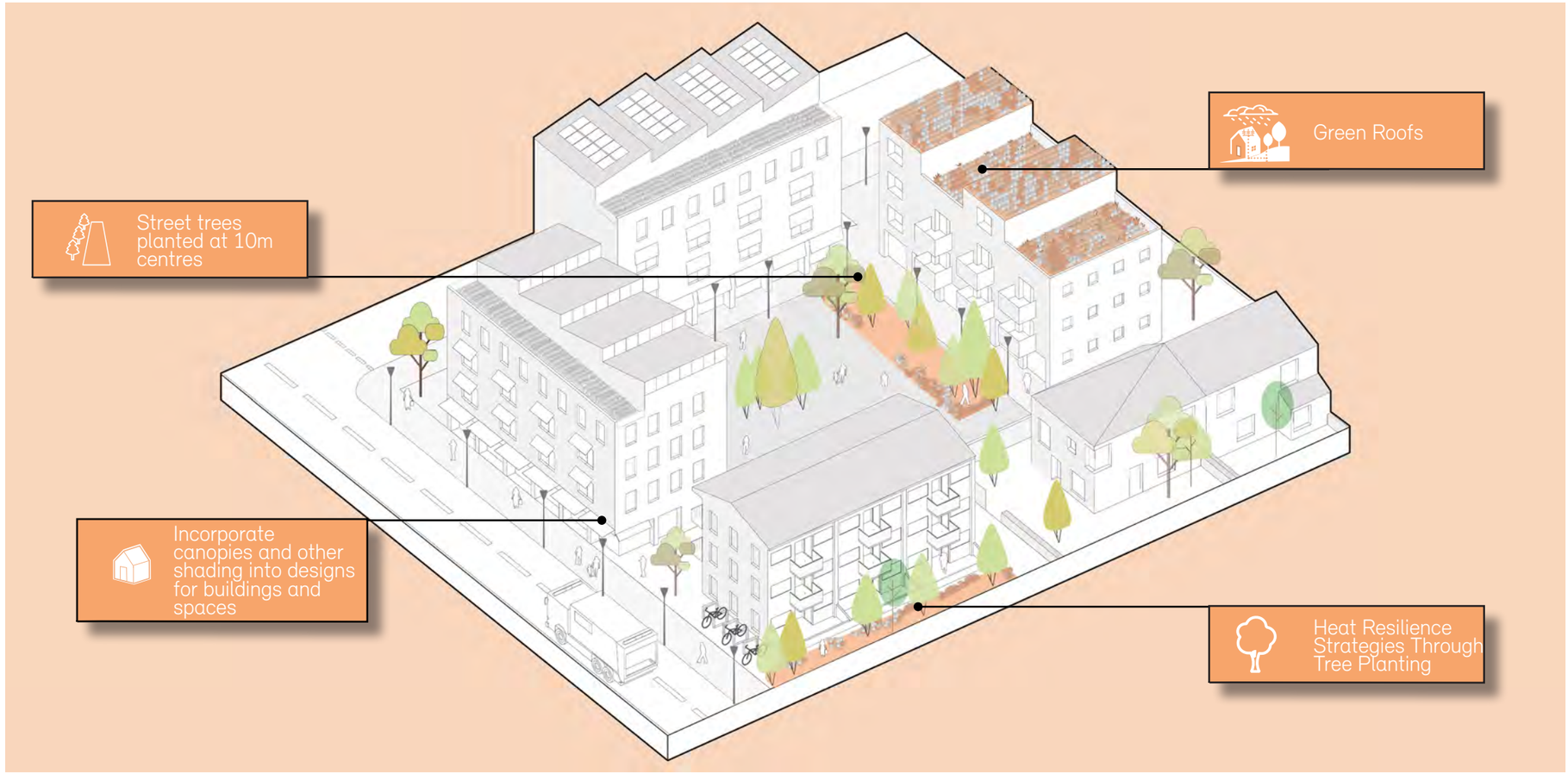
- Consider how shading will be incorporated at the preliminary stages of design (policy 28)
- Must include tree planting to deliver shading and heat resilience.
- Green roofs must be maximised by new developments and major improvement works where possible to help absorb heat and reduce temperatures of the roof surface and surrounding air (policy 57)

Should:

- Refer to the Cambridge City Council's "Mapping tree shade in Cambridge" study to target improved street greening and shading
- Street trees should be planted at ten metre centres to achieve a combined canopy cover over time which will help reduce the urban heat island effect.
- Where increasing tree canopy is not practical in public spaces then material canopies and sails should be considered
- Consider the use of light colours for roofs and paved surfaces

Resources

- Greener Grangetown - Arup
- Retrofitting your home - Cambridge City Council
- Mapping Tree Shade in Cambridge, Cambridge City Council and Cambridgeshire District Counci
- Tree Equity Score, UK - helps determine equitable tree distribution across urban areas, generating scores for neighborhood and local authorities. https://uk.treeequityscore.org/l



Illustrative diagram showing cooling and shading principles

Ornamented screens on a shared resident space, ***Colby Lodge, Pollard Thomas Edwards***

Cooling and Shading Window Detail on ***Galdsmith Street, Mikhail Riches***

Sail shading in public spaces ***Seville City Council***

Improving Existing Buildings

"The most environmentally sustainable building is one that already exists. I believe that more can be done to existing housing stock"

Resident survey comment

What is it and Why is it Important

The code looks to assist and encourage the sustainable improvement of existing homes and buildings. The most sustainable option for development often includes maintaining, reusing, improving, adapting, or incorporating existing structures.

Use a whole house approach. A good example is the LETI approach, which focuses on rapid reduction in energy use to deliver net zero with a holistic approach.

Applications for extensions to existing dwellings and/or the conversion of ancillary residential floorspace to living accommodation should be accompanied by cost-effective improvements to the energy efficiency of the existing dwelling (policy 30)

Should:

