



SWINDON BOROUGH GREEN INFRASTRUCTURE STRATEGY

2024

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SWINDON
BOROUGH COUNCIL

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Barbury Castle Country Park

A Green Infrastructure network can include street trees, green roofs/walls, parks, private gardens, allotments, sustainable drainage systems, through to wildlife areas, woodlands, wetlands and natural flood management functioning at local and landscape scale. Linear GI includes roadside verges, green bridges, field margins, rights of way, access routes, and canals and rivers.

(Natural England Green Infrastructure Framework)

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1.INTRODUCTION

1.1 Green Infrastructure and its importance for Swindon

Green Infrastructure (GI) is the network of green spaces, parks, woodlands, rivers and wetlands that help to sustain Swindon’s health, economy, quality of life and wildlife.

GI plays an essential role in realising the ambitions set out in the Swindon Plan, providing:

- Natural and tranquil spaces for recreation, quiet contemplation and social interaction with far reaching benefits for health and wellbeing.
- Attractive places for people to work and live in and for businesses to invest in.
- A green and well maintained public realm that can be a source of civic pride.
- Places that local people can have a sense of ownership in and can work together to shape through public engagement.
- Places for children to play, learn, be active and socialise within nature.
- A green active travel network for leisure and commuting to work, school and amenities.
- Opportunities for tourism and land based businesses.
- Places for wildlife to recover and thrive.
- A sense of place and cultural landscape.
- Alleviating and providing solutions to challenges that have arisen through a historic emphasis on 'grey' infrastructure, with a view to integrating meaningful intelligent GI solutions into future urban design and planning decisions.

1.2 The concept of GI

The concept of GI was first devised in Florida in the early 1990s in an attempt to highlight that natural systems (rivers, land, habitats) are equally, if not more important components of our essential ‘infrastructure’ that supports our lives and livelihoods and need to be planned for, designed and managed as a whole in a joined up and intentional way, not just treated as space leftover between ‘grey infrastructure’ (transport networks, buildings, drainage and power infrastructure)¹.

1.3 Purpose of this GI Strategy

The last GI Strategy for Swindon was written in 2010 (Swindon Green Infrastructure Strategy 2010-2016). Thinking about GI has moved on somewhat since then, with greater urgency and awareness surrounding the multiple interlinked crises of climate breakdown, biodiversity loss and health and wellbeing. Swindon has also seen some significant changes since then. This strategy provides an updated picture of what GI is and why it is important; what we have in terms of GI in the borough; how we can protect, enhance and restore it and looks at how we can plan, design, and manage it for the benefit of people and nature. This strategy will help to:

- Prioritise the planning, development of and investment in GI in Swindon;
- Present a shared vision for the development of a high quality and multi-functional GI network across the borough of Swindon and reaching into neighbouring areas;
- Feed into the emerging Local Nature Recovery Strategy due in November 2024;

- Highlight the essential role green infrastructure will play in the sustainable development and regeneration of Swindon;
- Highlight the crucial role good quality and well managed network of green spaces and green active travel routes plays in happy and healthy childhoods and the health and wellbeing of the population of Swindon;
- Galvanize renewed support for investing in the enhancement and management of green infrastructure;
- Highlight weaknesses and need for partnership working to achieve better management and investment in this key resource, including in our Country Parks.

The GI Strategy will be used to:

- Provide the basis for a coordinated approach to the creation and sustained management of GI across Swindon Borough;
- Support and guide Local Plan
- Reference document for other key strategies (transport, climate change action plan, health and wellbeing documents, play guidance);
- Basis for rolling GI delivery plans and forum for partnership working.
- Integrate GI and landscape based solutions into urban design and planning.

Purpose of the Strategy:

- *What is GI and why is it important?*
- *What do we have? Where are there are strong existing networks to enhance, and where do we have a lack and need for better, and improved access to green space?*
- *How can we protect, enhance and restore it?*
- *How can we plan, design and manage GI as a coherent whole for the benefit of people and nature?*

¹ Firehock, K. Green Infrastructure Centre Inc.(2010) *A Short History of the Term Green Infrastructure and Selected Literature*. Available from: <https://gicinc.org/wp-content/uploads/GI-History.pdf>. Accessed on October 14 2024.

1.4 How this strategy is being developed:

This draft strategy sets out the policy and Swindon context and has been evolved with some initial stakeholder engagement. The overarching nature of GI and the management of open spaces in Swindon means that there are a wide range of stakeholders. Further stakeholder engagement will follow (see section 2. Stakeholders on page 7). A GI and Open Space Audit and questionnaire with residents is the next stage in this process and this will feed into the evolving document. See process diagram opposite.



People walking along Kingsdown Lane

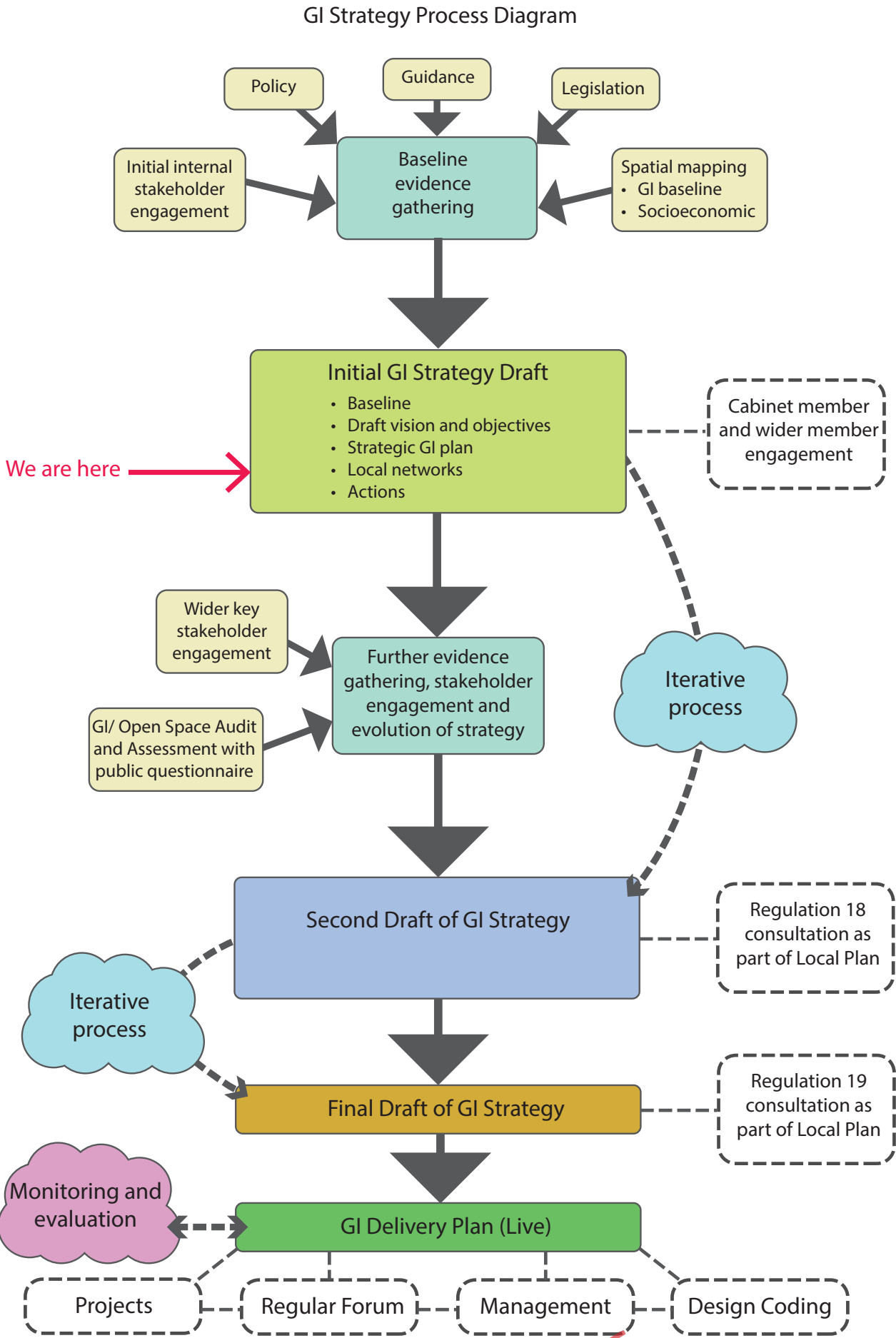


Figure 1: GI Process Strategy Diagram

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1.5 How this strategy fits with other relevant strategies and guidance:

This strategic level plan sets out higher level vision and objectives, identifies strategic GI links and begins to drill down to the local level, looking at local GI networks for some particular areas of focus. These may be updated after information about access and quality is collated through the GI/ Open Space Audit and questionnaire and engagement with wider stakeholders.

Delivery of the vision and objectives set out in this plan will translate into projects, at a local level, that should be planned, designed and managed in a joined up way. A GI Delivery Plan can start to develop this in more detail and set out a programme of projects.

A Country Parks Strategy and masterplans and management plans for each of the Country Parks will look at enhancement of these major GI assets for biodiversity, accessibility and inclusivity, climate change resilience, recreation and play, and health and wellbeing. A suite of strategies including a Tree, Food Growing, Open Space and Play Strategy will focus on these areas in more detail.

A Forest Plan is being produced by the Great Western Community Forest team as a requirement of the Community Forest and Design Codes for GI will need to be produced.

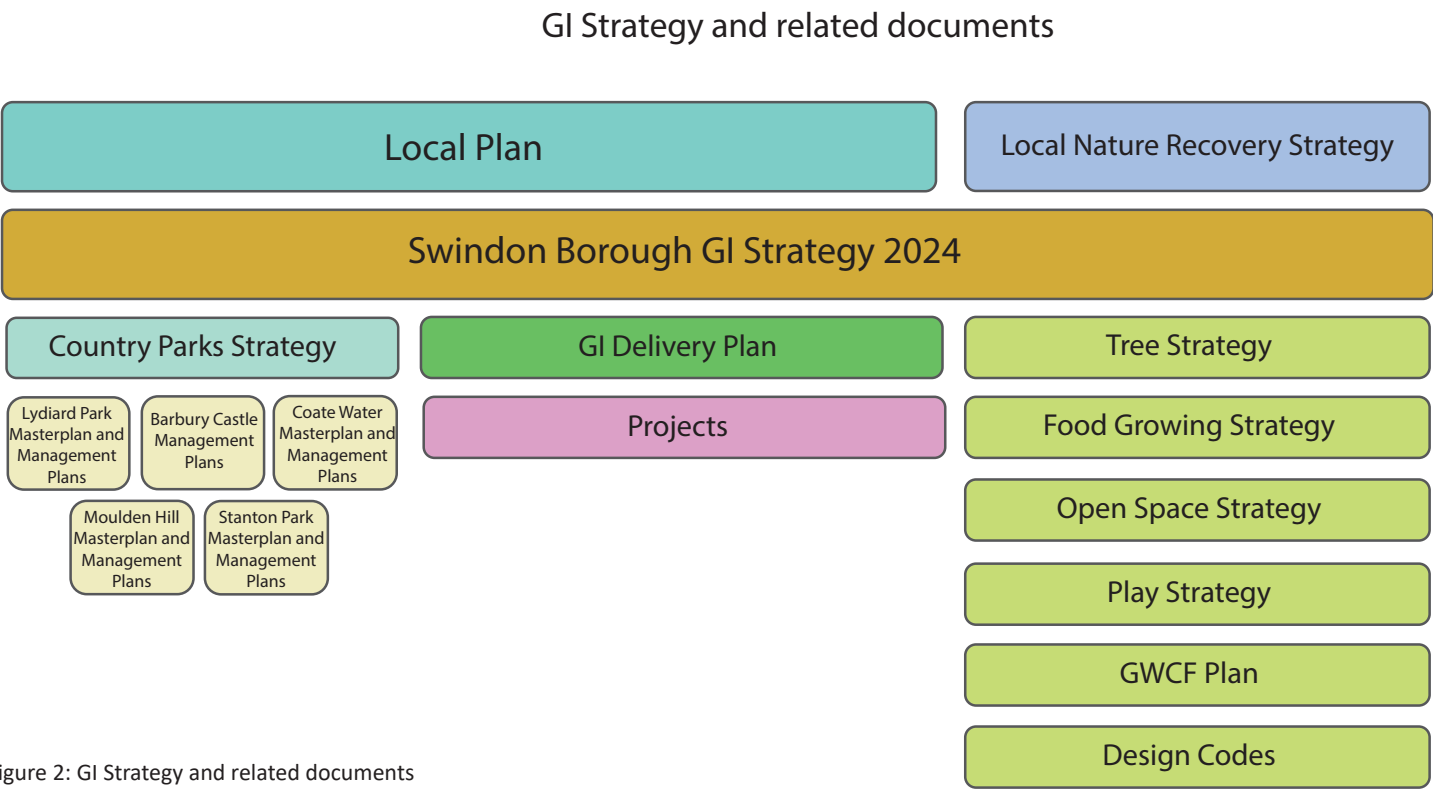


Figure 2: GI Strategy and related documents



2. STAKEHOLDERS

2.1 Stakeholder mapping:

Due to the overarching nature of GI there are a wide range of stakeholders with an interest in GI within the borough. These include:

- Officers and departments within the Local Authority, including the planning department (policy team, Ecology/ Biodiversity, Conservation, Urban Design and Landscape Architecture, Archaeology, Arboriculture, Public Rights of Way officer), Great Western Community Forest, Drainage, Highways and Transport, the Country Parks Ranger team, Public Health and Education;
- Parish Councils (who lease and manage most of the open spaces within the borough);
- Businesses (shops and cafes but also some of the large companies based in the town who frequently offer volunteers and could be encouraged to donate, for example to the Country Parks).
- Voluntary groups (many of which are involved in managing green spaces or are based within them)
- Landowners (farmers within the rural parts of the borough who are likely to primarily be engaged in nature recovery through the LNRS process and through Defra agri-environment schemes);
- Other landowners (Forestry England, The Woodland Trust)
- Government/ public bodies (Environment Agency, Historic England, Forestry Commission, Natural England);
- Swindon Borough residents.

See initial stakeholder mapping diagram opposite.

2.2 Stakeholder engagement with the strategy

The strategy has involved some initial engagement within the wider planning department. There is a need for engagement with key stakeholders, ideally with some workshops to input into the strategic GI mapping and to refine possible areas of opportunity and focus.

The GI/ Open Space Audit will also include a questionnaire with residents, the results of which can feed back into this strategy and help to shape it.

One of the Actions, suggested in Section 10 is the establishment of a regular forum for wider stakeholders involved in the planning, design and management of GI within the borough to meet, to enable partnership working. Partnership working, collaboration and stakeholder engagement is one of the key principles of how to achieve good infrastructure set out within Natural England's Green Infrastructure Framework, which provides guidance for Local Authorities and others.