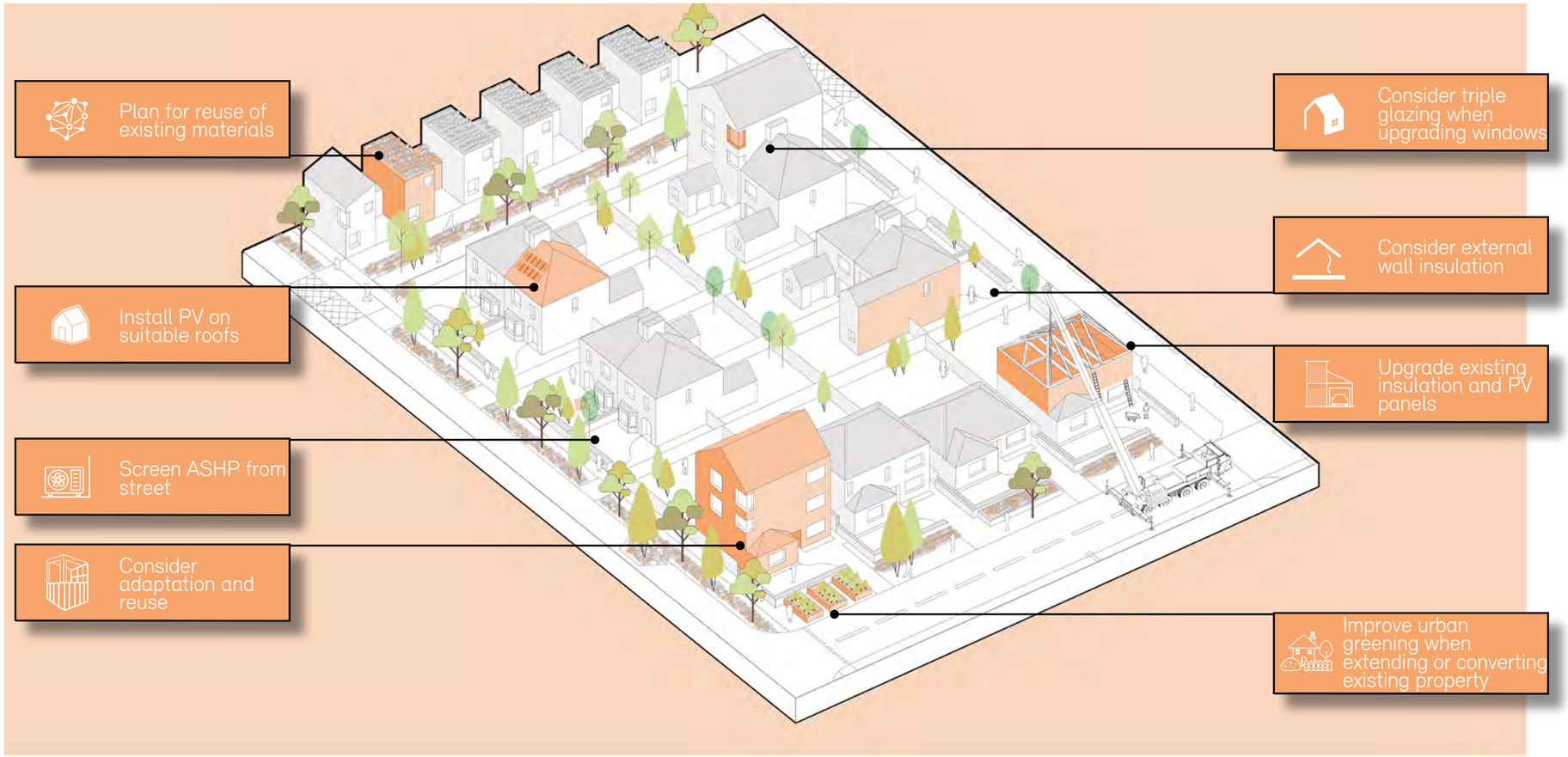
- When planning new development on a site with existing buildings, applications should demonstrate options for adaptation or partial reuse of existing structures have been considered.
- Where buildings are intended to be demolished, proposals should include strategies for reuse or recycling of existing materials for example reusing bricks, with first preference for reuse on site or in the local area.
- Where large multi-home refurbishments are planned, a whole-house approach should be applied. This is because taking energy efficiency measures one by one without attention to how they'll interact can cause problems. For example, adding better glazing and draught-proofing can increase damp problems if you haven't provided suitable ventilation.
- Large-scale improvement works and plan making should be designed in consultation with residents.

All major refurbishment projects should take the coordinated whole-house approach which may include:

- Air Source Heat Pumps (ASHP). These have permitted development rights but should be in rear gardens not visible from the public realm or screened from the street with an enclosure or planting.
- Rooftop PV panels installed on suitable roofs. On sloping roofs these should be grouped neatly and fitted flush with the surrounding roof finish to avoid visual clutter.
- Better windows e.g. triple glazing. All replacement windows should follow the original design for the building to help retain its character.
- External Wall Insulation (EWI) is an insulating layer that provides a new external finish, wrapping buildings like a warm jacket. Proposals should consider including traditional tile hanging, brick slips, and weatherboarding as new finishes – rather than only using render. This is to avoid large areas of insulated render, which can become dirty and discoloured, and to help maintain texture and add to local character.

Include **PV solar panels** for new developments and encourage fitting PV to existing homes

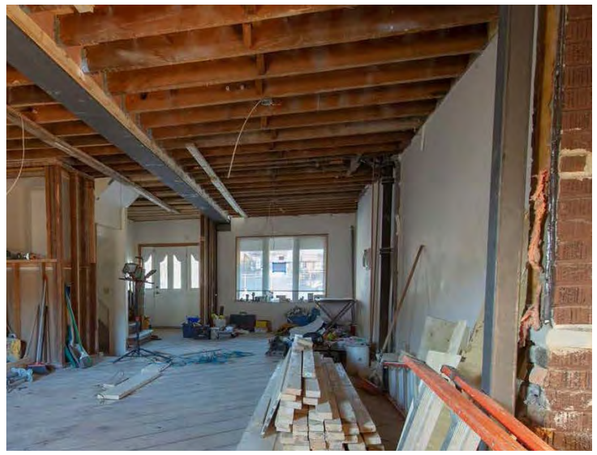
Provide **EV car charging** infrastructure for new and existing homes



Illustrative diagram showing existing building principles

Insulated render retrofit project, ***Cambridge City Council***

Overcladding with boarding to meet "energiesprong" standards, Nottingham, ***Richard Partington Architects***



Deep retrofit project on site

Householders Guide

Maintain as much of the front garden as possible. Where change is required, aim for at least **50% of your front garden to be planted**

Prioritise simple low cost jobs such as sealing gaps in **external walls, floors, and doors and windows**

What is it and Why is it Important

80% of the buildings with us today will still be in use in 2050. Existing homes need to be improved to keep them healthy, reduce the resources they consume and the cost of running them. These improvements can usually be done as permited development.

Cambridge City Council have produced 'Retrofitting your Home' to provide building owners in Cambridge with practical information on how to make their homes more energy efficient. Measures include:

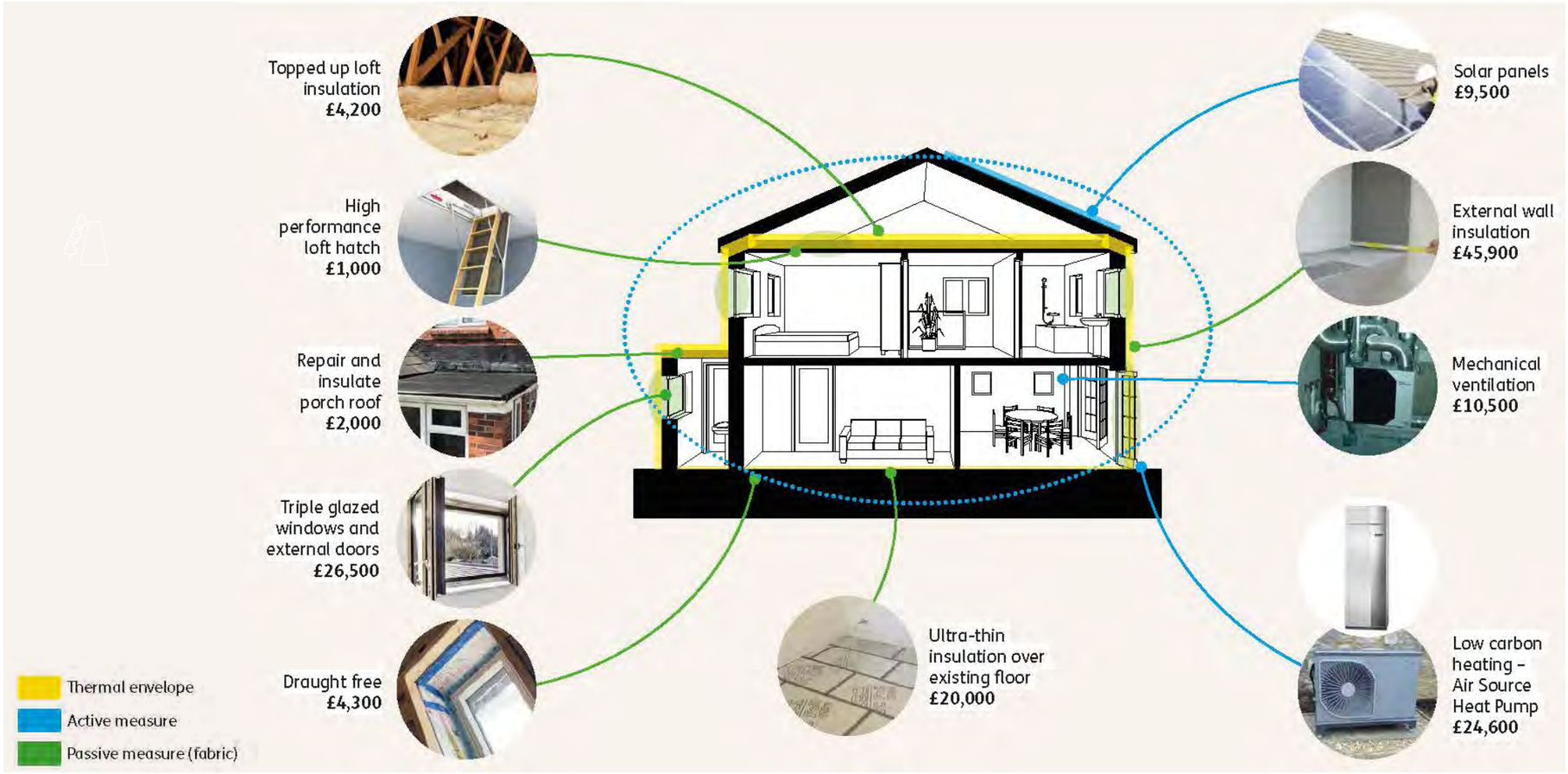
- Seal up gaps in external walls, floors, and doors and windows - saving around £95/220kg carbon a year
- Use LED light bulbs and choose energy-saving appliances - saving around £60/50kg carbon a year
- Use low-flow fittings when upgrading kitchens and bathrooms to reduce the amount of water used
- Lag pipes outside the house and in cold spaces
- The diagram opposite illustrates larger energy reduction projects likely to be suitable for homes in the area. The costs are estimates and assume work will be carried out by accredited contractors