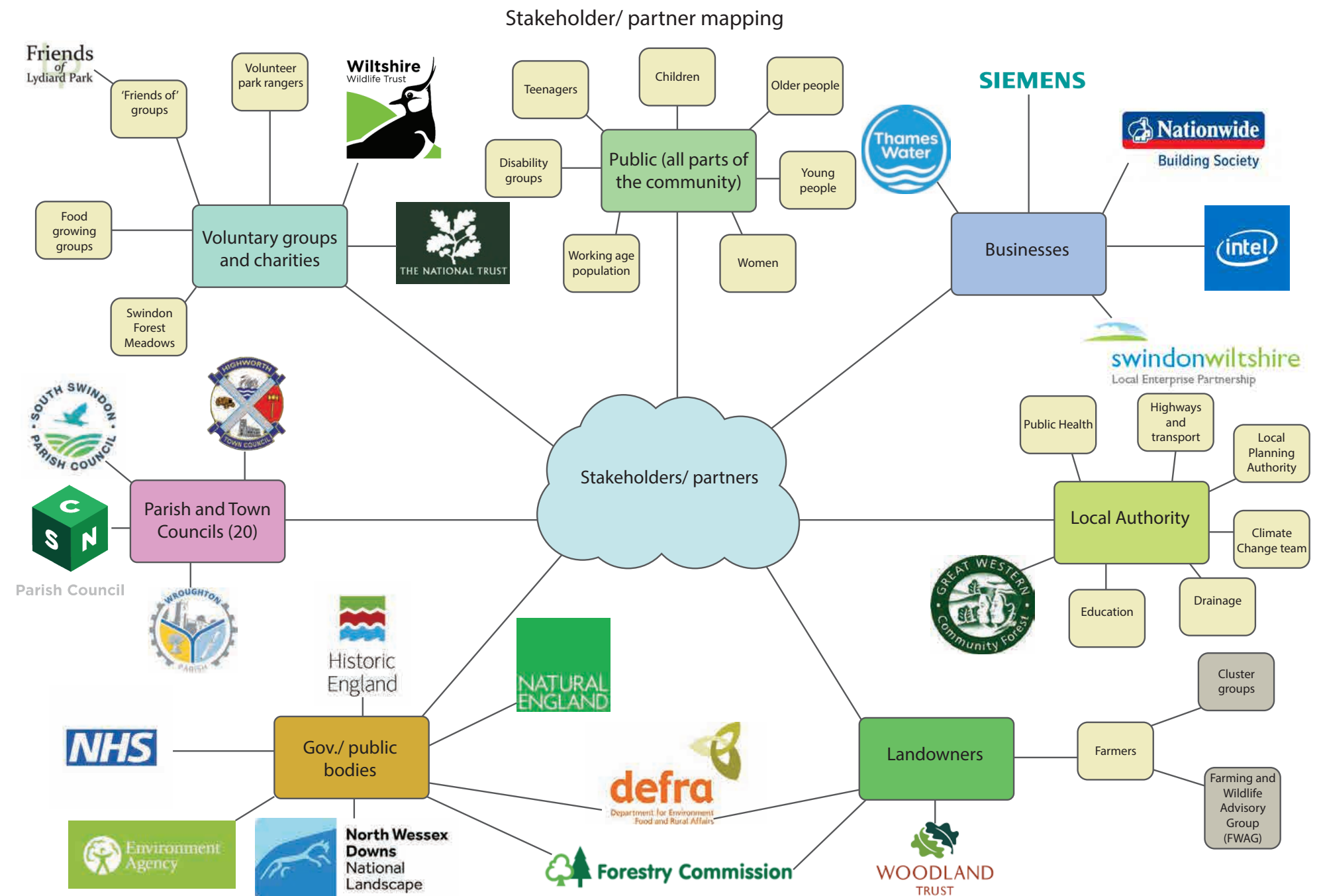


Figure 3: Stakeholder/ partner mapping

3. VISION AND OBJECTIVES

Vision:

For Swindon borough to be known for an excellent connected network of varied, biodiverse and multi-functional green and blue infrastructure, of all scales and on everyone's doorstep. This network should be of a quality that the people of Swindon are proud of and easily accessible to everyone, leading to improved physical and mental health for people in the borough and enhancing the experience and impression of Swindon by visitors and tourists. The people of Swindon will feel a sense of agency and ownership over this network that is biodiverse, climate resilient, well managed and well used by all parts of the population.

Photo opposite: Children cycling along Kingsdown Lane Restricted Byway, adjacent to Stanton Park



Objectives:

‘Inclusivity and Access’: increase the use and inclusivity of green infrastructure across all user groups, ages, social groups and abilities, ensuring there is good quality GI within 15 minutes reach of everyone*;

‘Health and Wellbeing’: Improve the quality and multi-functionality of GI to ensure it maximises its health and wellbeing provision for the widest range of users, including multiple opportunities for activity and relaxation;

‘Connectivity’: Improve the connectivity of GI for people and wildlife, including green corridors and green active travel routes;

‘Nature Rich and Beautiful’: Protect, enhance and create GI, designing, implementing and managing it to ensure it is biodiverse and attractive, contributing to a sense of place and incorporating and enhancing heritage where appropriate;

‘Urban Greening’: Embrace the benefits of GI to enhance the urban realm, including the town centre and to play a key role in regeneration, creating synergies with heritage, new architecture and grey infrastructure to provide a sense of place and distinctive character;

‘Management and Maintenance’: Working with partners across the borough to build and secure effective governance, funding and stewardship for new and existing GI to ensure it is well managed to maximise the benefits for people and nature.

‘Climate Change’: Design, implement and manage GI sustainably, minimising environmental impacts of materials and machinery and ensuring GI contributes positively towards adaptation of the Borough to the impacts of climate change such as flooding and heating.



4. WHAT IS GREEN INFRASTRUCTURE?

4.1 Definition:

The **National Planning Policy Framework (NPPF)** defines green infrastructure (GI) as:

‘A network of multi-functional green space, urban and rural, which is capable of delivering a wide range of environmental and quality of life benefits for local communities.’

GI can be defined as the network of natural and semi-natural green and blue (water related) spaces and other environmental features that maintain and deliver ecosystem services for us and the natural world upon which our lives depend.

All references to green infrastructure within this strategy refer to green and *blue* infrastructure.

4.2 Types of green infrastructure:

Examples of green (and blue) infrastructure within the Swindon Borough include the following:

- Parks and gardens (such as Queen’s Park)
- Natural and semi-natural green spaces
- Designated sites (SPAs, SACs, SSSIs, LNRs, and AONBs)
- Lakes and ponds
- Watercourses (rivers and canals) and river corridors.
- Greenways (Public Rights of Way, footpaths, cycleways, towpaths, bridleways and tracks)
- Outdoor Sport Facilities (Sport Pitches, if grass not astro turf)
- Amenity Green Space (play areas etc.)
- Cemeteries and churchyards
- Public realm/ civic spaces where they are green (include trees, planting areas, sustainable drainage features etc.)
- Productive spaces (agricultural land)
- Allotments, community gardens, community orchards and city farms
- Green linear features (verges, green wedges and green fingers)
- Hedgerows
- Orchards
- Trees and woodlands (including trees outside woodlands, e.g. urban trees etc.)

4.3 Scales:

Green infrastructure can be delivered at many different scales, from a planted window box to large, strategic, landscape scale networks. A variety of scales will provide a variety of functions and benefits. Even smaller scale green infrastructure, closer to, and integrated within where people work and live, can provide multifunctional benefits. See figure 1 opposite.

4.4 Natural England’s GI Principles:

Natural England have produced a Green Infrastructure Framework (a commitment set out in the Government’s 25 Year Environment Plan), setting out principles and standards for Green Infrastructure in England. It’s purpose is to guide and support local planning authorities, developers, parks and greenspace managers and local communities in the greening of towns and cities and strengthening and creation of connections with the surrounding landscape as part of the Nature Recovery Network.

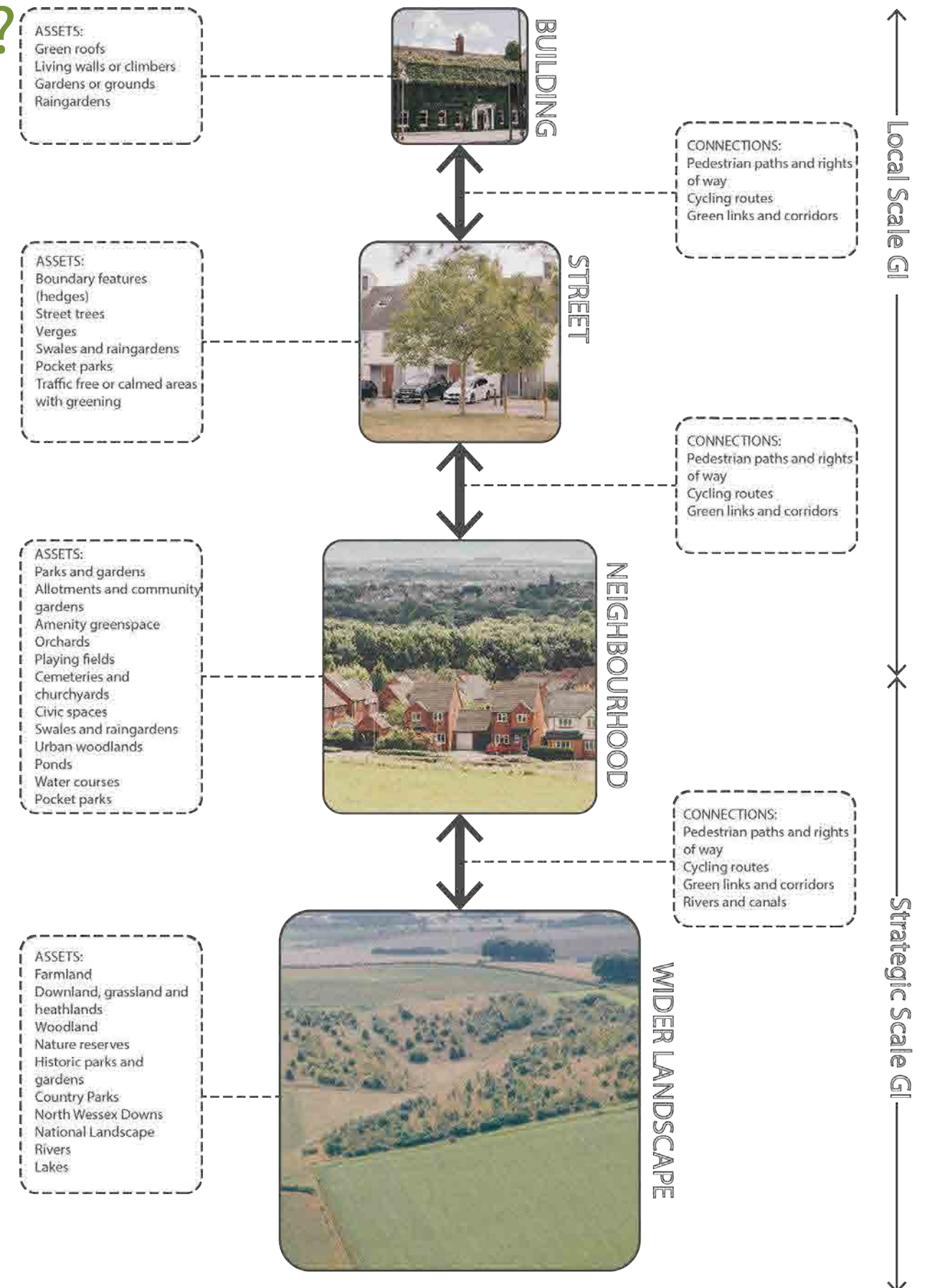


Figure 4: Scales of GI: Adapted from Green Infrastructure Scales diagram in The Scottish Government (2011) 'Green Infrastructure Design and Placemak-

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5. WHY IS IT IMPORTANT?

5.1 Introduction

We are currently facing multiple crises: biodiversity loss, climate change and a health and wellbeing crisis. These crises are inextricably linked in terms of their causes and solutions. Well designed and managed GI within urban areas and a countryside better managed for wildlife and public access, as well as agricultural productivity, has the potential to mitigate some of these problems and contribute towards increased economic, social and environmental well-being and resilience. Well designed, implemented and managed GI provides multiple benefits, also known as ‘ecosystem services’ (see the Ecosystem Land Wheel below).

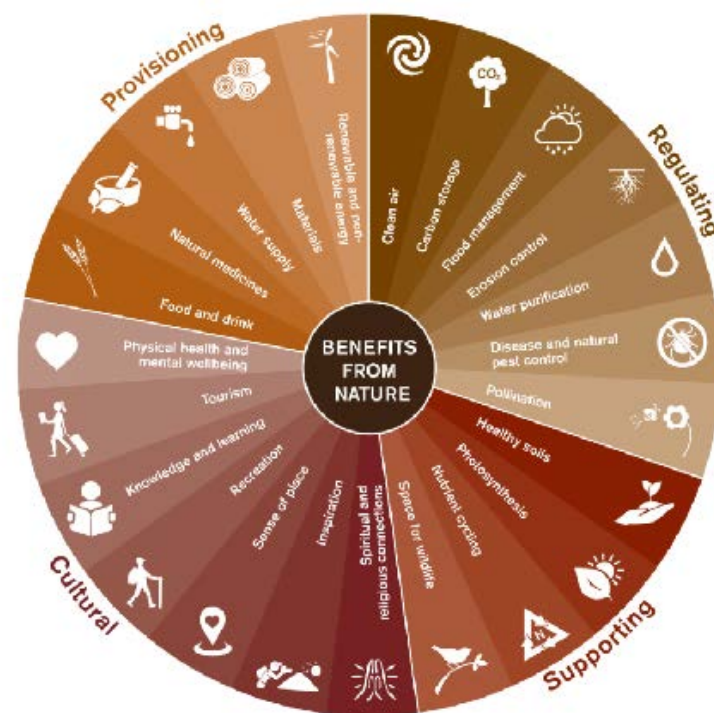


Figure 5: Ecosystem Land Wheel (Nature Scot)

‘Green infrastructure is a capital asset that provides multiple benefits, at a range of scales. For communities, these benefits can include enhanced wellbeing, outdoor recreation and access, enhanced biodiversity and landscapes, food and energy production, urban cooling, and the management of flood risk. These benefits are known as ecosystem services.’

Planning Practice Guidance on the Natural Environment Paragraph 005

5.2 Why GI? The Five Benefit Principles

Natural England’s ‘Why’, or five benefit principles, set out the importance of good quality, well managed GI in helping us to tackle some of the environmental, social and economic challenges we currently are facing.

These are as follows:

- *Nature rich beautiful places*
- *Active and healthy places*
- *Thriving and prosperous places*
- *Improved water management*
- *Resilient and climate positive places*

5.3 Nature rich beautiful places

‘GI supports nature to recover and thrive everywhere, in towns, cities and countryside, conserving and enhancing natural beauty, wildlife and habitats, geology and soils, and our cultural and personal connections with nature’. (Natural England ‘Green Infrastructure Principles’)

The fourth UK State of Nature (SON) Report, published in September 2023, a collaboration of environmental NGOs, academic institutions and government agencies set out the stark loss of biodiversity that the UK has undergone in the last 50 years and the fact that biodiversity is still rapidly declining across the UK. The data shows that since 1970, UK species have declined by about 19% on average, and nearly 1 in 6 species (16.1%) are now threatened with extinction¹.

Habitat loss and fragmentation, changes in the way land is managed (particularly for agriculture) and climate change are having devastating effects on our wildlife. There is a recognition from government and across the environmental sector that action at both broad landscape and local scales is needed. Action is needed beyond isolated protected sites to increase biodiversity through the creation, restoration, enhancement and connectivity of habitats and sites.

¹ State of Nature Partnership (2023) State of Nature. Available at: https://stateofnature.org.uk/wp-content/uploads/2023/09/TP25999-State-of-Nature-main-report_2023_FULL-DOC-v12.pdf Accessed on October 1, 2024.

5.4 Active and Healthy Places

‘Green neighbourhoods, green/ blue spaces and green routes support active lifestyles, community cohesion and nature connections that benefit physical and mental health, wellbeing, and quality of life. GI also helps to mitigate health risks such as urban heat stress, noise pollution, flooding and poor air quality’. (Natural England ‘Green Infrastructure Principles’)

The UK public are experiencing worsening health with rising levels of obesity¹; a stall in life expectancy gains²; growing numbers of people unable to work due to illness³; increasing rates of diabetes⁴, dementia⁵; and mental health issues, including amongst children⁶. This physical and mental health crisis is impacting the UK population unevenly across and within regions⁷.

There is a growing base of evidence and recognition within the health sector that access to GI has a positive impact on health and wellbeing outcomes. GI provides an attractive environment in which to be active as well as providing access to nature (with all the wellbeing benefits that brings), an environment in which to meet other members of the community, as well as mitigating health risks such as urban heat island effect, noise pollution, poor air quality and flooding.

Provision and access to high quality green spaces can vary across socio-economic groups and areas, contributing to unequal health outcomes. Different age groups, ethnic groups, people with disabilities etc. may have differing needs, requirements and preferences when it comes to the design and provision of GI and these should be taken into consideration.

Green and blue spaces can provide a sense of peace and tranquility which can help people cope with the stresses and strains of life.

‘The design of the built and natural environment is absolutely critical for physical and mental health’

Professor Chris Whitty, Chief Medical Officer (CMO) for England.
Health and Social Care Committee. February 2023

5.5 Thriving and prospering places

‘GI helps to create and support prospering communities that benefit everyone and adds value by creating high quality environments which are attractive to businesses and investors, create green jobs, support retail and high streets, and to help support the local economy and regeneration’. (Natural England ‘Green Infrastructure Principles’)

The economy is embedded within the natural world or biosphere and is not independent of it². A healthy natural world, and healthy GI network, is essential for a healthy, sustainable economy, providing all of the ecosystem services outlined on page 9.

Good quality, well managed GI plays an essential role in mitigating climate change and in reducing its costly impacts, through ‘Nature Based Solutions’ such as natural flood alleviation. Urban cooling and planting help to improve air quality.