Homes with gardens also have a big role to play in making space for nature

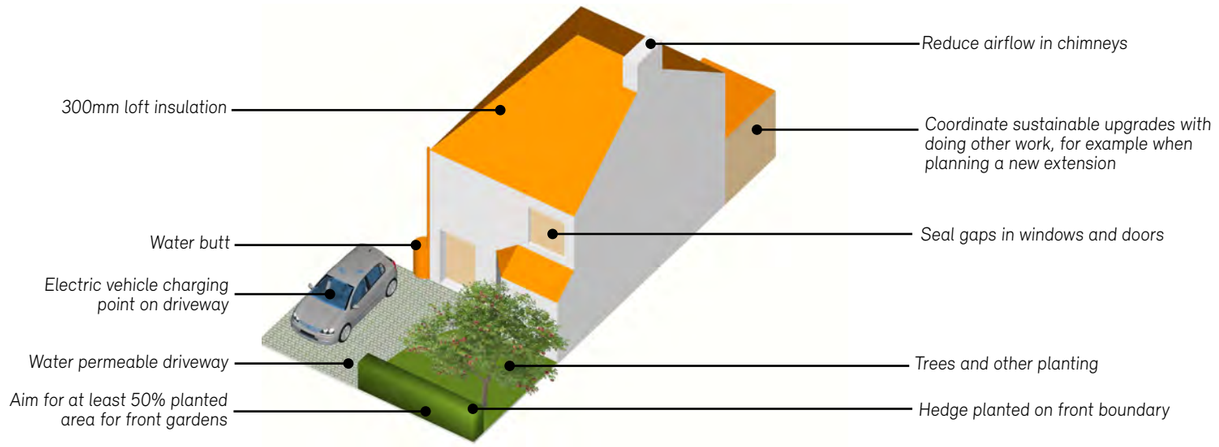
- Aim for at least 50% of your front garden to be planted and use water permeable surfaces for paths and driveways.
- Install at rainwater butt to water the garden
- Use hedges for boundaries on front gardens
- Plant trees for summer shade. Fruiting trees can work well near homes and provide food for birds and other wildlife
- Plant native plants and pollinators and include habitat spaces such as appropriately placed rotting logs and bug hotels. Hedgehog holes in garden fences can help create a network of living garden spaces.

Resources

- Retrofitting Your Home - Cambridge City Council
- cambridge.gov.uk/media/11676/retrofitting-your-home-report.pdf
- Funding support - https://www.actiononenergycambs.org/funding/



Illustrative diagram showing typical larger sustainability projects and estimated costs to upgrade a typical mid 20th century home (extract from 'Retrofitting Your Home.' People to do their own research on costs when pursuing improvements.



Small scale and lower cost sustainable home improvements

Glossary

Inclusive design

Inclusive design makes places usable by everyone, regardless of age, ability and circumstance. It is based on the simple principle that designing for the widest range of people creates better designs and benefits everyone. The Equality Act 2010 places a requirement on service providers to avoid discriminating against people on the basis of any of nine 'protected characteristics'. This also includes the needs of disabled people.

Design Code

A design code is a set of simple, concise, illustrated design requirements that are visual and numerical wherever possible to provide specific, detailed parameters for the physical development of a site or area.

Local Plan

A Local Plan sets out the vision for future development in the area. It sets out land uses – establishing how land is designated, which areas are to be built upon, and which areas are to be protected and policies on how development is carried out and assessed by the local authority

Gentle Density

Low to midrise buildings arranged on a well-connected network of streets and public spaces to get the most out of the land.

Co-location of uses

This refers to locating a mix of compatible land uses next to each other, for example shops, offices, homes, community buildings etc.

Active Frontage

It is the street facing side of buildings that engage with the public realm having front doors and windows facing the street.

Scale and Form

This refers to the the three dimensional form of buildings in relation to other buildings in the area.

Building's 'End of Life'

This refers to the end of the general lifespan associated to a building based on its design and construction and existing functional performance.

Miyawaki method

This is a tree planting approach for rapidly creating miniature woodlands in urban areas or on degraded land. It involves planting mixed native species at close densities to replicate natural forest regeneration. Advantages include higher growth and survival rates, minimal maintenance after two years, higher diversity, and reduced vulnerability to vandalism.

Planning Checklists

Introduction

This compliance checklist has been prepared to assist design teams and planning officers. It is intended as a tool to help check that submissions provide the necessary information to demonstrate how the design quality objectives that underpin the Code have been met.

While the checklist is not exhaustive, and the code provides necessary detail, a project that delivers the checklist can be fairly assumed to be in broad compliance with the Code.

The checklist is intended as a useful companion to the Design Code, summarising critical principles proposals must deliver. It does not replace the Code. The drawings and statements indicated within this document are not in any way intended as a comprehensive list of planning drawings or documents that will be required within planning applications (albeit they may form part of it). These technical requirements should be confirmed with the planning team.

How to use the checklist

The checklist follows the same structure as the Code, using the 5 Principles. Strategic Design Code outcomes are briefly summarised. In italics, a brief description of documentation that may be useful to support the submission is then provided.

Tick boxes have been included for the RIBA work stages 1,2 and 3 to cover projects from inception to detail planning. For stages 1 and 2, For stages 1 and 2 this is intended to help applicants monitor their own project design to ensure timely consideration of important design code requirements.

For planning detail at stage 3, we recommend that the completed checklist is also submitted as part of the planning application. It is anticipated that applicants will use the Design Statement/DAS accompanying the application to demonstrate how compliance is achieved.

Easy to use raised planting beds in a shared garden ***Woodside Square****,* ***Pollard Thomas Edwards***

1 Make Space for Nature - Planning Checklist

Urban Greening	RIBA Stage 1	RIBA Stage 2	RIBA Stage 3
Increase tree canopy on local streets. Tree planting strategy locations and canopy calculations to be summarised in the DAS and locations identified on the proposed layout drawings.			
Proposals should include biodiverse hedges along routes and plot edges. Planting strategy and future stewardship to be summarised in the DAS and locations identified the proposed layout drawings.			
Green roofs should be used on public buildings and easily accessible low-rise buildings. Strategy for green roofs and maintenance should be summarised in the DAS and locations identified on drawings.			
Nature Conservation			
Minimum 10% (target 20%) Biodiversity Net Gain to be delivered on site or within design code area. Strategy should be summarised in the DAS and key locations identified on a drawing.			
Enhance habitat provision. Summarise habitat creation strategy within the DAS and key locations identified on a drawing.			
Protected public space (PPS) reallocated to development must be re-provided within the local area. Locations and amounts of current and proposed new PPS must be identified on a drawing.			
Planting and suds proposals should prioritise traditional sustainable fen edge chalkland management. The landscape management strategy should be summarised within the DAS.			
Water			
Attenuate for 1 in 100-year floods as a minimum, as well as surface water flooding. This should be summarised within the DAS			
SUDs design should prioritise natural landscaped and planted features minimising hard engineered and underground tank solutions. Suds strategy, locations and planting approach should be summarized within the DAS.			
Where possible flood attenuation schemes should also double as spaces for recreation when not in flood and avoid barrier railings for example by using shallow gradients. Sections drawings showing depth and gradients should be included as part of the submission.			
Rainwater butts should be included on all suitable buildings. The strategy for this should be included as part of the DAS and rainwater butt locations indicated on the plans.			
Living Landscapes			
Landscapes must include places and features that help bring people together through play, social meeting, food growing, resting, and being in nature. The strategy for this should be set out within the DAS.			
Proposals for landscape features must include planning for future maintenance and stewardship – with an emphasis on local and resident involvement. The strategy for this should be summarised within the DAS. Proposed planting should provide year-round sensory stimulation with vibrant colour and texture choice. Sensory planting strategy should be summarised within the code.			

2 Prioritise Walking and Cycling - Planning Checklist

Green and active travel	RIBA Stage 1	RIBA Stage 2	RIBA Stage 3
Prioritise walking and wheeling in the hierarchy of travel modes. Plans setting out convenient safe routes and continuity of connections with the surrounding area should be included within the DAS.			
Proposals must aim to reduce vehicle speeds. The strategy for this, and any key features incorporated, should be included within the DAS.			
Designs must provide smooth surfaces. Strategy for and appearance of proposed surface treatments should be set out within the DAS with locations for surfaces annotated on the landscape plan.			
Strategy and locations for lighting, planting and resting on routes should be summarised in the code and shown on the landscape plan.			
Cycle and Wheeling Trips			
Cycle parking provision must meet or exceed Cambridgeshire City Council guidance and include for adapted and cargo bikes. Include a summary table of provision within the DAS			
Proposed cycle parking must be covered, secure, lit and benefit from natural surveillance. Provide summary strategy and examples within the DAS and identify parking locations on a plan.			
Proposals must include e-bike charging as part of cycle provision. Set out strategy in the DAS and show locations on drawings.			
Public Transport Use			
Proposals must consider, and where possible enhance, connections to public transport. Strategy to be included within the DAS.			
Larger developments must maximise public transport use e.g. by creating movement hubs with location near existing stops or creating new stops. Summarise hub strategy and connections within the DAS.			
Larger developments must consider benefits of using developer contributions to enhance public transport infrastructure and services. Contributions strategy should be summarised within the DAS.			
Reducing Car Dominance			
Street design must be for sustainable active travel in the first instance and not prioritise car/vehicle movements. A coordinated design approach to delivering this requirement should be set out alongside annotated plans within the DAS.			
Streets must aim to comply with LTN/120 design requirements (or successors). Compliance should be confirmed within the DAS, and any deviation explained and ensuring delivery of active travel priority.			
Proposals for reduced or car-free development should be justified based on accessibility and existing car ownership/use data. Summary data and strategy for parking provision should be provided within the DAS			
Parking provision should prioritise shared use of unallocated car parking to maximise usability. A summary of the allocation strategy should be provided within the DAS			
Car Club vehicles should be considered to help reduce the requirement for residents to own a vehicle. The proposed car club approach should be summarised within the DAS, and any car club spaces should be identified on the plans.			

3 Thriving Public Places - Planning Checklist

Cultural Sociability	RIBA Stage 1	RIBA Stage 2	RIBA Stage 3
Public spaces need a coordinated landscape led design approach to deliver the code's requirements. The approach to delivering this coordination should be set out within the DAS.			
Spaces should be adaptable and flexible and help support surrounding uses. Strategic diagrams for key spaces to be included within the DAS			
Streets should incorporate locations to sit or play on the way. Strategy to be set out within the DAS and locations shown on the landscape plan.			
Public space design and art should engage local people in its creation and care. Evidence of engagement should be included within the DAS.			
Key public spaces should incorporate cycle parking, summarised within the DAS and the locations annotated on the landscape plan.			
Nature Based Play			
Design for play should be varied for different ages and needs and integrated with design for landscape and the route network. A coordinated play strategy, and confirmation of any 'toolkit' applied, should be set out within the DAS and locations identified on the landscape plan.			
Play equipment should be robust but incorporate natural materials and features and encourage environmental awareness. Confirm material strategy within the DAS.			
Active and Healthy Lifestyles			
Design for an active lifestyle must be integrated into design for public space and the route network e.g. with trim trails and active travel routes. Strategy to deliver this to be set out within the DAS.			
Activity and rest spaces must be suitably sheltered e.g. by colocation with planting/trees. This strategy should be summarised within the DAS			
Park spaces should be managed to provide natural contrast and variety. Planning for future stewardship should be summarised within the DAS			
Materials and Elements			
Proposals must have a harmonious and durable palette of materials and features. The palette should be set out within the DAS and annotated on a landscape plan.			
Where appropriate proposed features should be made of natural materials, which should be identified within the DAS material palette.			
Excessive use of unsheltered and hard landscaped surfaces must be avoided. The strategy to meet the requirement to reduce and mitigating hard surfaces should be set out within the DAS			
Proposed materials and features must incorporate consideration of robustness and planning for long-term stewardship. The strategy for stewardship should be set out within the DAS, including diagrams setting areas and boundaries of responsibility e.g. adoption.			

4 Enhance Character - Planning Checklist

Identity of Home	RIBA Stage 1	RIBA Stage 2	RIBA Stage 3
Every new home must have access to a usable private or private shared garden, roof garden, or balcony. Should provide a summary strategy within the DAS and amenity spaces should be identified on plans.			
Homes must have views or close access to significant green features. Provide diagram(s) within the DAS to show how this is delivered.			
Key detail drawings should be included in the drawing set at a suitable scale e.g. 1:10			
Building groups should create active well overlooked frontages. Provide diagram(s) within the DAS to show how this is delivered.			
Prioritise the use of sustainable and robust materials. Include strategic descriptions/images of proposed material palette within the DAS.			
Full-scale mock up sample panels of materials and critical details should be undertaken as part of discharge of condition.			
Enclosure and Focal Points			
Provide a continuity of frontage by connecting plots together with walls and hedges to give a sense of enclosure onto the street and public spaces. This should be set out via diagrams within the DAS			
Provide natural surveillance onto streets and green spaces. This should be set out via diagrams within the DAS			
Designs must work alongside existing neighbours. Show relationship to surrounding context on application plans and sections.			
Design for legibility and navigability. Show strategy to deliver this within the DAS and signage designs on the elevation drawings.			
Consider opportunities for openness and glimpse views and show how this is delivered within the DAS.			
Scale and Form			
Scale and form must be carefully composed and low-to-mid-rise with increased heights justified in design terms. Provide diagram(s) and strategy description within the DAS to show how the requirements are delivered.			
Larger developments must consider the skyline in their design e.g. with varied rooflines. Where there is potential impact from height and bulk establish key views to test design and include within the DAS.			