As outlined above, GI has the potential to provide improvements to health and wellbeing which as well as being intrinsically of value, also help to reduce the cost burden of poor health.

Well designed and managed GI can play an important role as a catalyst to regeneration, creating places people want to live, play and work. It can also support retail by making retail environments more attractive.

Improved links between productive landscapes (farming) and local markets can be of benefit to local farmers, reduce food miles and help people to connect to the local environment.

GI can also provide ‘green jobs’ through its management. There is also evidence that time spent in nature can benefit employees and students’ performance, leading to improved health, motor skills, academic performance and concentration and helping people to deal with stress.



Figure 6: Diagram from Dasgupta Review 2021

² Dasgupta, P. (2021), The Economics of Biodiversity: The Dasgupta Review. Abridged Version. (London:HM Treasury). Available from https://assets.publishing.service.gov.uk/media/6014329ce90e076265e4d9ba/Dasgupta_Review_-_Abridged_Version.pdf Accessed on October 15, 2024.

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5.6 Improved water management

‘GI reduces flood risk, improves water quality and natural filtration, helps maintain the natural water cycle and sustainable drainage at local and catchment scales, reducing pressures on the water environment and infrastructure, bringing amenity, biodiversity, economic and other benefits’. (Natural England ‘Green Infrastructure Principles’)

GI reduces flood risk by reducing run off and providing space for water away from homes, businesses and grey infrastructure. This also helps to reduce amounts of water entering the sewage sytem and potentially being discharged along with sewage into rivers during high rainfall events. Water landing on GI is filtered through vegetation, then into the ground, helping to recharge aquifers and improving water quality. This contributes towards climate change resilience, helping to deal with excess rainfall or drought. Well planned and designed GI should take into account current and future catchment needs.

Blue infrastructure such as lakes, rivers and canals can also serve recreational functions, enhance amenity for people in terms of providing enhancement of open space, calming, tranquil or energising features in the landscape and provide benefit and corridors for wildlife.

Sustainable Drainage Systems or SuDs include water retention features, that if natural, and well designed following the four pillars of SuDs design (such as swales, attenuation basins with all year round standing water and raingardens), can also provide benefit for wildlife and can be attractive, planted features that enhance the public realm for people.

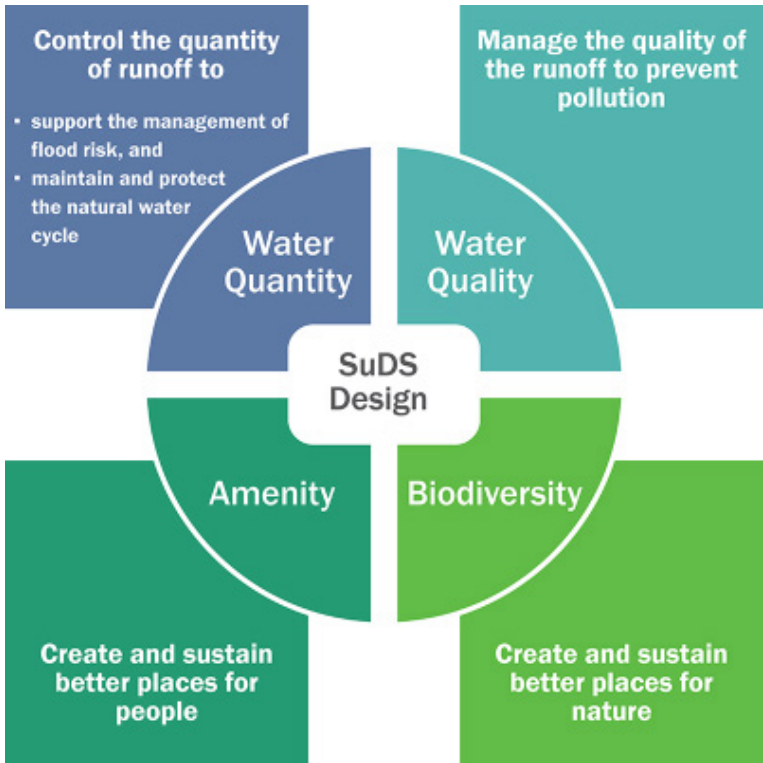


Figure 7: CIRIA (2015) ‘The SuDS Manual’, The Four Pillars of SuDs diagram.

5.7 Resilient and climate positive places

‘GI makes places more resilient and adaptive to climate change and helps to meet zero carbon and air quality targets. GI itself should be designed to adapt to climate change to ensure long term resilience’. (Natural England ‘Green Infrastructure Principles’)

Climate change, resulting from human activity, the burning of fossil fuels and land use change, is a threat to human well being and planetary health. More frequent and intense extreme weather events such as heatwaves and heavy rainfall; the rapid melting of glaciers and ice sheets contributing to sea level rise; huge declines in arctic sea ice; and oceans warming, have severe consequences for human societies and the ecosystems upon which we depend. At 1.1°C warming since pre-industrial levels the world is already facing many of these impacts. With green house gas emissions still rapidly increasing these impacts are set to worsen in the coming decades and centuries. How much they do depends on how rapidly we curb emissions.

CO₂ emissions from fossil fuels and land-use change, World

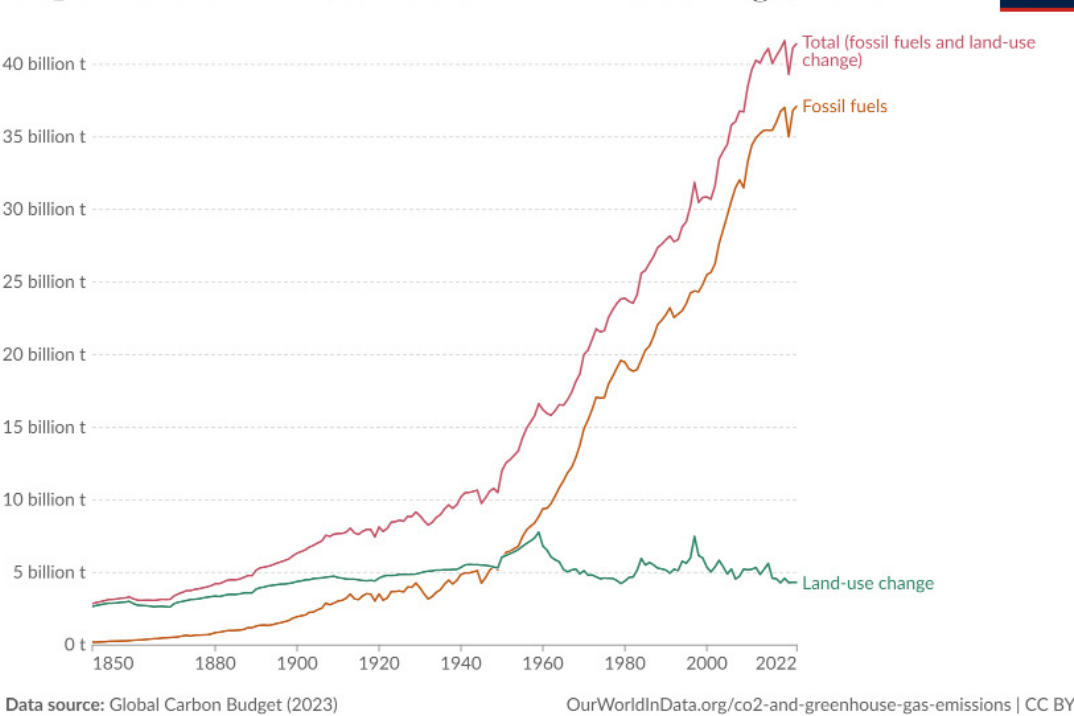


Figure 8: Graph from Our World in Data

Role of Green Infrastructure:
Green infrastructure can play an important role in supporting the net zero agenda and efforts to mitigate climate change, hence can be ‘climate positive’. Well designed and managed GI is also vitally important in helping to increase resilience to the increased global warming that is already ‘baked in’ due to historic and current green house gas emissions, and to help societies and the natural world adapt as much as is possible.

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Mitigation:

Green and blue infrastructure can combine with active travel infrastructure to make routes more attractive and appealing, to provide shade and cooling during hot weather, protection from wind, provide drainage in the form of SuDs features such as raingardens along routes, and act as a filter to air pollution from vehicles.

GI has an important role to play in a low or zero carbon built environment, helping to reduce the energy use of buildings by providing cooling shade, protection from wind, and can reduce amounts of hard surfacing (which has embodied carbon as well as heat reflecting properties). It also has a role in carbon sequestration if well managed for retention of soil carbon and tree planting although this should not be overstated and is not a substitute for curbing emissions.

Well planned for provision of green open spaces close to where people live can reduce the need for people to travel further afield to access these. Where possible strategic GI sites should be easily accessible by public transport or active travel routes to reduce private car use (one of the single largest sources of green house gas emissions in the UK).

GI can accommodate and facilitate renewable energy such as solar or wind. District heat pumps can be incorporated into blue infrastructure such as rivers or lakes or green open spaces such as parks. Bioenergy or biomass, although strictly 'renewable' results in high carbon dioxide emissions.

Adaptation:

As outlined in 3.6 above, GI has a role to play in the management of water. Green and Blue infrastructure is considerably cooler than grey infrastructure and buildings and can help to reduce urban heat island effect and reduce temperatures during heatwaves.

Well connected, biodiverse and large enough GI is essential to support the resilience and adaptation (where possible) of the natural world. Through community involvement with these spaces, outreach and education, people's connection with the natural world can help to foster environmental awareness, essential if they are to care about climate change and take action.

'The magnitude and rate of climate change and associated risks depend strongly on near-term mitigation and adaptation actions, and projected adverse impacts and related losses and damages escalate with every increment of global warming.' (IPCC Sixth Assessment Report AR6)

Photograph: People sitting in shade of trees in the town centre, summer 2024



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6. HOW TO ACHIEVE GOOD GREEN INFRASTRUCTURE

6.1 What makes good green infrastructure?

Natural England's 'What', or five descriptive principles, set out what the elements of good GI should be.

These are as follows:

- *Multifunctional: GI delivers multiple functions and benefits*
- *Varied: GI includes a mix of types and sizes that can provide a range of functions and benefits*
- *Connected: GI connects as a living network for people and nature at all scales, connecting provision of GI with those who need its benefits*
- *Accessible: GI creates green, liveable places where everyone has access to good quality green and blue spaces routes and features*
- *GI should respond to an area's character*

Multifunctional: GI delivers multiple functions and benefits

'GI should deliver a range of functions and benefits for people, nature and places, address specific issues and to meet their needs. Multifunctionality (delivering multiple functions from the same area of GI) is especially important in areas where provision is poor quality or scarce.'

Good GI should usually aim to perform multiple functions. Although in some cases it may have an overriding primary function (such as conservation of a particular species). Multi-functional GI can assist in responding to the multiple challenges we face in a joined up way.

Varied: GI includes a mix of types and sizes that can provide a range of functions and benefits to address specific issues and needs

'GI should comprise a variety of types and sizes of green and blue spaces, green routes, and environmental features (as part of a network) that can provide a range of different functions, benefits and solutions to address specific issues and needs.'

Different typologies of GI, green open space, civic spaces with planting and trees, formal parks, Country Parks, natural and semi-natural green spaces, allotments and orchards, play areas with natural play and planting, etc., and varying sizes of GI, provide for a wide range of needs. It is important that an area and population has access to the full range of GI.

Although large strategic GI networks are important for biodiversity, smaller scale GI, threading through the urban realm with street trees, green walls, planters with pollinator friendly planting for example, forms a finer GI network that benefits both nature and people, bringing nature closer to where people live and allowing more frequent, everyday contact.

Connected: GI connects as a living network for people and nature at all scales, connecting provision of GI with those who need its benefits.

'GI should function and connect as a living network for people and nature at all scales (e.g., within sites; and across regions/ at national scale). It should enhance ecological networks and support ecosystem services, connecting provision of GI with those who need its benefits.'

Approaching design, implementation and management of GI as an integrated network helps to maximise its utility and benefits, ensuring that GI assets connect across wide areas from urban through to the countryside and enabling the movement of people and wildlife. For humans connectivity will mean corridors where sites are next to each other or connected by green routes for active travel. For wildlife this may be less necessary, where sites can be separate on the ground but near enough together to create 'stepping stones' of habitats.

Accessible: GI creates green, liveable places where everyone has access to good quality green and blue spaces, routes and features

'GI should create and maintain green liveable places that enable people to experience and connect with nature, and that offer everyone, wherever they live, access to good quality parks, green spaces, recreational, walking and cycling routes that are inclusive, safe, welcoming, well managed and accessible for all.'

When, how and how often people use GI for exercise, relaxation and play depends on how close to home it is (see Accessible Greenspace plans on page...). The provision of seating, dropped kerbs, accessible paths, equipment or features for all ages, a variety of different spaces can make them suitable for the widest range of users. Green active travel routes should also be designed with accessibility in mind such as entrances that allow all bikes, including accessible or cargo bikes to go through, the provision of benches on route to allow people to rest and routes that are overlooked, where appropriate well lit and safe for all users.

GI should respond to an area's character

'GI should respond to an area's character so that it contributes to the conservation, enhancement and/or restoration of landscapes; or, in degraded areas, creates new high quality landscapes to which local people feel connected.'

GI gives an area a 'sense of place'. It should be sensitive to 'landscape character', the natural, cultural and aesthetic aspects of landscape and what makes them distinctive.

6.2 How to achieve good green infrastructure

Partnership and vision: Partnership working, collaboration and stakeholder engagement; create a vision for GI.

‘Work in partnership, and collaborate with stakeholders from the outset to co-plan, develop and deliver a vision for GI in the area. Engage a diverse and inclusive range of people and organisations including citizens, local authorities, developers, landowners, communities, green space managers, environmental, health, climate, transport and business representatives.’

To achieve high quality GI, providing multi-functional benefits, there is strong evidence that engaging end users and the wide range of stakeholders in its planning, design and management results in the best outcomes. Partnership working and collaboration can also help make the most of limited resources. Engagement with the local community can help ensure GI meets the needs of the widest range of people including less well represented groups.

Evidence: Use evidence, sound science and good land use practices to underpin plans, projects, programmes and policies.

‘Use scientific evidence, and good land use practices when planning and enhancing green and blue infrastructure. Understand the evidence for the benefits of current GI assets; and data on environmental, social and economic challenges and needs in the area’.

GI planning should be based on quantitative and qualitative evidence of GI assets from a range of sources. A GI and Open Space Audit will be feeding into this strategy. Data and evidence regarding biodiversity, heritage, landscape character, population and IMD, and other layers of information has been gathered for the borough and is included in the appendices.

Plan GI strategically to secure GI as a key asset in policies to create and maintain sustainable places.

‘Plan strategically and secure GI as a key asset in local strategy and policy, at all scales. Fully integrate and mainstream GI into environmental, social, health and economic policy. Create and maintain sustainable places for current and future populations and address inequalities in GI provision.’

The multi-functional and overarching nature of GI means that GI strategy and policy should be integrated into other policies and strategies. These include the LNRS; climate change adaptation and mitigation strategies, including flood risk/ water management and overheating strategies; public health policies aimed to address health inequalities; economic regeneration policy, especially where poor quality environments are restricting investment; infrastructure delivery plans and strategies such as transport and travel strategies.



The Lawns, Old Town, Swindon

Design GI to create beautiful, well-designed places.

‘Understand an area’s landscape/ townscape, natural, historic, and cultural character, to create well-designed, beautiful and distinctive places.’

Well planned, designed and maintained GI is key to achieving good placemaking. GI should be planned from the beginning, not fitted as an afterthought to the design of other infrastructure and buildings. This should respond to and be based on a full understanding of the location, its setting, character and sense of place, nearby, connecting GI and the needs of the local community.

GI should be designed on a variety of scales, and should be threaded through development, providing multi-functional benefits and enhancing a sense of place. The design of GI should also be low carbon, considering the impacts of materials such as concrete, using local materials where possible.

Managed, valued, monitored and evaluated. Establish good governance, funding, management, monitoring, and evaluation of GI.

‘Plan good governance, funding, management, monitoring, and evaluation of green infrastructure as a key asset from the outset and secure it for the long-term. Make the business case for GI. Engage communities in stewardship where appropriate. Celebrate success and raise awareness of GI benefits.’

Good GI requires good governance and input in terms of investment, clear responsibilities and input from the right people and organisations, appropriate to the scale of the GI. This will often require collaboration and should ensure that GI assets are managed fairly for the benefit of the local community, or in the case of local or regional assets, for the benefit of the widest range of people in the borough. Governing bodies should include relevant stakeholders and representatives of local communities and users. Designations such as Local Greenspace Designations, Local Wildlife Sites, and Local Nature Reserves can give additional longer term protection for GI assets.

Long term management of GI is often overlooked but is absolutely paramount to the success and multi-functionality of high quality GI. For new GI creation, this should be considered from inception.

A natural capital approach to GI (attaching a financial value to the ecosystem services they offer) can help to ensure assets are appreciated and valued for the benefits they give and are not taken for granted or allowed to decline.

Funding can come from a variety of sources, having the correct governance in place can ensure opportunities are maximised. These can include charitable grants (which take time to apply for and require acceptable governance to be in place), planning obligations, Community Infrastructure Levy (CIL), endowments, service charges (such as for parking), cafes and other businesses on site, and Biodiversity Net Gain (BNG).



Bridleway approach to Barbury Castle, Country Park (along The Ridgeway National Trail)

7. POLICY CONTEXT

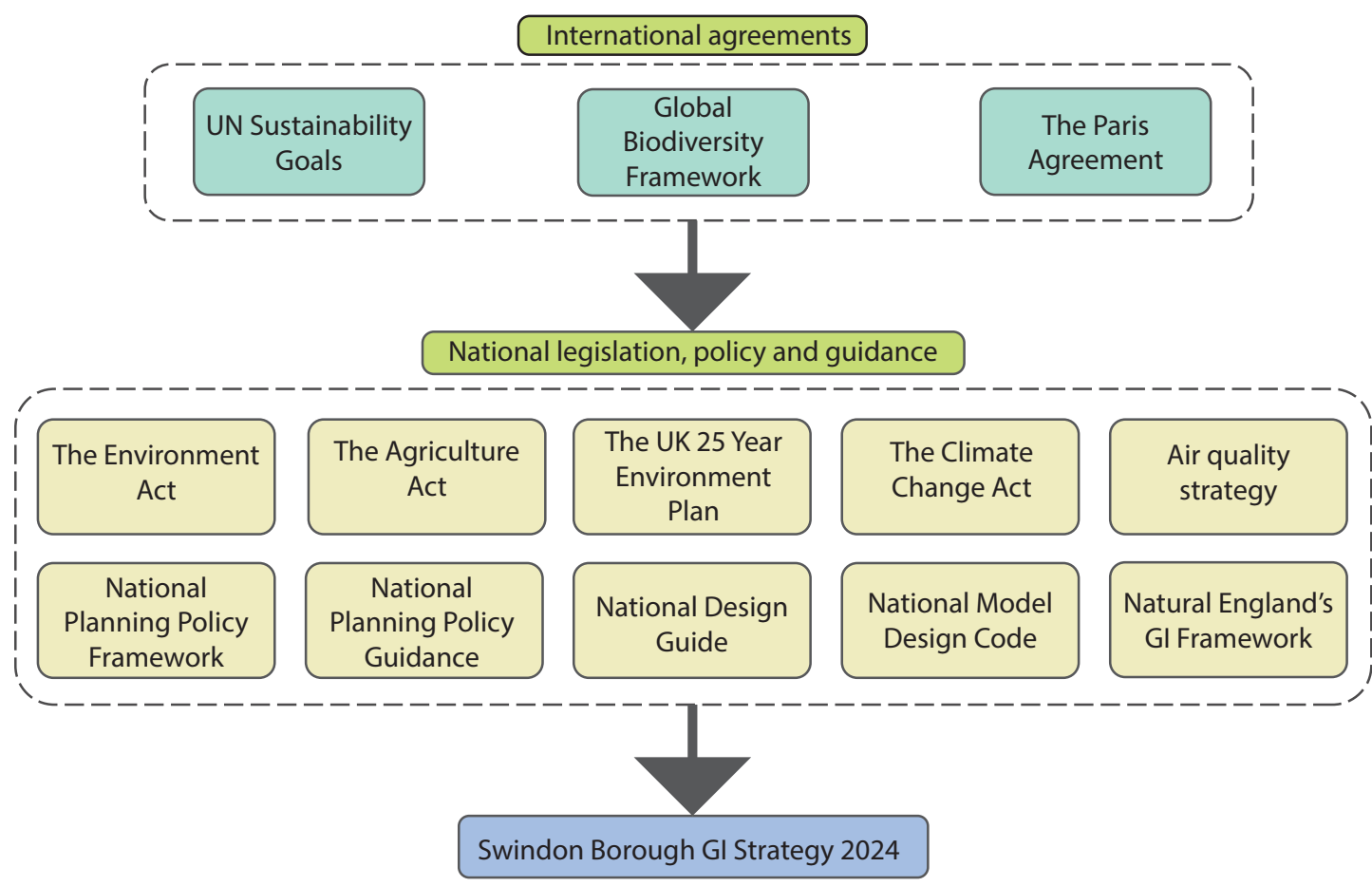


Figure 9: International and National Policy Context

‘Nature is what sustains us all. It gives us food, medicine, raw materials, oxygen, climate regulation and so much more. If we do not value nature and account for it in decision making, it will continue to be lost and that can only be bad news for humanity’. (Inger Anderson, executive director of the UN Environment Programme).

7.1 International Context

United Nations Sustainable Development Goals
Sustainable development has been defined as ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’ (ref***), balancing economic, social and environmental aspects. The ‘2030 Agenda for Sustainable Development’, adopted by all United Nations Member States in 2015, provides a blueprint for international cooperation towards a sustainable future for the planet. At its heart are the 17 Sustainable Development Goals (SDGs). The protection and provision of good GI is a key element of sustainable development, with the potential to provide environmental, social and economic benefits, and has a role to play in progressing many of the SDGs. The SDGs filter down into national policy and legislation, underpinning national planning policy, referenced within the National Planning Policy Framework and Guidance, The Environment Act, Climate Change Act (2008) and the UK government’s 25 Year Environment Plan.

International Climate Change and Biodiversity Law
International climate change law consists primarily of the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol and the Paris Agreement all of which the UK are signatories to.

The Convention on Biological Diversity is the international legal instrument for ‘the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources’ that has been ratified by 196 nations. The latest ‘Conference of the Parties’ or COP to the convention, held in 2022 in Montreal, Canada, resulted in the international agreement to protect 30% of land and oceans by 2030 and the adoption of the Kunming-Montreal Global Biodiversity Framework.

These agreements form the international context for UK policies and legislation on the environment and sustainable development.



Figure 10: UN Sustainable Development Goals

7.2 National Policy and Legislative Context

7.2.1 The Environment Act 2021

The Environment Act sets binding targets for the recovery of the natural world in England, for air quality, biodiversity, water and waste and sets a new target to reverse the decline in species abundance by the end of 2030. New tools are enshrined within the act including biodiversity net gain and Local Nature Recovery Strategies. It sets out a legal framework within which the aims of the Environmental Improvement Plan can be brought into reality.

7.2.2 The Climate Change Act 2008

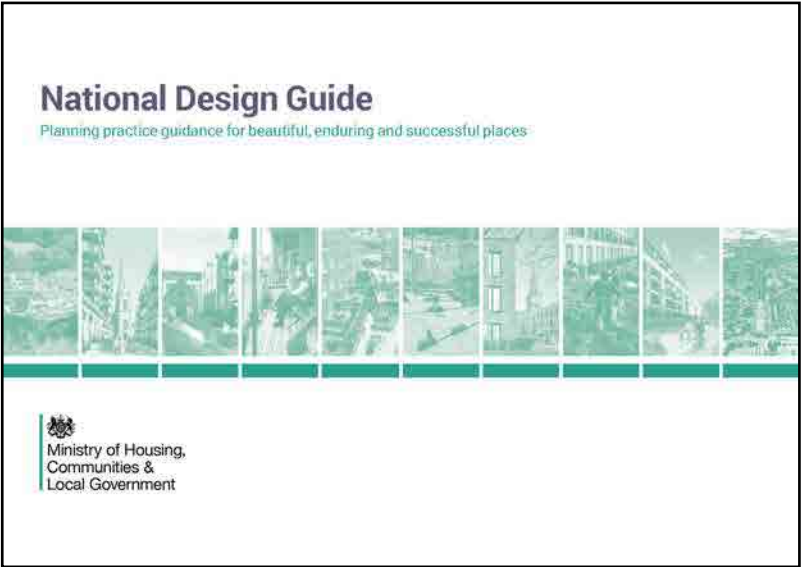
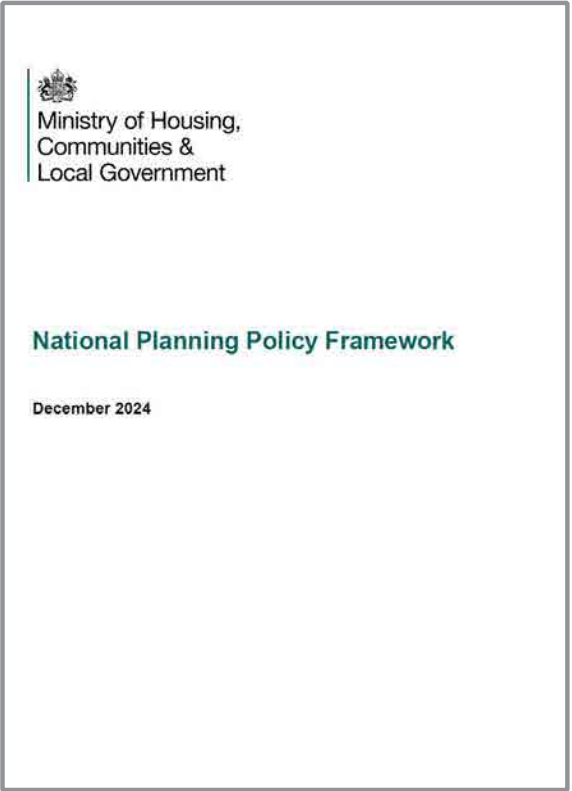
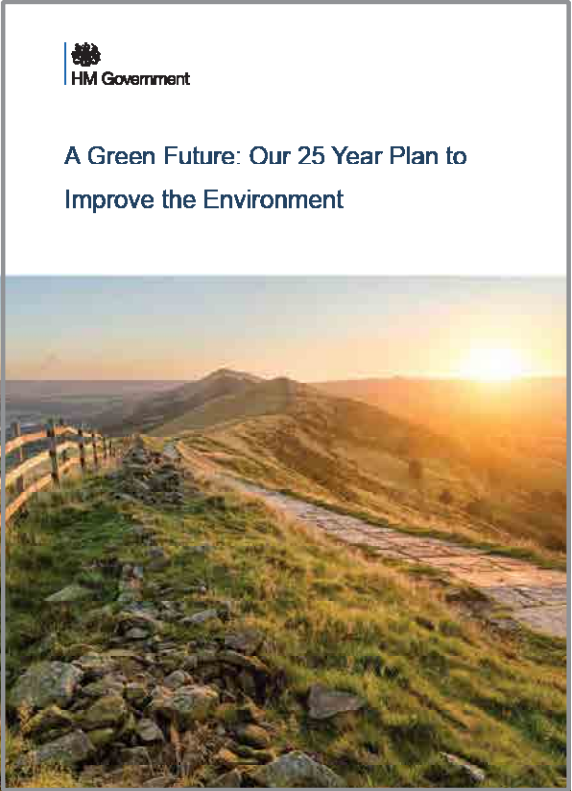
The Climate Change Act was passed in the UK in November 2008. It sets out emission reduction targets that the UK must legally comply with. The Act committed the UK to reducing its greenhouse gas emissions by 80% by 2050 compared to 1990 levels. This target was made more ambitious in 2019 when the UK became the first major economy to commit to a ‘net zero’ target, requiring the UK to bring all greenhouse gas emissions to net zero by 2050. The Act provides a system of carbon budgeting and established the Climate Change Committee (CCC), an independent body to provide evidence based advice to the UK Government and Parliament on the mandatory carbon budgets. The Act also includes a requirement for the Government to develop a National Adaptation Programme (NAP) to manage the effects of existing climate change. The NAP includes many areas within which green infrastructure plays a key role such as the built environment, infrastructure, healthy and resilient communities, agriculture and forestry, business and local government.

7.2.3 ‘A Green Future: Our 25 Year Plan to Improve the Environment’

This sets out government plans to improve the UK’s air and water quality and protect threatened plants, trees and wildlife species, restoring nature. It includes commitments to design and deliver a new environmental land management system (for agriculture); support larger scale woodland creation; expand the use of natural flood management systems; publish a Strategy for Nature; and develop a Nature Recovery Network to protect and restore wildlife. It aims to help connect people with the environment to improve health and wellbeing by considering how environmental therapies could be delivered through mental health services; helping primary schools create nature friendly groups; greening towns and cities; planting more trees in and around our towns and cities; helping children and young people from all backgrounds to engage with nature and improve the environment. The plan includes a commitment to producing stronger new standards for green infrastructure, supported through Natural England’s Green Infrastructure Framework.

7.2.4 National Planning Policy Framework and Guidance

The requirement for Local Planning Authorities to set out strategic policies including landscapes and green infrastructure is set out in the National Planning Policy Framework (NPPF). It also outlines that planning policies and decisions should aim to achieve healthy, inclusive and safe places including through the provision of safe and accessible green infrastructure. It also sets out the requirement for new development to be planned to avoid increased vulnerability to climate change, including through the planning of green infrastructure. Plans should also take a strategic approach to ‘maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.’



7.2.5 National Design Guide and National Model Design Code

Although guidance rather than policy, The National Design Guide provides design guidance to local planning authorities and developers including guidance around the good design of green infrastructure and its incorporation within well designed places. The National Model Design Code provides guidance for local authorities and communities to outline what good quality design looks like in their area, including how landscape, green infrastructure and biodiversity should be approached including the importance of streets being tree-lined.

7.2.6 Air quality strategy

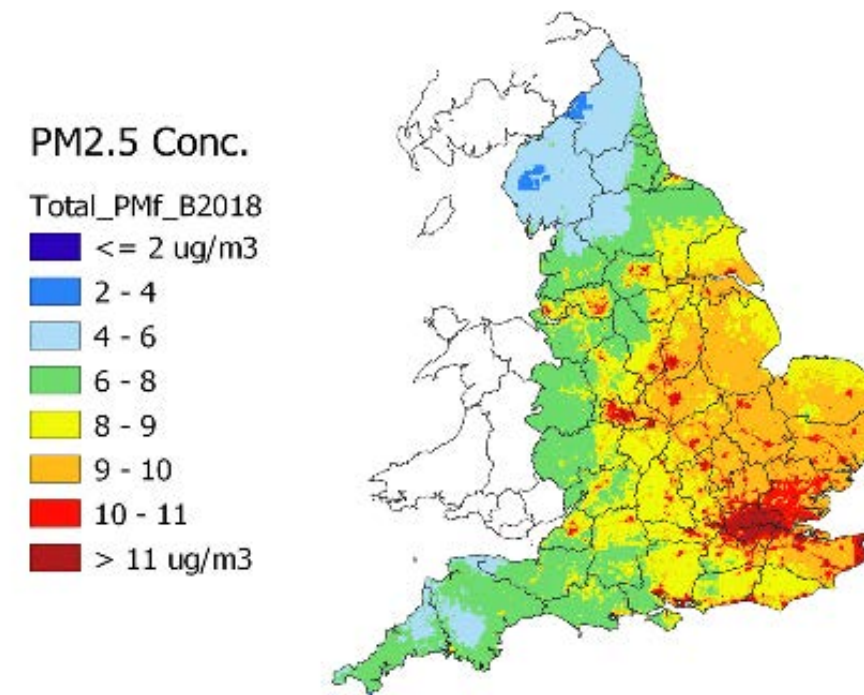
Although air quality has improved in England over recent decades, it continues to be the biggest environmental risk to public health, with children, the elderly and vulnerable most effected. Poor air quality also impacts crop yields and, particularly in the case of ammonia and oxides of nitrogen (NO_x), it has significant impacts on biodiversity, by depositing reactive nitrogen into plants and soil. The 3 pollutants that have the majority of impact are fine particulate matter, nitrogen oxides and ammonia. National air quality regulations consist of the Air Quality Standards Regulations 2010 and 2 new legally binding long term targets to reduce concentrations of fine particulate matter, PM_{2.5}, under The Environment Act 2021. There are also legally binding emission reduction targets under the National Emission Ceilings Regulations 2018 arising from membership of the international Convention on Long-Range Transboundary Air Pollution.