5 Increase Sustainability - Planning Checklist

Sustainable New Buildings	RIBA Stage 1	RIBA Stage 2	RIBA Stage 3
Dynamic thermal modelling to avoid overheating must be carried out to support the application. This should be summarised within the DAS			
Seek to provide dual aspect and adequate access to daylight and sunlight. Summary modelling and strategy to be set out within the DAS with detail report under separate cover.			
Target of 100 L/pppd water usage for new homes. Summary modelling and strategy to be set out within the DAS with detail report under separate cover.			
Larger developments should target whole life carbon reduction. Summary modelling and strategy to be set out within the DAS with detail report under separate cover.			
Major developments should include post¬-occupancy evaluation (POE). Strategy for POE commitments to be set out within the DAS and conditioned.			
Generating Clean Energy			
All new homes and buildings must be designed to follow the sustainable energy hierarchy and should be all electric and incorporate MVHR. Confirm strategy to deliver the energy hierarchy within the DAS			
All new housing developments must include an element of on-site energy generation through rooftop PV solar panels. Proposed PV panel locations should be neatly arranged and identified on the drawings.			
Where Air Source Heat Pumps (ASHP) are visible from the street or other public spaces they must be appropriately screened. Summary strategy within the DAS and indicate locations details of any screening on the drawings.			
Climate Change Resilience			
Shading, including through tree canopy, must be considered and incorporated from the preliminary design stages. Shading strategy should be explained as part of design development within the DAS.			
Target improved street greening and shading referring to the Cambridge “Shady Streets” study. Summarise uplift strategy, canopy calculations and proposed planting locations within the DAS.			
Development should prioritise the use of green roofs, and the use light colour roofs and surfaces. Proposed surface materials should be annotated on drawings.			
Improving Existing Buildings			
Householder extensions must show how they have responded to the code and considered and appropriately and proportionately incorporated sustainable design and cost-effective energy efficiency. This should be included as part of the accompanying design statement.			

Schools Engagement - Applying the code

Sustainability: Drawing competition winner by Peter age 9

Introduction

As part of the wider engagement strategy, the design code team worked with the Council's Youth Engagement Service (YES) and the staff and students of 3 local schools in the area covered by the new design code. The programme ran from January to February 2025. The objective was to explain the key principles of the code, and to ask the students to explore how the code could be implemented in their area.

The 3 schools included both primary and secondary schools, with students from a wide range of backgrounds.

- Kings Hedges Education Federation
- Mayfield Primary School
- North Cambridge Academy

We spent 1.5 days with each school, with a full day of core and creative activities, followed by a half day event of celebration and sharing outcomes. Activities were designed to align with National Curriculum subjects including science, art and design, geography, design and technology and citizenship to ensure relevance and educational value. Over the 3 schools more than 180 students took part.

Activities included careers advice, introduction to biodiversity principles and challenges, what a design code was, and a follow-up quiz. This work was built around the core activities of the day, which were project specific learning and a creative task.

The YES team, lead by Dr Bonnie Kwok, where joined by representatives from GCSPS, PTE. The team were joined by Anglian Ruskin University Master Town Planning student Katie Hilton, who provided high level data analysis the project.

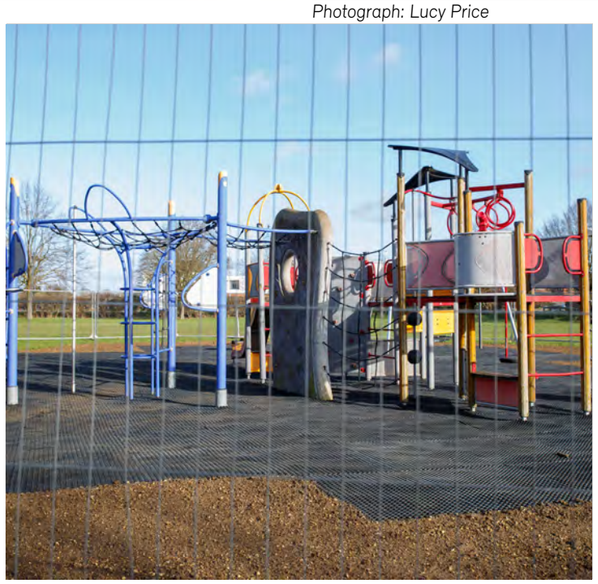
Project activity - Site visit

We selected Arbury Court as a case study for the students to consider and explore ideas. The location was chosen as one of the priority areas identified within the code, which presents examples and challenges for the students to apply the code's 5 principles.

At the start of the task, students were led on a tour of

Photograph: Lucy Price

Photograph: Lucy Price



Student photographs

Methodology

Arbury Court and its surroundings and were asked to focus on 3 specific areas:

- The public car park
- The shopping precinct
- The playground

Students were asked to think about each code principle and how they could be applied. The code emphasises combining principles in a thoughtful way and students were encouraged to show how their designs could deliver practical, sustainable benefits.

Project activity - creative task

Back in the classroom, students were arranged into 5 categories representing the 5 principles

1. Nature
2. Walking and Cycling
3. Play
4. Buildings
5. Sustainability

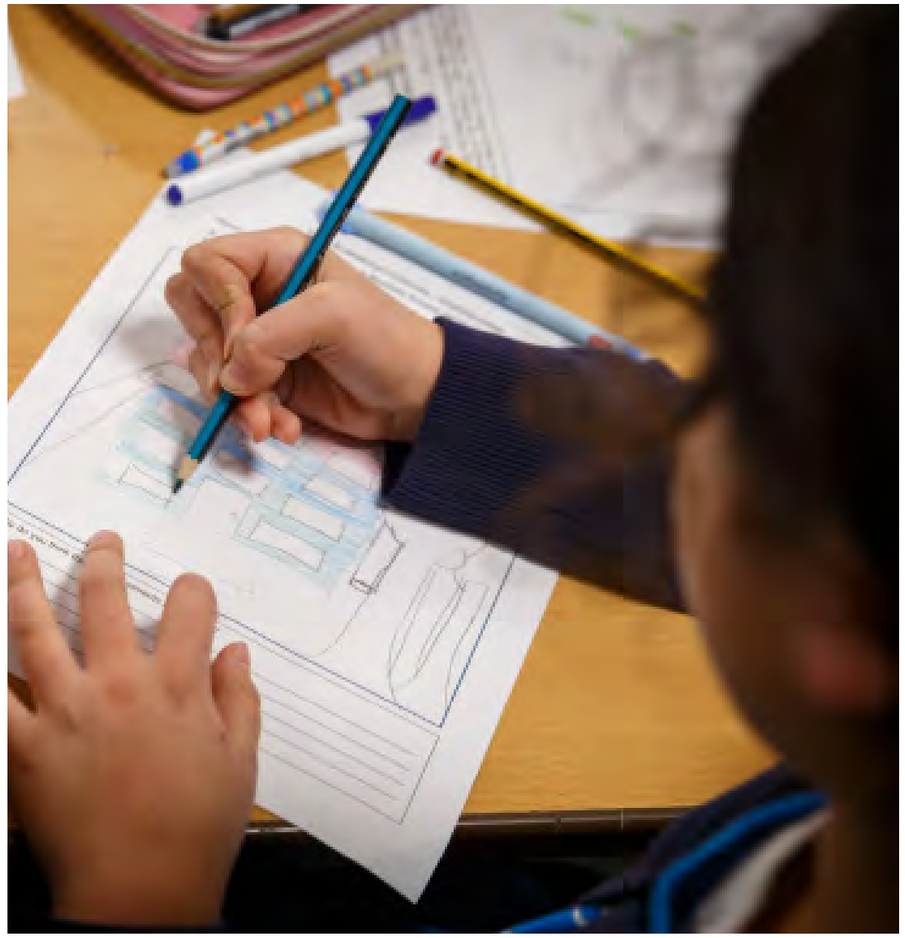
Working independently, students produced designs showing their ideas, focussing on a specific principle. Alongside drawing, Students described their design with annotated drawings and providing a short description of their key idea.

Project recording, assessment and Celebration

School engagement has produced over 180 individual drawings and related texts. Data from these have been collated and analysed by Katie Hilton with drawing, text and AI keyword analysis, such as word clouds. Outcomes of this work can be seen on the following pages. This data analysis is helpful, and reveals a coherent picture of shared concerns emerging from the young people we worked with.