The Local Air Quality Management Framework, underpinned by the Environment Act 1995, sets out local limits put into place through the Air Quality (England) Regulations 2000 (amended 2002). The framework requires local authorities to assess the quality of their air and, if it does not comply with relevant concentration limits to put in place a plan to address the problem.

All English local authorities must have regard to the air quality strategy when exercising functions of a public nature that could affect the quality of air.

GI can help to address poor air quality, particularly through its role in enhancing active travel and reducing urban summer temperatures (which can exacerbate poor air quality) by cooling the air. Well designed GI, with the right trees, hedges and other planting in the right places, can also help to filter some air pollution, including particulates. In some circumstances trees and other planting can exacerbate poor air quality, through reducing air flow and trapping pollution and through the emission of biogenic volatile organic compounds (BVOCs) by vegetation which when combined with nitrogen oxides (for example from vehicle emissions), produces ozone, a pollutant⁸.

Figure 11: Map of modelled PM_{2.5} concentrations across England in 2018, the base year for the PM_{2.5} targets (produced by Imperial College, London)



8. SWINDON CONTEXT

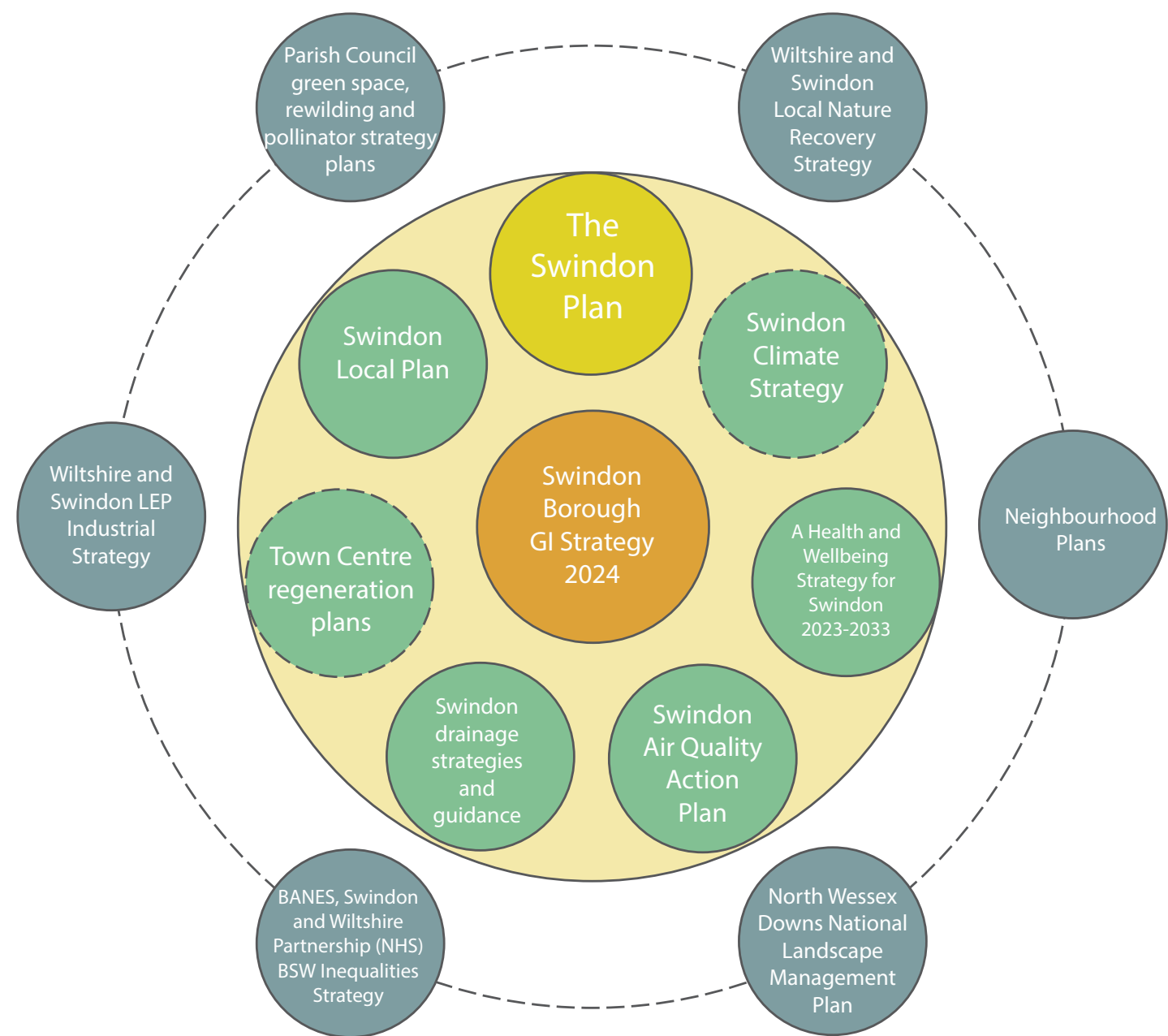


Figure 12: Swindon GI Strategy in relation to other relevant strategies, policies and guidance

8.1 Swindon Policy Context

8.1.1 The Swindon Plan 2024

The Swindon Plan was approved at meetings of Cabinet and Full Council in July 2024. It sets out three priority missions for the next decade to build a ‘fairer’, ‘better’ and ‘greener’ Swindon:

- **Build a Fairer Swindon:**
‘Making Swindon a fairer place, reducing disadvantages and reducing big disparities in life expectancy, education levels and social justice’.
- **Build a Better Swindon:**
‘Creating a town ready for the challenges of the coming decades. Where possible, leading town centre improvement and creating more affordable housing with the private sector.’
- **Build a Greener Swindon:**
‘Fully playing our part as a council and a town in combatting climate change. Working with communities to find new ways of doing things that help, not hinder, the natural environment.’

As has already been outlined in this document in Sections 3, 4 and 5 of this document that set out the ‘why’, ‘what’ and ‘how’ of good GI, good GI has the potential to provide multiple benefits for people and nature. Good GI is an essential component of happy, healthy, climate change resilient and prosperous places, and can play a key role in helping to deliver the three missions set out in the Swindon Plan.

Good GI should be designed and managed in line with the 5 ‘How’ principles outlined in section ...of the document (planned strategically based on evidence and through partnership working, well-designed and well managed) and have the qualities outlined in the 5 ‘what’ principles outlined in section ...(multi-functional, varied, connected, accessible and responds to local character)...

The importance of GI and the benefits it provides is widely recognised by people and was reflected in the results of the 2023 Annual Resident Survey in Swindon in which a majority of respondents counted parks and open spaces and one of the three most important things to their household.

Existing GI (green spaces, green corridors, rivers, lakes, ponds, trees and planting) should be protected and enhanced to ensure it is providing as many benefits as possible. Where possible new GI should be created, in areas where a deficit is found and particularly where this is made possible in areas of new development and regeneration such as the town centre.

What follows is a fuller explanation of how GI can be utilised to build a fairer, better and greener Swindon.

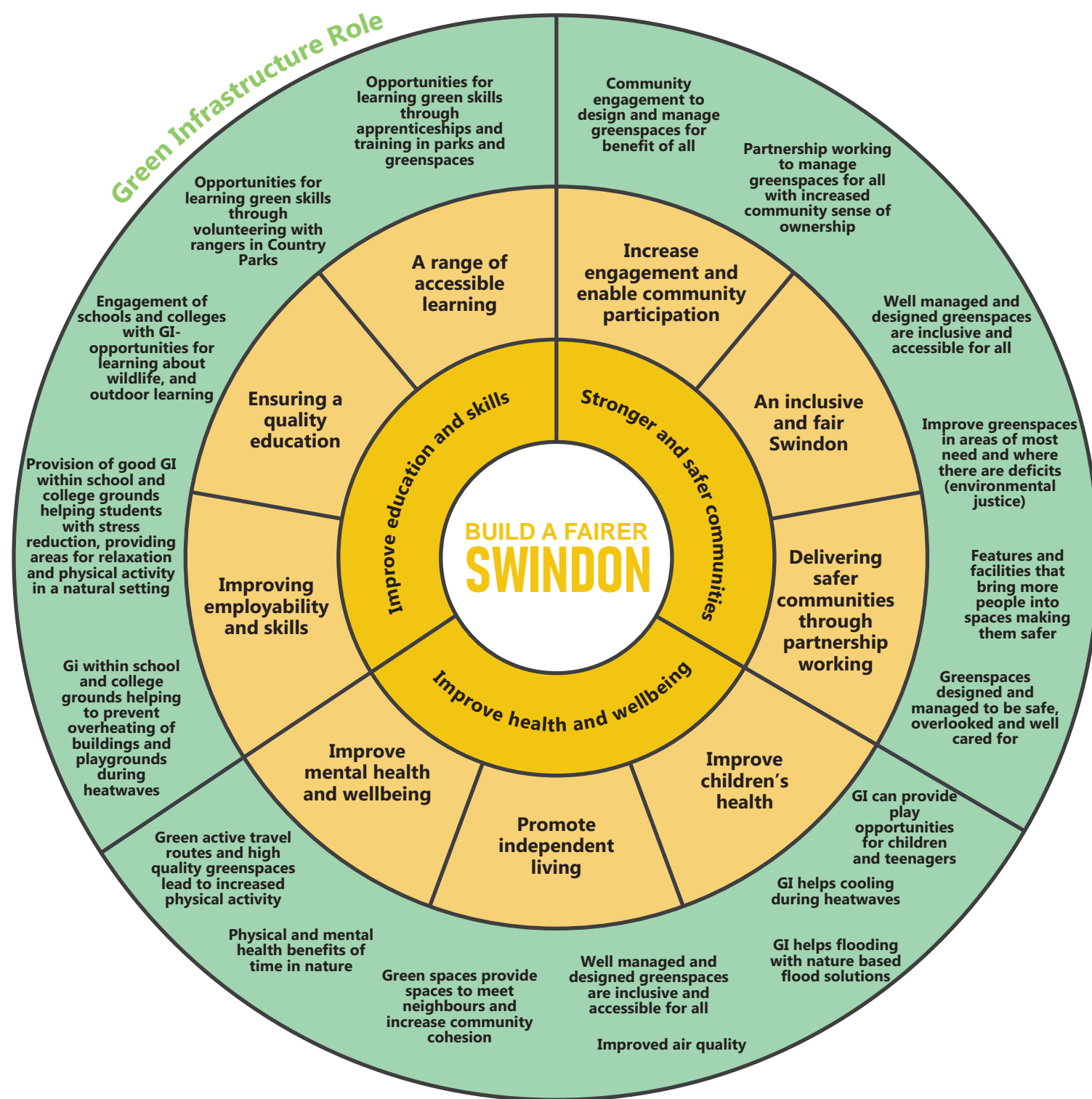


Figure 13: GI overlay of 'Build a Fairer Swindon' diagram

Build a Fairer Swindon

Stronger and Safer Communities

'An inclusive and fair Swindon'

The maps in section 9. 1.10 shows mapping of Indices of Multiple Deprivation and access to greenspace, highlighting where there are areas most in need of an uplift in greenspace, where there are high levels of IMD and low levels of access to high quality greenspace. Access to high quality greenspace and other GI assets that can enhance areas such as street trees is not equal across the borough.

Priority should be given to funding those areas with high levels of IMD, low levels of access to high quality greenspace and low 'tree equity scores'. GI should be improved in terms of quality to make it more multi-functional and to fulfil the needs of everyone in the community. Improved GI in these areas could help to provide greater resilience to the impacts of climate change (heating and flooding) and provide communities with fairer access to green space for relaxation, play and activity and access to local food growing. Green spaces should be enhanced to make them as inclusive and accessible as possible, to all members of the community.

The updated GI/ Open Space audit will include an assessment of quantity, access and quality of GI and open space across the borough. See 9.3.10 on open space.

'Increase engagement and enable community participation'

Green spaces, are an excellent issue on which to engage local people. As was demonstrated by the 2023 Annual Residents Survey, people care about their parks and open spaces. Engagement of local people in the design of improvements to green spaces gives people a say in something that matters to them; helps to bring the community together and can lead to the best results that are inclusive of the needs of the whole community.

Community engagement can help to give people a sense of ownership of their local green spaces and can lead to the support and involvement of the community in further improvements, fundraising or help with management through interested community groups such as a 'friends of' group, as there is at Lydiard Park. Volunteers work alongside the Ranger team in many of the Country Parks (see photographs on next page).

'Delivering safer communities through partnership working'

As green spaces become better equipped, used and cared for, this also helps to make them safer. Green spaces should be designed with safety and perceptions of safety in mind, for example ensuring they can be overlooked by passers by, passing police and local houses, and include lighting where necessary. This is also an issue of inclusivity as certain parts of the community will feel more unsafe in certain environments than others.

Improve health and wellbeing

'Improve mental health and wellbeing'

The benefits to mental health of accessible, good green infrastructure are well understood, as was touched on previously in the document, and research to more fully understand this is ongoing.

Good GI, particularly green spaces (both more formal and natural and semi-natural) can support good mental health and wellbeing in multiple ways. They present the opportunity for increased physical activity, time



Volunteers working with the Ranger team in Stanton Country Park

outside in the sun and fresh air, the chance to be around other people in the community and for casual friendly interactions. Benefits to mental health and wellbeing are also gained by contact with the natural world and there is some evidence that these are increased within spaces that are more biodiverse. There is also the chance that natural and semi-natural spaces can promote feelings of anxiety and lack of safety if they are poorly planned, designed or not very well maintained. The benefits of time in green spaces is amplified where there are also opportunities for community and group activities such as large informal sports games, organised group walks that are open to all or opportunities to volunteer in nature conservation activities as are provided by the Country Park rangers and Wiltshire Wildlife Trust.

‘Promote independent living’

Good GI that is inclusive and accessible, with accessible paths and frequent well-designed seating, for example, provides opportunities for people to be more physically active and stay healthier for longer, whatever their age or physical ability.

‘Improve children’s health’

Wherever possible, GI should be designed with our most vulnerable members of society in mind, including



Volunteers working with the Ranger team in Stanton Country Park

children. The developmental and health benefits of play for children is well understood and is a fundamental need in childhood. There is nothing better for children than playing outside, and it is essential for healthy physical and mental development. Swindon currently has higher than the national average rates of obesity in childhood (see section 5.2.2). There is evidence that access to good quality outdoor play that is openly accessible and free, close to where children live, has an impact on rates of obesity. Good play area provision can combined with good active travel routes that are safe enough for children to use and made more pleasant by good GI. If residents can safely cycle or walk to a play area or there are active travel links between schools and play areas, there are increased opportunities to have fun and be active. Play area provision within the borough should follow the open space and play area standards that will be set out in the local plan.

Other health and wellbeing benefits of GI within the borough

As well as the benefits set out above, as has been previously covered, GI can provide other health and wellbeing benefits, through opportunities to grow local healthy food (allotments, community gardens, community orchards); encouraging community cohesion; reducing and helping to mitigate the impacts of air pollution, particularly when coupled with active travel routes; and providing resilience to overheating and flooding as the impacts of climate change increase.



Other health and wellbeing benefits of GI include growing local food. Photo is of allotments in Westcott

Improve education and skills

Opportunities for training and apprenticeships within the green sector

GI needs to be planned, designed, managed and maintained. There are opportunities within the green sector, within which there is currently a shortage of trained professionals. Jobs within the landscape industry, or horticulture, for example, require high levels of knowledge and skill and can be rewarding and sometimes well paid. Some of the parish councils, who lease and maintain many of the parks and green spaces within Swindon for example, provide apprenticeships to young people within the borough to learn these trades. Opportunities for volunteering with the Country Park rangers and Wiltshire Wildlife Trust within parks and open spaces in the borough and the Country Parks can help residents to learn and develop new skills which could develop into a career path.

Good GI within schools and colleges

The provision of well designed and managed GI within schools and colleges within the borough can provide benefits that have been shown to support children and young people's learning. It can enhance the learning environment, provide opportunities for learning outside and provide a good environment within which the children can be active and relaxed during break times, helping them to better concentrate in classes. Provision of a good network of hedges, trees, grass areas, wildlife areas and play equipment can provide shade within hot periods of the year, helping to ensure the school and playground do not become too hot during heatwaves. Planting is a relatively low cost aspect of building new schools that should be invested in from the beginning. The Department for Education has a 'National Education Nature Park' initiative, encouraging schools to create nature-rich, park-like spaces in their grounds.

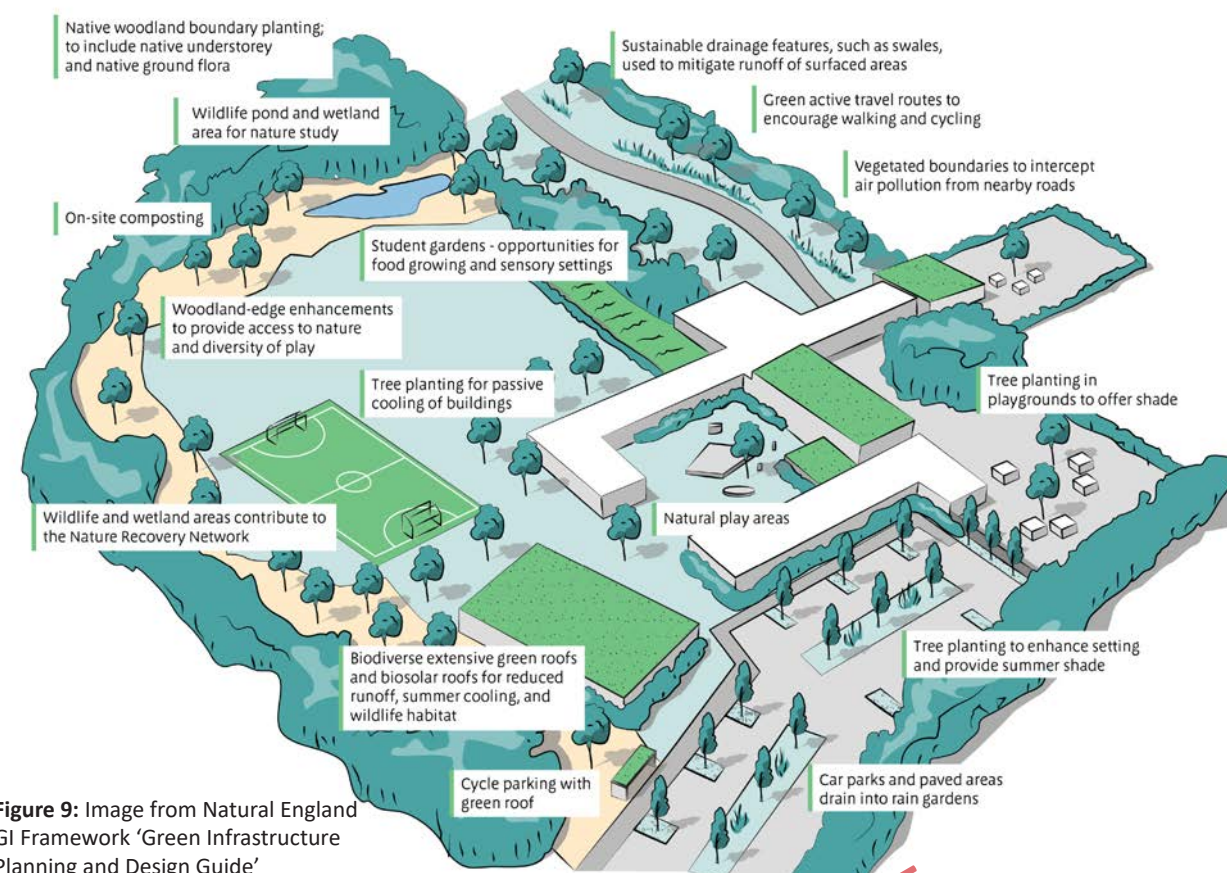


Figure 9: Image from Natural England GI Framework 'Green Infrastructure Planning and Design Guide'

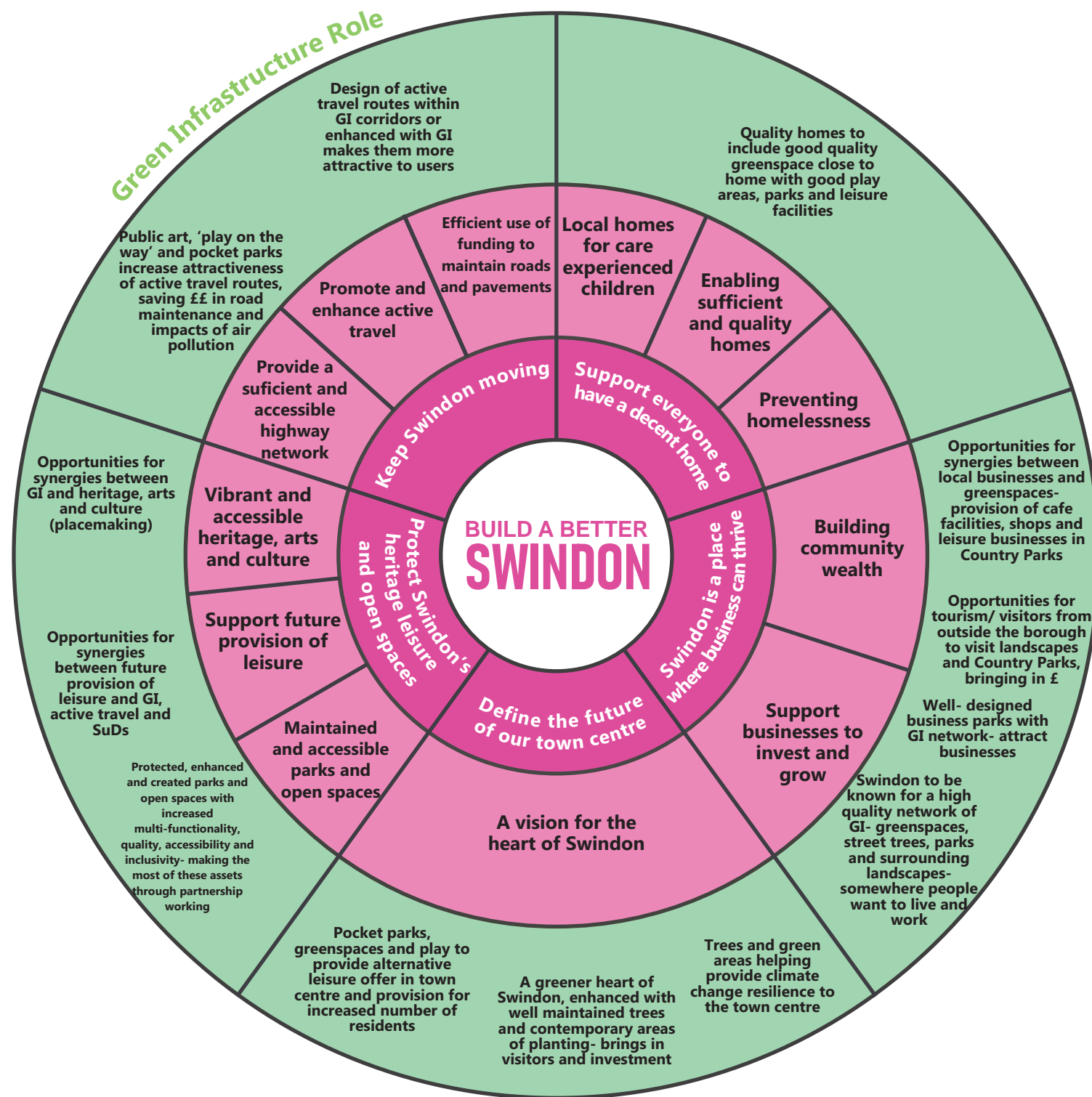


Figure 14: GI overlay of 'Build a Better Swindon' diagram

Build a Better Swindon

Support everyone to have a decent home

A well planned and designed network of GI (open spaces, play provision, green active travel routes, street trees, sustainable drainage etc.) is an essential part of a successful built environment that supports people's health and wellbeing, nature and is a good place to live. The Local Plan, in line with national legislation and guidance, will provide policies and standards that ensure development and regeneration is delivered with good GI.

Swindon is a place where business can thrive

'Building community wealth'

Green spaces that are protected, enhanced, and where possible newly created, when well managed and designed, provide leisure facilities and attractions that Swindon residents will want to spend time in. This also has the potential to ensure people spend money in nearby pubs, restaurants and cafes, or facilities that are provided within the parks and green spaces, retaining more of residents' spending within the borough and raising funds that can be re-spent within the parks. If the Country Parks are allowed to become too run down, residents will be attracted to travel further afield to the Cotswold Water Park, Cirencester Park, Buscot etc. which also has implications for traffic pollution. There is also a case to be made for a Country Park manager who can organise the business use of facilities within the Country Parks, and apply for external grants such as Heritage Lottery Fund (whilst being able to demonstrate there is proper governance in place).

The Country Parks, such as Stanton, could host a full time cafe, and possibly a leisure cycling hub with cycle hire. Coate Water could see the refurbishment of the crazy golf that could be a popular income generator, similar to crazy golf within Victoria Park in Bath, for example.

'Support businesses to invest and grow'

Businesses want to invest where they know they can easily recruit and retain staff and the quality of the built environment including GI plays an important role in making somewhere an attractive place to live and work. Swindon is known for the beauty of its surrounding landscapes and it has been said in the past that good GI is its 'USP'. However, the GI network varies in quality and much of it is not designed and managed to provide all the functions and benefits that it possibly could.

A high quality landscape/ GI setting for business parks, retail parks and centres and even industrial parks, makes them much more pleasant to work in and helps to provide a positive image that encourages investment.

Define the future of our town

'A vision for the heart of Swindon'

As is set out in the Swindon Plan, the town centre in Swindon has been impacted by wider trends as consumers spend more of their money online, also reflected in the development of large warehouses such as the Amazon warehouse at Symmetry Park. It has also been impacted by the development of out of town retail complexes like Greenbridge Retail Park and anchor businesses such as Marks and Spencers have closed main stores and opened smaller ones in car dependent retail parks around the town that draw more visitors and higher levels of spending. Town and city centres across the country are being impacted by the same trends, and are seeking to improve the experience for visitors and shoppers by improving the external environment/ public realm and diversifying the offer to include leisure uses such as contemporary parks and play areas.

There are also plans to increase the number of residents within the town centre which will also lead to an increase in the need for green space and play provision. A wider range of people can be drawn into the town centre, enlivening it and making it safer, including families and young people, and can be provided with green spaces that include pocket parks, play provision for a range of ages, that is well designed to integrate into a contemporary public realm and trees and planting that make areas more pleasant to be in, increasing dwell time and also making the town centre more resilient to climate change (heating and flooding).

GI, the provision of green space, planting and trees is an important aspect of a successful public realm. To achieve high quality, this needs to be well planned, designed and maintained. Investment in the maintenance of the public realm is essential if people are going to want to spend time there. There are a variety of tried and tested ways to fund and organise horticultural maintenance within a town centre, but this issue needs to be urgently tackled. If a regenerated town centre is not suitably maintained in the future, it will continue to decline. Spend on maintenance is money well spent and one of the most important aspects to focus on and enable investment in.

See PAGE 52 for GI Concept Plan for the Central Area.

Protect Swindon's heritage, leisure and open spaces

'Maintained and accessible parks and open spaces'

An updated GI and Open Space Audit will be undertaken as part of the Local Plan process. Within this we will assess and map Swindon's open spaces and survey them for quantity (against national and local standards for amount of open space per 1000 of the population in each ward), access (against Natural England's Accessible Greenspace Standards which sets out different size open spaces that people should have close to where they live) and quality. This will also look at play provision, how this is distributed throughout the borough, how accessible (close to where people live) it is and what its quality is.

Although SBC retains ownership of all the parks and open spaces of the borough, it only now manages the Country Parks (Lydiard, Stanton, Coate and Moulden Hill). There are plans to develop masterplans and management plans for each of these. A Country Parks manager would be able to apply for external grants and coordinate facilities and businesses within the parks.

There are many opportunities for parks and open spaces to be enhanced for people and wildlife and to provide greater multi-functionality. As was mentioned previously, public engagement is vital to hear the views of all parts of the community and ensure that these green spaces are accessible and inclusive, working well for everyone.

Support future provision of leisure

Future provision of leisure should be planned and designed within a good landscape framework (for climate resilience, and all the other benefits of GI that have already been outlined). There are opportunities to create synergies, through providing multiple facilities on a site, and active travel routes linking in between leisure sites and where people live, work or go to school and college. For example, the Oasis site included halls, outdoor courts, BMX track and skate park. Inclusion of play areas at leisure sites, and play pitches is beneficial where people are likely to be there with other family members. Provision of varied leisure facilities is also an issue of inclusion, as not everyone plays team ball sports, and can encourage more members of the community to be active.

'Vibrant and accessible heritage, arts and culture'

There are opportunities for synergies between heritage, arts and culture and GI. This is good placemaking. Where appropriate and in line with Conservation Area plans and other designations and historic environment guidelines, GI can play an important role in regeneration and enhancement of the historic environment in making it livable and pleasant for people now. The historic environment provides interest, unique character and sense of place. Historic England provides advice and guidance on understanding places and the historic landscape. The design of GI should also draw on the expertise of conservation and heritage professionals.

'This could include, where appropriate, the delivery of development that will make a positive contribution to, or better reveal the significance of, the heritage asset, or reflect and enhance local character and distinctiveness with particular regard given to the prevailing styles of design and use of materials in a local area' (Historic Environment PPG, updated 2019).

Keep Swindon moving

Active travel routes can be combined with existing or retrofitted with GI (see image below from a scheme in Bristol) to enhance the safety of these routes and experience for users, thus encouraging more cycling and walking. The inclusion of public art, 'play on the way' play features to make the routes child friendly, good signage and interpretation and pocket parks all encourage use and a wider range of users. Active travel routes should also seek to link up key routes between where people live, work and go to school or college with green spaces, using green corridors where possible. These can also be combined with sustainable drainage such as raingardens and swales to further increase the benefits and resilience of these routes.



Grey to Green Scheme, Sheffield
Photo: Alastair Johnstone/ Climate Visuals

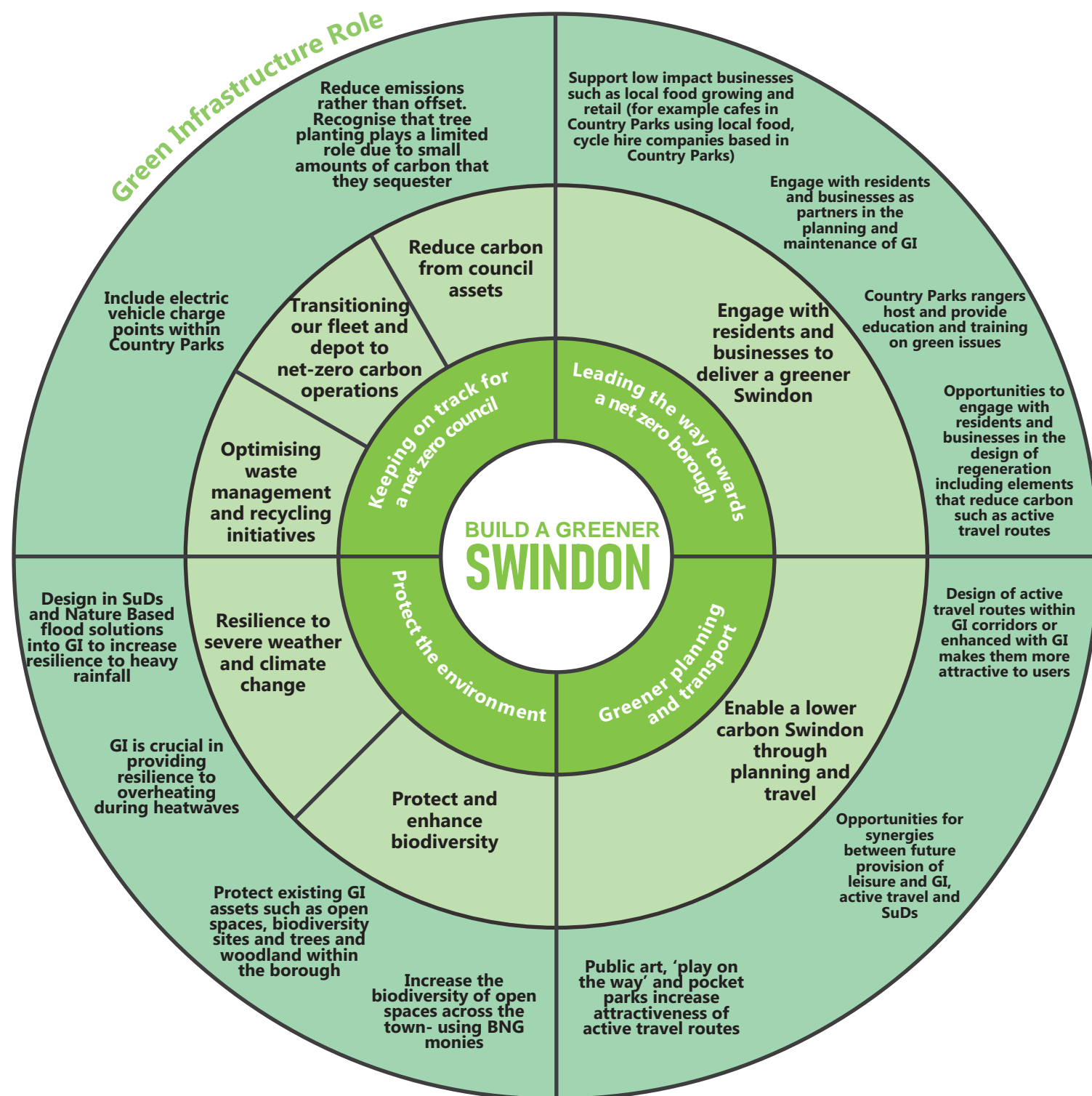


Figure 15: GI overlay of 'Build a Greener Swindon' diagram

Build a Greener Swindon

Leading the way to a net zero borough

Engage with residents and businesses to deliver a greener Swindon



Orford Road, Walthamstow
Photograph: Martin Deutsch Flickr

There are opportunities to engage with residents in the design of regeneration elements that reduce carbon, such as the retrofitting of streets with active travel routes (like the Orford Road Walthamstow scheme opposite). Public engagement on active travel projects can help to ensure the benefits of these are made clear to business owners and residents and that active travel routes are combined with other elements that can benefit the public realm and benefit business and residents. Shopping/district streets can be made more attractive to shoppers when made better for pedestrians, cyclists.