Alongside high-level analysis, pieces were assessed for design and artistic achievement. For each school, 3 pieces were chosen from each category to win a prize. Further prizes were given specific awards for creativity. The prize winners were announced at a ceremony attended by local councillors, planning authority and design team, parents and teachers. Every participating student received a certificate of participation, and their drawing was returned to them framed.

Key priorities - word cloud of combined topics



Photograph: Lucy Price

Photograph: Lucy Price

Photograph: Lucy Price

1. Nature

The student designs prioritise planting trees, colourful plants and flowers. They saw natural spaces benefiting both people and animals.

- Strong emphasis on new tree planting
- Attractive space to relax
- Incorporating play
- Spaces for animals

Nikodem at 9

Freya age 10

Alex age 11

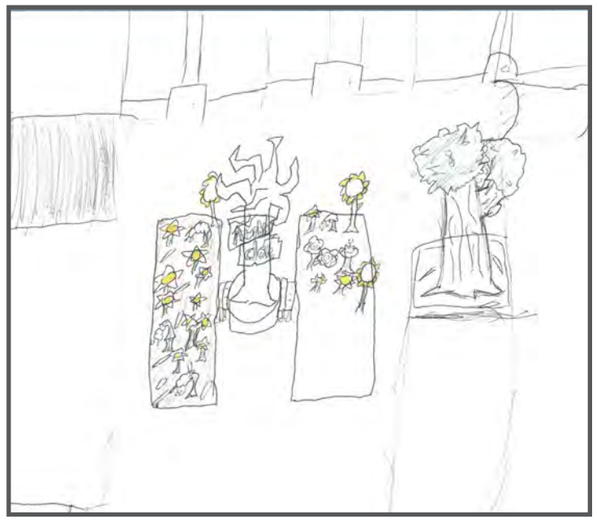
Alaine age 10

Livia age 9

Aldo age 12

Leena age 9

David age 10

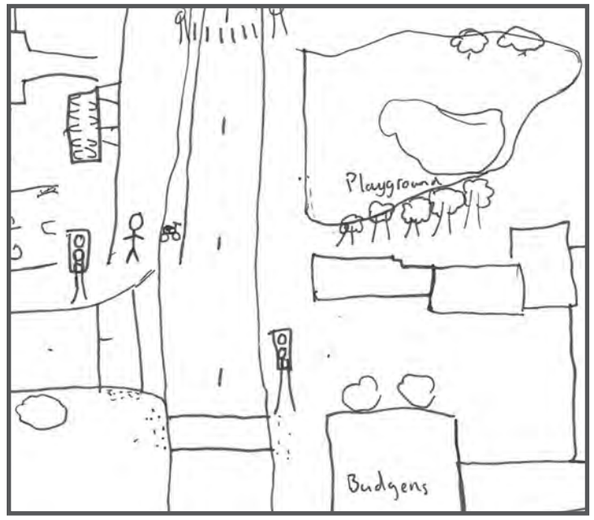


Rudy age 12

2. Walking and cycling

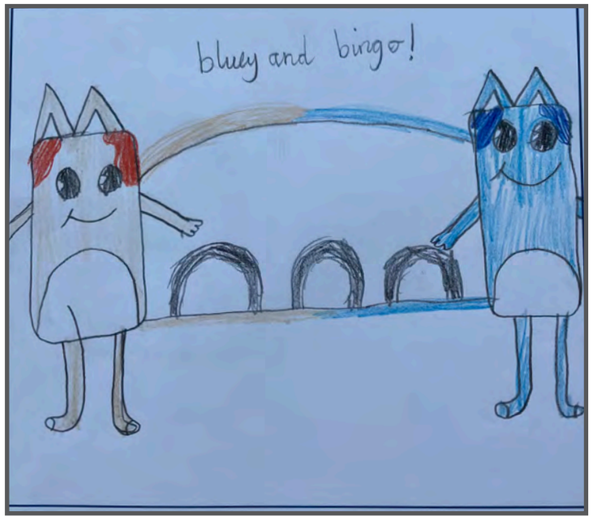
The student designs strongly prioritise safety, including separate walking and cycling lanes. They also look at making cycling more appealing, for example with more attractive cycle stands and infrastructure.

- Emphasis on danger and need to increase safety
- Clarity of separation between walking and cycling
- Incorporating public art in cycle stands
- More cycle parking
- Underground parking for cars