The council can support green and low impact businesses including in its Country Parks and through planning policies, such as local food growing, cycle hire (like the 'Wild Carrot electric cycle and cycle hire in the Cotswold Water Park near Cirencester) and local small businesses such as cafes. It can also support local charities that support local community and environmental issues.



Wild Carrot bike and electric bike hire, Cotswold Water Park
Photo: Wilts and Glos. Standard

Many local authorities are developing local food strategies and policies, for resilience, health and supporting a local economy that support local market gardening as well as community growing- gardens and allotments, including on council owned land¹. Swindon has a thriving local growing community who run events such as the annual ‘Crop Drop’ that coordinates the redistribution of fruit and vegetables from allotments, local market gardeners and community growers to various organisations in Swindon, with a goal to redistribute local food waste, inspire people to grow their own and promote local food growing businesses.²



Swindon ‘Crop Drop’, 2023



Greener planning and transport

Enable a lower carbon Swindon through planning and travel

GI is an essential component of good placemaking which makes places better to be in and encourages walking and cycling. As has already been outlined, good GI must be well planned and designed. It should be integrated with good transport planning that encourages active travel and use of public transport by making it as easy to use and as pleasant as possible. Active travel routes can be combined with ‘play on the way’ and sustainable drainage features such as raingardens (see the example of Derbyshire Street Pocket Park, Bethnal Green, London, below).



Derbyshire Street pocket park, Bethnal Green, London
Photograph Julian Walker, Flickr

Enhancing green spaces for biodiversity and people is vital for all the reasons outlined elsewhere in this document. Providing good quality green spaces close to where people live in Swindon can reduce car trips (to greenspaces further afield).

Green spaces, trees and soils store some carbon and can be carbon ‘sinks’ (removing carbon dioxide, CO₂, a greenhouse gas from the atmosphere and storing it as carbon in living biomass, leaf litter and forest soil). However, this should not be overstated and can only offset a small fraction of emissions³. The most important action needed to tackle climate change is to drastically reduce emissions from transport, buildings, food and consumer items. 1 tree will absorb approximately 1 tonne of carbon dioxide from the air over its lifetime, stored in the tree and held in the surrounding soil⁴. To put this into context, the per capita consumption based

1 Including Hull, who have a ‘Right to Grow’ policy, Sheffield, Birmingham and Bury, amongst others.
2 Participants include TWIGs community garden, Olive Tree Kitchen Garden, Lower Shaw Farm, Wonkey Veg Club, Growing South Swindon Community, Blacklands Organics, Purton Organic Farm Shop, Shumei Natural Agriculture and Phizophyllia.

3 Gabbatiss, Josh, Carbon Brief (2020). Available at: <https://www.carbonbrief.org/in-depth-qa-how-will-tree-planting-help-the-uk-meet-its-climate-goals/>
4 National Trust (2023). Available at: <https://www.nationaltrust.org.uk/our-cause/nature-climate/climate-change-sustainability/our-ambition-to-establish-20-million-trees-to-tackle-climate-change>

CO2 emissions for the UK in 2021 were 7.6 tonnes, for one year⁵. Mature trees and woodlands store the most carbon so protection of these is vital. See Section 5.3.3 for more information on Swindon’s existing trees and woodlands.

Protect the environment
Resilience to severe weather and climate change

GI within the borough can incorporate SuDs and Nature Based Solutions to flooding. Tree planting and green and blue spaces help with cooling and provide resilience during heatwaves (see heat map...).

Protect and enhance biodiversity
Biodiversity within the borough’s GI network should be enhanced, made more joined up and connected. The biodiversity of green spaces throughout the borough can be enhanced with funds from Biodiversity Net Gain. The Local Nature Recovery Strategy will be identifying a Local Nature Recovery Network within which funding will be concentrated.



Wild flowers at Stanton Country Park

5 Our World in Data (2023). Available at: <https://ourworldindata.org/grapher/consumption-co2-per-capita?country=~GBR>

8.1.2 Narrowing the gap- more people spending more years in good health: A Health and Wellbeing Strategy for Swindon 2023-2033

The vision for this strategy is ‘Working together to tackle inequalities and empower all people in Swindon to live longer, healthier, fulfilling lives, supported by thriving and connected communities.’ The principles set out in the strategy are ‘Being Focused’, to maximise impact and efficiently use the finite resources available; ‘Addressing Inequalities’, tackling health inequalities across the borough; ‘Starting with Prevention’ to increase the chance of living a healthy and happy life for as long as possible; and ‘Making it Real’, listening to what is important locally. GI plays an important role in two of the three aims of the strategy, to ‘Improve Mental Health and Wellbeing’ and to ‘Eat Well and Move More’.

GI, particularly well designed and managed green spaces, can support mental health and wellbeing in a number of ways. They can support strong communities, helping to reduce loneliness and isolation. This is particularly effective where there are opportunities for community involvement in managing a space, with volunteer groups (as are found in the Country Parks) or ‘Friends of’ groups. Green spaces are also somewhere where community events and informal sports games can be held. Green spaces that encourage dwell time with seating, play areas and other activities are somewhere for members of the community to informally meet. Research has found that talking with strangers can contribute to well being and public open spaces offer opportunities for chance encounters and informal conversations, for example sat on a park bench or on a dog walk⁶. GI can also provide mental health and wellbeing benefits through providing somewhere tranquil, to enjoy peace and quiet and experience contact with nature. There is evidence for associations between time spent in nature and improved cognitive function, brain activity, general mental health and sleep. This is also partly due to the increased physical activity associated with green spaces⁷. Green spaces should be inclusive and accessible for all, fully engaging the local community in their design and management helps to achieve this.

The role of GI within the borough and local food growing networks has been outlined in the previous section.

8.1.3 Upper Thames Catchment Management Plan

CaBA (Catchment Based Approach, England and Wales) is a civil society-led initiative that works in partnership with Government, Local Authorities, Water Companies, businesses and landowners, and NGOs to improve, protect and enhance river catchments, helping to support many of the targets of the 25 Year Environment Plan. It embeds collaborative working at a river catchment scale, in the context of a cut back Environment Agency, to try to deliver a range of environmental, social and economic benefits and to protect water environments for the benefit of all.

The Swindon Borough lies within the Upper Thames Catchment, the partnership for which is hosted by the Farming and Wildlife Advisory Group South West (FWAG SW) and the Countryside and Communities Research Institute (CCRI). The Partnership have produced a management plan which includes a set of priorities, an action plan, projects and monitoring and evaluation plan. Priorities include restoring high quality and connected habitats, improving land management and supporting sustainable agriculture; reducing foul water run-off; and

6 Shroeder, J., Lyons, D. and Epley, N. (2022) ‘Hello, stranger? Pleasant conversations are preceded by concerns about starting one’, *Journal of Experimental Psychology: General* (published online ahead of print 7 October 2021). Available at <https://pubmed.ncbi.nlm.nih.gov/34618536/> (Accessed 25 September 2024)

7 Jiminez, M. et. al. (2021) ‘Associations between Nature Exposure and Health: A Review of the Evidence’, *International Journal of Environmental Research and Public Health* (Published online ahead of print 30 April 2021). Available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8125471/#:~:text=We%20found%20evidence%20for%20associations%20between%20exposure%20to%20nature%20and,mental%20health%20and%20cognitive%20function.>

improving water and flood risk management⁸.

8.2 Portrait of Swindon

8.2.1 Population

The population of Swindon was 233,700 in 2021, this had increased by 11.6%, from around 209,200 in 2011⁹. This is higher than the overall increase for England (6.6%) and higher than the average for the south west (7.8%). Swindon is the eighth most densely populated of the South West’s 30 local authority areas¹⁰.

There has been an increase of 28.6% in people aged 65 years and over in Swindon (compared to an overall increase in England of 20.1%), since 2011¹¹.

Swindon still has a relatively young population, with a median age of 39, compared to nearby local authority areas such as Wiltshire (44) and Cotswolds (49) with a median age of 39¹².

8.2.2 Health

69.1% of Swindon’s adult population are overweight (including obese) which is the highest rate in the South West¹³.

One in three children aged 10-11 and one in four children aged 4-5 in Swindon are overweight or obese¹⁴. See figures opposite.

The hospital admission rates for mental health conditions in 0-17 year olds has been increasing in the UK since 2013/14¹⁵. Swindon has a higher rate than England for both admissions for mental health and also for self harm¹⁶.

Life expectancy in Swindon is similar to the national average and to other statistical neighbours but healthy life expectancy is worse. In Swindon females are likely to spend 21.4 years and males 18.4 years of their life in poor health. This is driven by lifestyle factors (smoking and physical activity), long term conditions and the availability of other things that contribute to a healthy and happy life such as an education, warm home and a good job¹⁷.

8 The Upper Thames Catchment Partnership website. Available at <https://www.fwagsw.org.uk/upper-thames-catchment-partnership>.

9 Office for National Statistics (2021) *How life has changed in Swindon: Census 2021*. Available at: <https://www.ons.gov.uk/visualisations/censusareachanges/E06000030> (Accessed 25 September 2024)

10

11 Office for National Statistics (2021) *Census: Population Change*. Available at: <https://www.ons.gov.uk/visualisations/censuspopulationchange/E06000030/>

12 Office for National Statistics (2021) *How life has changed in Swindon: Census 2021*. Available at: <https://www.ons.gov.uk/visualisations/censusareachanges/E06000030> (Accessed 25 September 2024)

13 Office for Health Improvement and Disparities (2023) *Obesity Profile: short statistical commentary May 2023*. Available at: <https://www.gov.uk/government/statistics/obesity-profile-update-may-2023/obesity-profile-short-statistical-commentary-may-2023>

14 Ibid.

15 NHS, 2023, *The mental health of children and young people in England 2023*. Available at: <https://digital.nhs.uk/data-and-information/publications/statistical/mental-health-of-children-and-young-people-in-england/2023-wave-4-follow-up> Accessed September 25, 2024.

16 Swindon Borough Council (2023) *A Health and Wellbeing Strategy for Swindon 2023-2033*. Available from: https://www.swindon.gov.uk/download/downloads/id/5264/health_and_wellbeing_strategy_2023-2033.pdf

17 Swindon Borough Council (2024) *Joint Strategic Needs Assessment (JSNA) for Swindon*. Available at: <https://www.swindonjsna.co.uk/wp-content/uploads/2024/04/Swindon-JSNA-post-2021-census-update-2024.pdf>

18 Ibid.

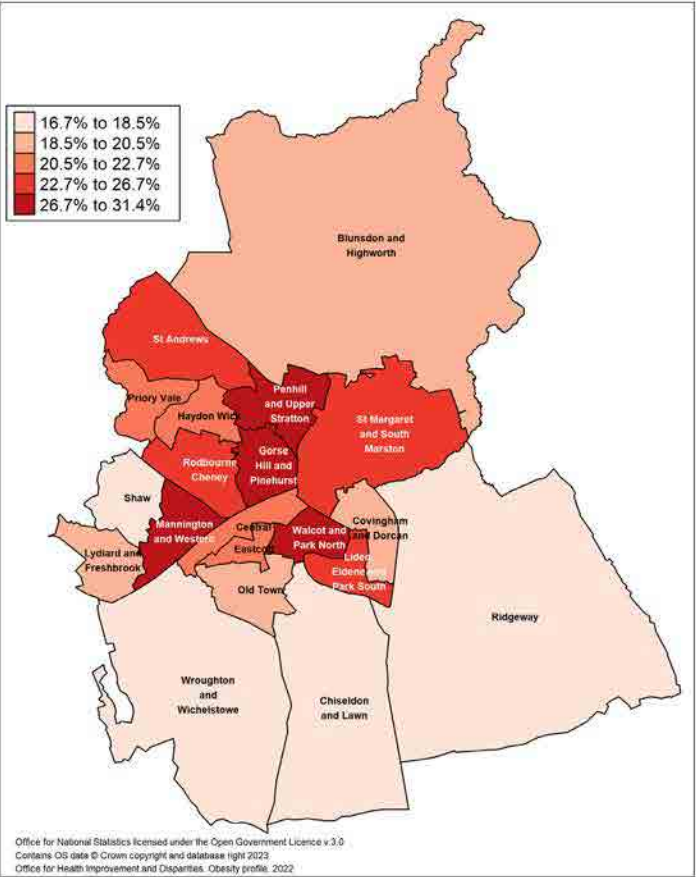


Figure 16: Prevalence of overweight by ward for reception children in Swindon 2019/20- 2021/22 (Source: OHID Local Data)

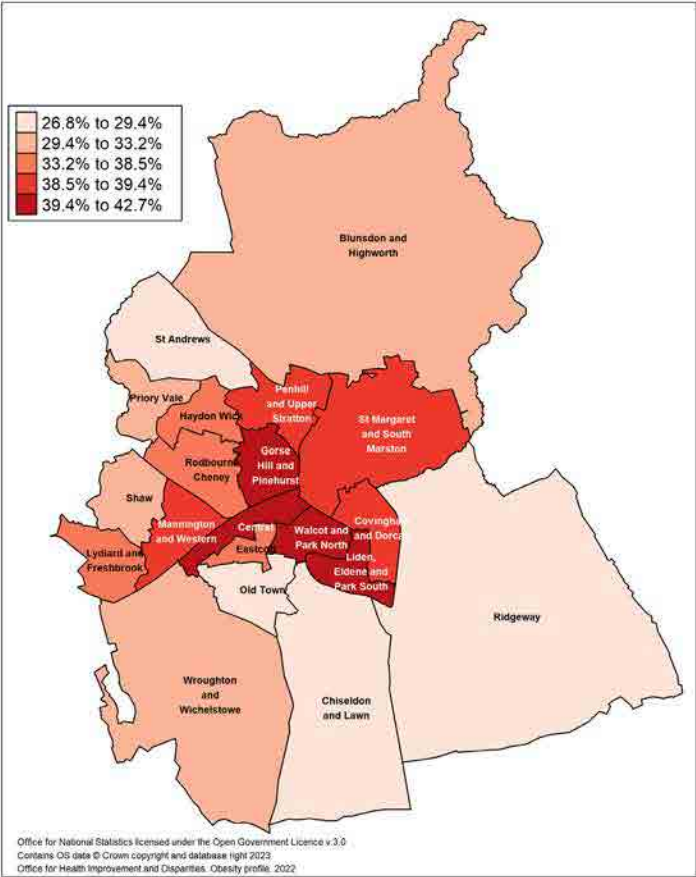


Figure 17: Prevalence of overweight by ward for year 6 children in Swindon 2019/20- 2021/22 (Source: OHID Local Data)

8.2.3 Deprivation

More than 60% of the borough falls into the least deprived deciles. However, there are pockets of deprivation in Swindon, with 12 of the borough’s 132 Local Super Output Areas (LSOAs) in the most deprived 10% nationally (compared to 8 in 2015). These LSOAs are located in the Gorse Hill & Pinehurst, Walcot and Park North, Liden, Eldene & Park South and Penhill & Upper Stratton wards. Overall, Penhill central, in the Penhill & Upper Stratton ward is the most deprived LSOA in Swindon¹⁸. See Indices of Multiple Deprivation map opposite.