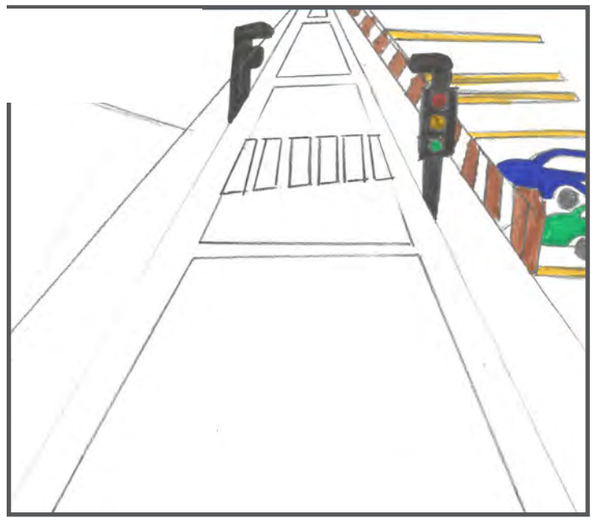


Yousef age 13

Zilah age 10



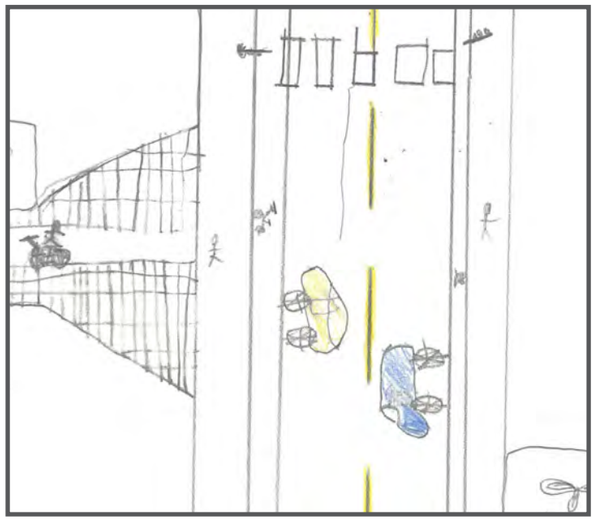
Skye age 10



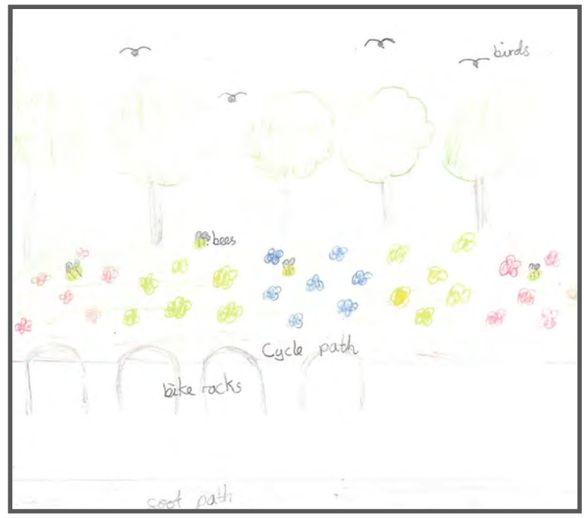
Preston age 13

Ella age 10

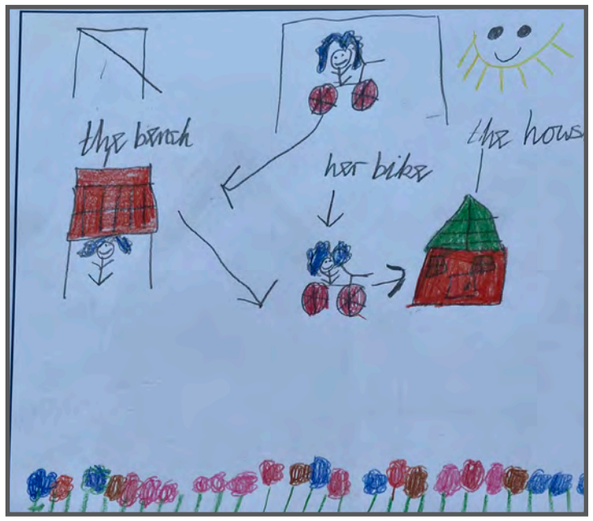
Nathan age 10



Finn age 14



Estelle age 10



Krisin age 9

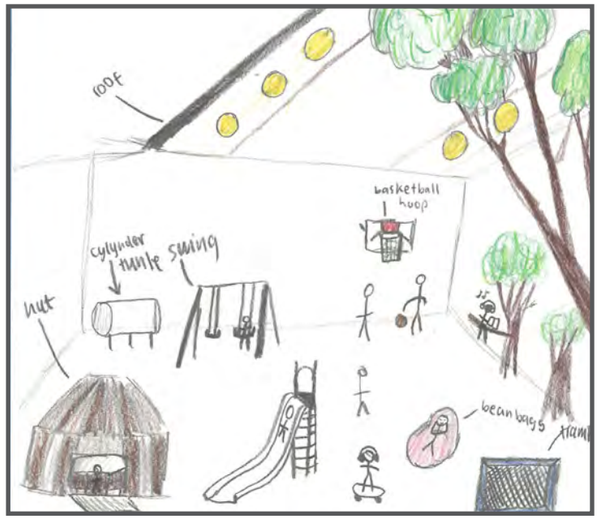
3. Play

The student designs emphasise providing a range of play and activities. Alongside designs for play equipment are seats, sheltered spaces and nature/tree planting

- Colourful and creative designs
- Health and fitness
- Provision for sports including tracks and sports pitches

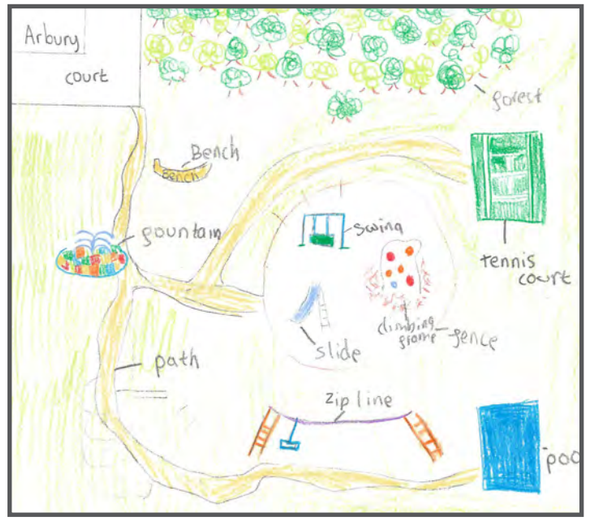
Dinaa age 10

Marco age 10

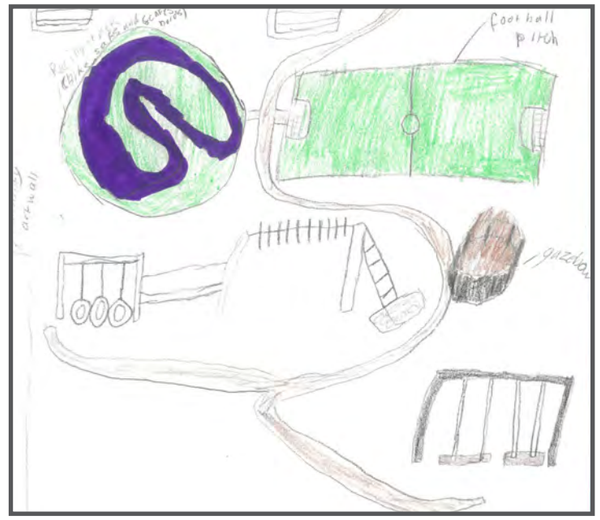


Joyce age 12

Sumayah age 10

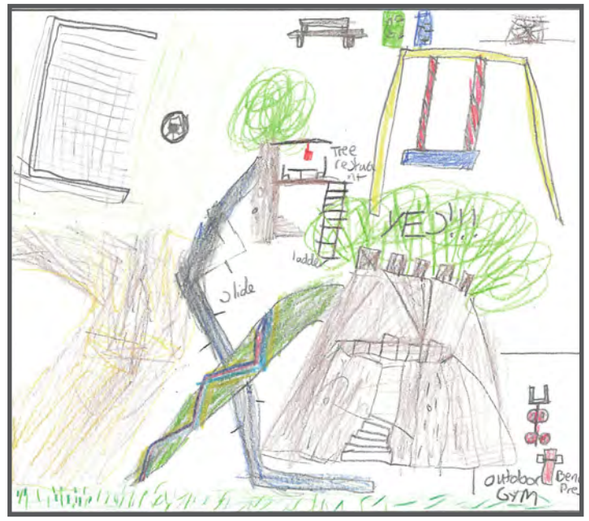


Freya age 10

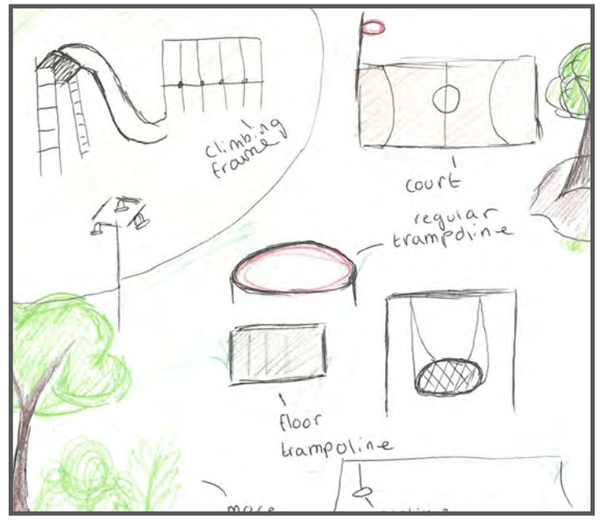


Barbara age 11

Shalom age 10



Mirco age 10



Deyara age 11

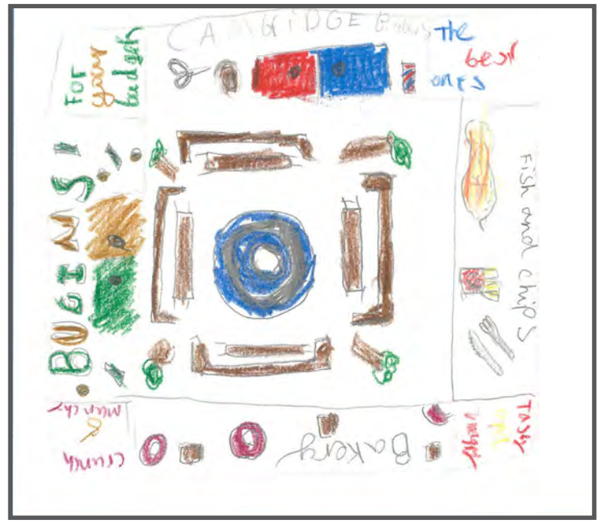
4. Buildings

The student designs pick up on the need for activity and a mix of uses. This is combined with more varied and colourful buildings. Some designs pick up on other practical concerns, such as more usable space on balconies.

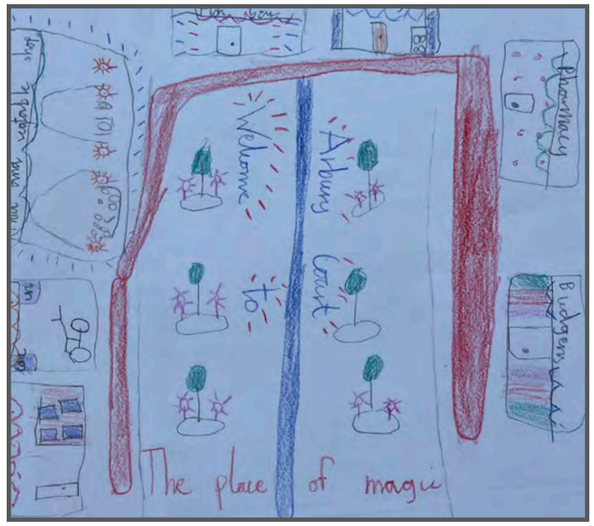
- Increasing variety of shops and reopening closed shops
- Integrating more creative signage
- Increased use of colour in buildings and elevations

Enricas age 10

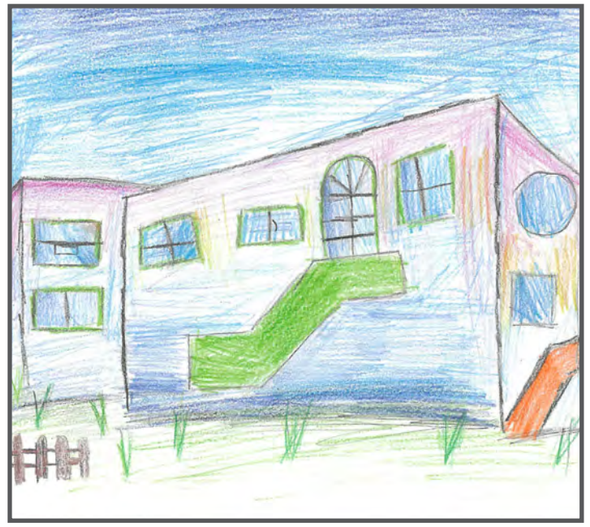
Julian age 9



Joziah age 11



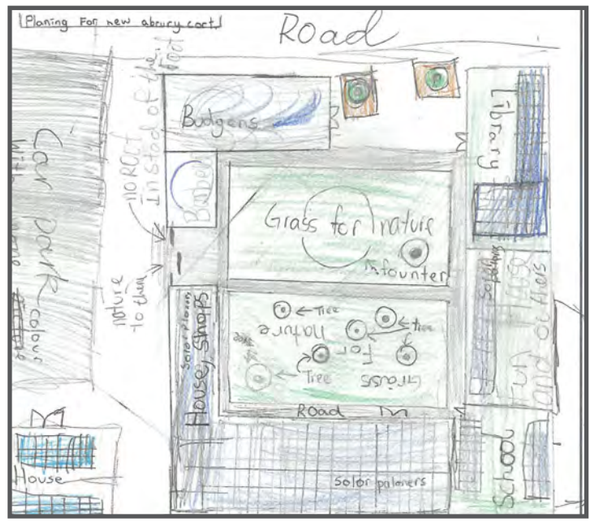
Muhsan age 10



Marie age 10

Mahon age 11

Taiba age 10



Ernest age 10

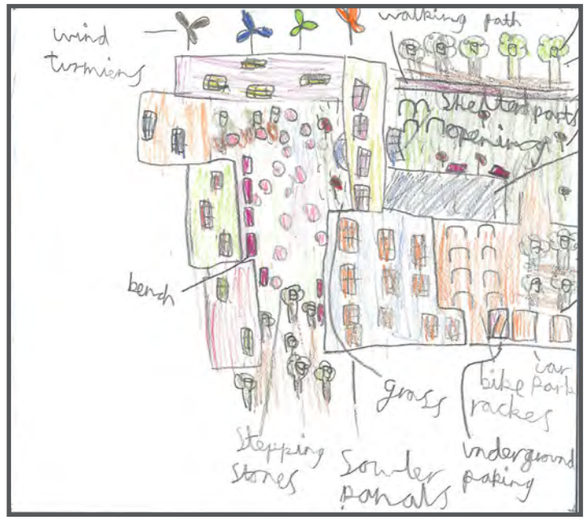
Phylipa age 13

5. Sustainability

The students responded particularly strongly to incorporating sustainability. Almost all the designs incorporated solar panels. Designs also included rainwater collection and EV charging.

- Solar panels on rooftops
- Rainwater collection ponds and gardens at roof and ground level
- Using innovative technology such as solar powered cars
- Most designs included space for nature with design for sustainability

Zahra age 10

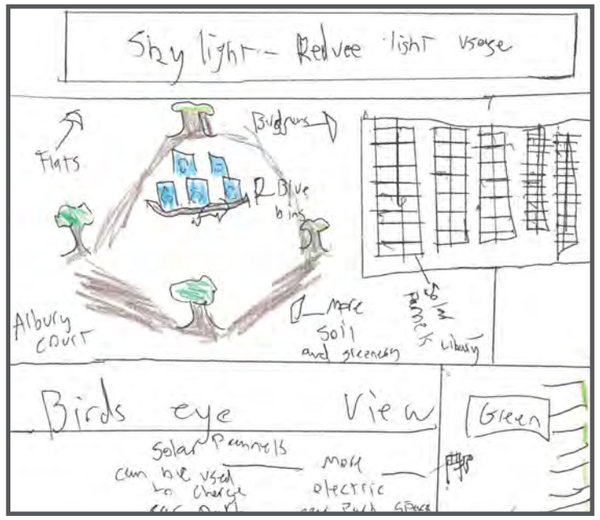


Lara age 9

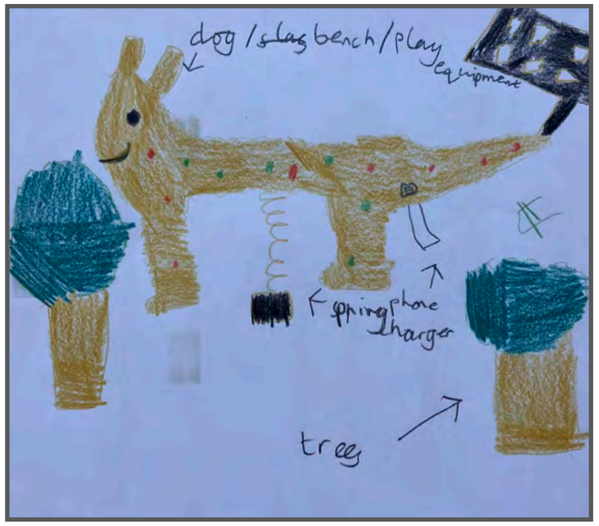
Salma age 12

Tahia age 10

Peter age 9

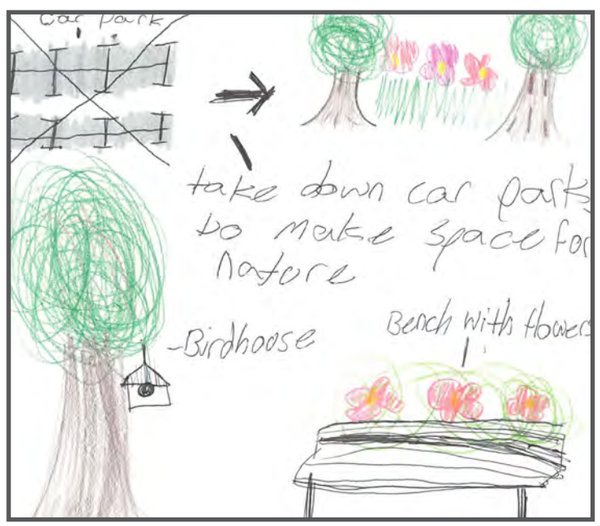


Lee age 14



Timon age 9

Taman age 10



Emily age 11

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