Swindon Borough Indices of Multiple Deprivation Map (by Lower Super Output Area, LSOA)

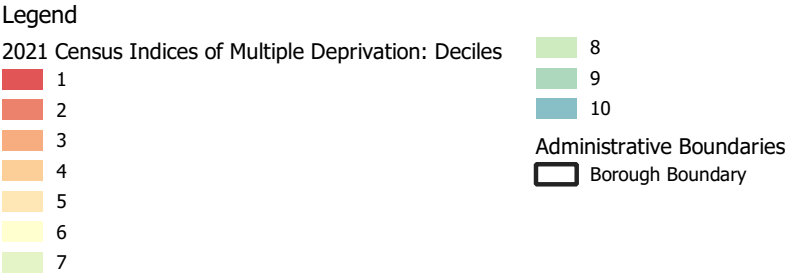
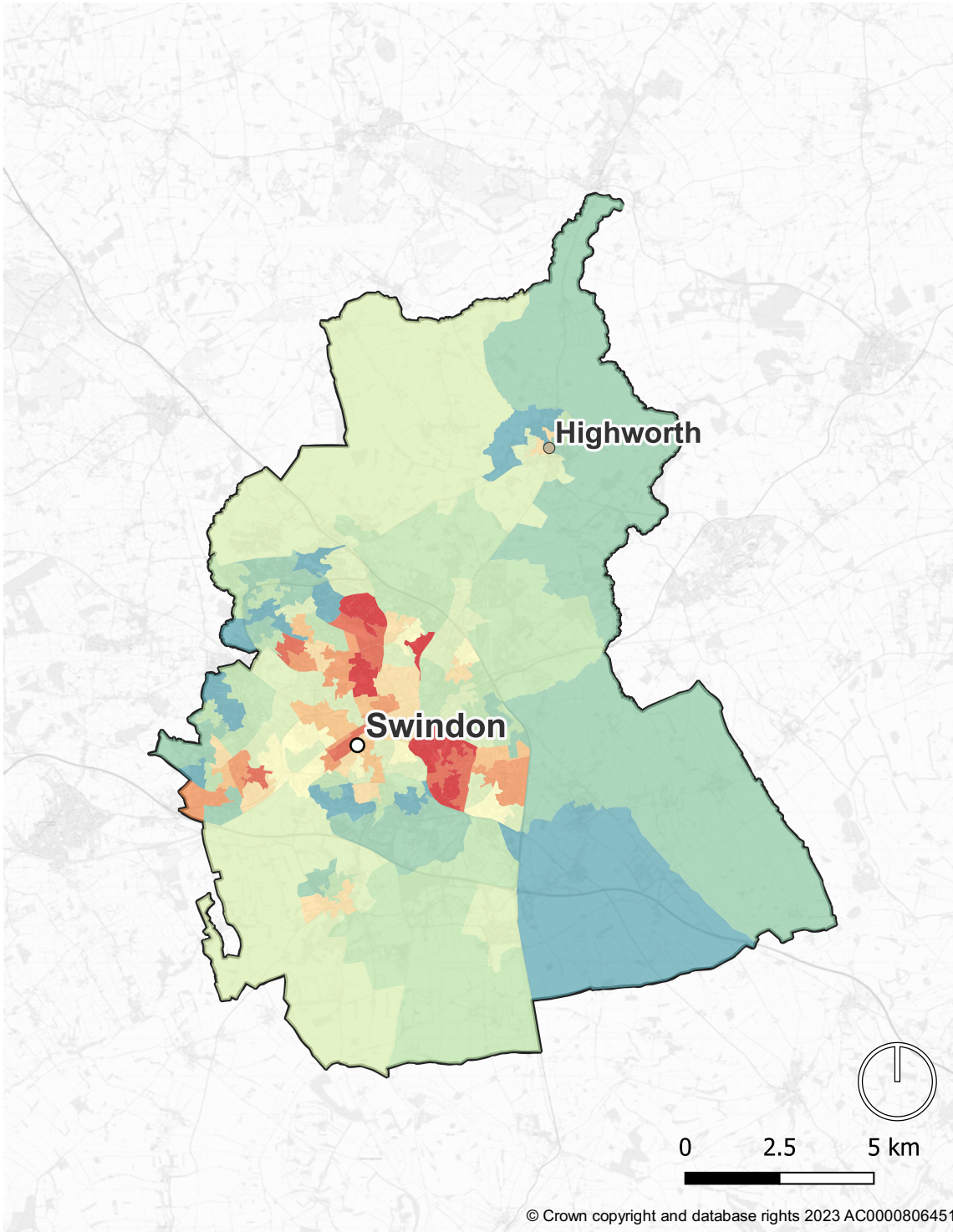


Figure 18: Swindon Borough IMD Map

8.2.3 Economy

Economy and Employment

GDP at current market prices in Swindon Borough in 2022 was £12.5 billion, which is above average for our statistical (CIPFA) nearest neighbours (£9.3 billion)¹⁹. In 2022 Swindon generated £10.1 billion Gross value added (GVA) and supported over 123,000 individual employee jobs²⁰. Of people aged 16-24 in Swindon 80.3% were employed in the year ending December 2023, compared to the South West rate of 78.8%²¹.

Town Centre, District Centres

Swindon's town centre faces many challenges, as do high streets and town and city centres across the UK, due to rise in online retail, and previously out of town shopping centres. The built environment is poor, particularly in terms of maintenance. There have been several schemes over recent decades to attempt to improve the environment of the town centre, but they have not been enough, and have fallen into disrepair due to a lack of investment into maintenance. Canal Walk and Regent Street, were redesigned by a multi-disciplinary team in 2010. The scheme was high quality with natural stone and references to the old canals, and included some tree planting. Wharf Green was refurbished in 2009. The town centre is the least green part of the town.

8.2.4 Society

Ethnic Groups

In 2021, 11.6% of Swindon residents identified their ethnic group within the "Asian, Asian British or Asian Welsh" category, up from 6.4% in 2011. Across the South West, the percentage of people from the "Asian, Asian British or Asian Welsh" ethnic group increased from 2.0% to 2.8%, while across England the percentage increased from 7.8% to 9.6%. In 2021, 81.5% of people in Swindon identified their ethnic group within the "White" category (compared with 89.8% in 2011), while 2.8% identified their ethnic group within the "Mixed or Multiple" category (compared with 2.0% the previous decade). The percentage of people who identified their ethnic group within the "Black, Black British, Black Welsh, Caribbean or African" category increased from 1.4% in 2011 to 2.6% in 2021⁹.

Disability

The 2021 census data shows that 77.3% of residents (180,332) are not disabled and have no long-term physical or mental health conditions. This figure is slightly higher than the national and regional values. The 2021 census shows that 69.8% of households (66,887) in Swindon do not house any disabled residents. This is a slightly higher proportion than the national and regional figures. According to the 2021 Census, the ward with the highest proportion of residents who are disabled is Penhill & Upper Stratton (22.3%, of which 9.7% have day-to-day activities limited a lot). Reflecting this, Penhill & Upper Stratton has the highest proportion of households with at least 1 disabled resident is Penhill & Upper Stratton (40.7%, of which 9.5% contain 2 or more disabled people). St. Andrews ward has the highest proportion of residents who are not disabled (89.3%) and consequently has the highest proportion of households who have no disabled people (78%)²².

¹⁹ Office for National Statistics (2024) *GDP by local authority*. Available at: <https://www.ons.gov.uk/datasets/gdp-by-local-authority/editions/time-series/versions/2>. Accessed September 26, 2024.

²⁰ Nomis (2024) Labour Market Profile- Swindon. Available at: <https://www.nomisweb.co.uk/reports/lmp/la/1946157355/report.aspx> Accessed September 26, 2024.

²¹ Ibid.

²² Office for National Statistics (2022) *How life has changed in Swindon: Census 2021*. Available at: <https://www.ons.gov.uk/visualisations/censusareachanges/E06000030> (Accessed 25 September 2024)

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8.2.5 Environment

Transport

1.22 billion vehicle miles were travelled on roads in Swindon in 2023. Swindon does not yet have comprehensive data on transport modes and how it compares as a borough to other parts of the country in terms of active travel and private vehicle use, however, looking at modal splits for travel to work for the 2021 census, Swindon is below the national average for public transport and active travel dependency at 16%, well below the national average of 27%. It has historically expanded and developed as a 'car town' with extensive dual carriageway and road networks and low density spread out development.

Air pollution in Swindon

Traffic derived Nitrogen Oxide (NO₂) is the main pollutant within Swindon and is monitored by the Local Authority at 38 sites. Swindon has one Air Quality Management Area (AQMA), declared in 2018, where NO₂ levels had been found to be above legal limits. This is along a stretch of Kingshill Road in Old Town where a 'street canyon' is formed by houses close to the kerb, garden walls and some trees, which prevent dispersion of pollutants and free flow of air. The air quality here has been improving in recent years.

Fine Particulate Matter (PM_{2.5}) is also a concern. The Environment Act 2021 led to a new national PM_{2.5} target value of 10µg/m³ by 2040. A Population Exposure Reduction Target of 35% reduction by 2040 has also been set nationally. This is a transboundary issue, as it is so fine, PM_{2.5} travels long distances, although Swindon can do its bit by encouraging behaviour change, encouraging people not to use wood burners (responsible for approximately 30% of all man made PM_{2.5}) and to replace vehicle journeys with cycling and walking where possible, rationalise freight and delivery traffic and to change bus stock to cleaner vehicles such as Zero Emission Buses as are cities such as York and Oxford²³.

Urban Heat Island Vulnerability

Many places, including the UK, are already experiencing record temperatures and heat linked to climate change which is set to increase in frequency and severity in the coming decades. Climate scientists found that the 40°C temperatures recorded in the summer 2022 were made 10 times more likely by climate change²⁴. A satellite analytics company (4 Earth Intelligence) has measured the average land surface temperature over a sample of days over three summers in the UK and produced heat hazard score maps, including for Swindon. This clearly shows where built up areas are the most vulnerable, as would be expected, areas of green space, waterbodies and river corridors as cooler and less vulnerable to heating. Some local authorities including Bristol City Council and Glasgow have used this data to produce heat vulnerability maps that can then be used to inform Green Infrastructure planning and design²⁵.

Vulnerability to flooding

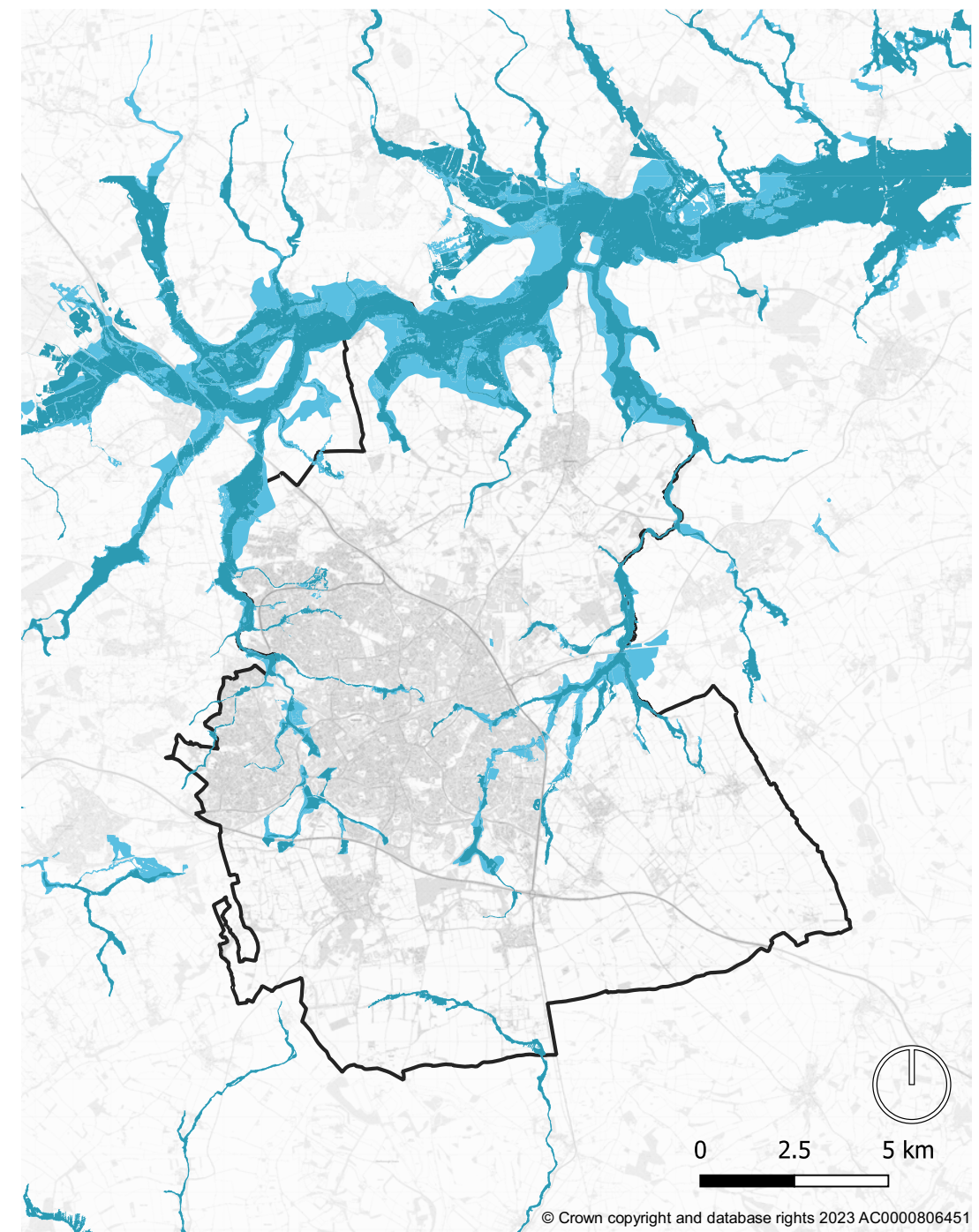
The map opposite shows areas in the borough vulnerable to flooding (Environment Agency, Zones 2 and 3). There will be opportunities within these areas to explore Nature Based Solutions for flood management.

23 Swindon Borough Council (2023) *Air Quality Annual Status Report 2023*. Available at: https://www.swindon.gov.uk/downloads/file/9162/air_quality_annual_status_report_2023 (Accessed 26 September 2024).

24 Howarth, C., Pearson, n. and Kyriacou, G. (2024) *How is the UK responding to heatwave risk?*. The London School of Economics and Political Science. Grantham Research Institute on Climate Change and the Environment. Available at: <https://www.lse.ac.uk/granthaminstitute/explainers/how-is-the-uk-responding-to-heatwave-risk/#:~:text=Many%20places%2C%20including%20the%20UK,likely%EF%BB%BF%20by%20climate%20change.> (Accessed September 26 2024).

25 BBC (2022) *Check your postcode: Is your area vulnerable to extreme heat?*. Available at: <https://www.bbc.co.uk/news/uk-6224328>. (Accessed September 26, 2024).

Flooding Map- Zones 2 and 3



Legend

- Flood Map for Planning Rivers and Sea Flood Zone 3
- Flood Map for Planning Rivers and Sea Flood Zone 2

Administrative Boundaries

- Borough Boundary

Figure 19: Swindon Borough flood vulnerability map

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9. WHAT DO WE HAVE?

9.1 Key Elements of Swindon’s Green Infrastructure

9.1.1 Landscape

Swindon Borough includes the urban area of Swindon town and a variety of beautiful, rural landscapes to the north, east and south. Landscape character types and areas are characterised and assessed at a national (Natural England), county and local level (see landscape character area plans in the appendix). Part of the borough in the south is included within the North Wessex Downs Area of Outstanding Beauty, nationally recognised and protected for its landscape and scenic beauty. The landscapes to the north and east of the urban area also have their own intrinsic qualities and value.

Thames Vale

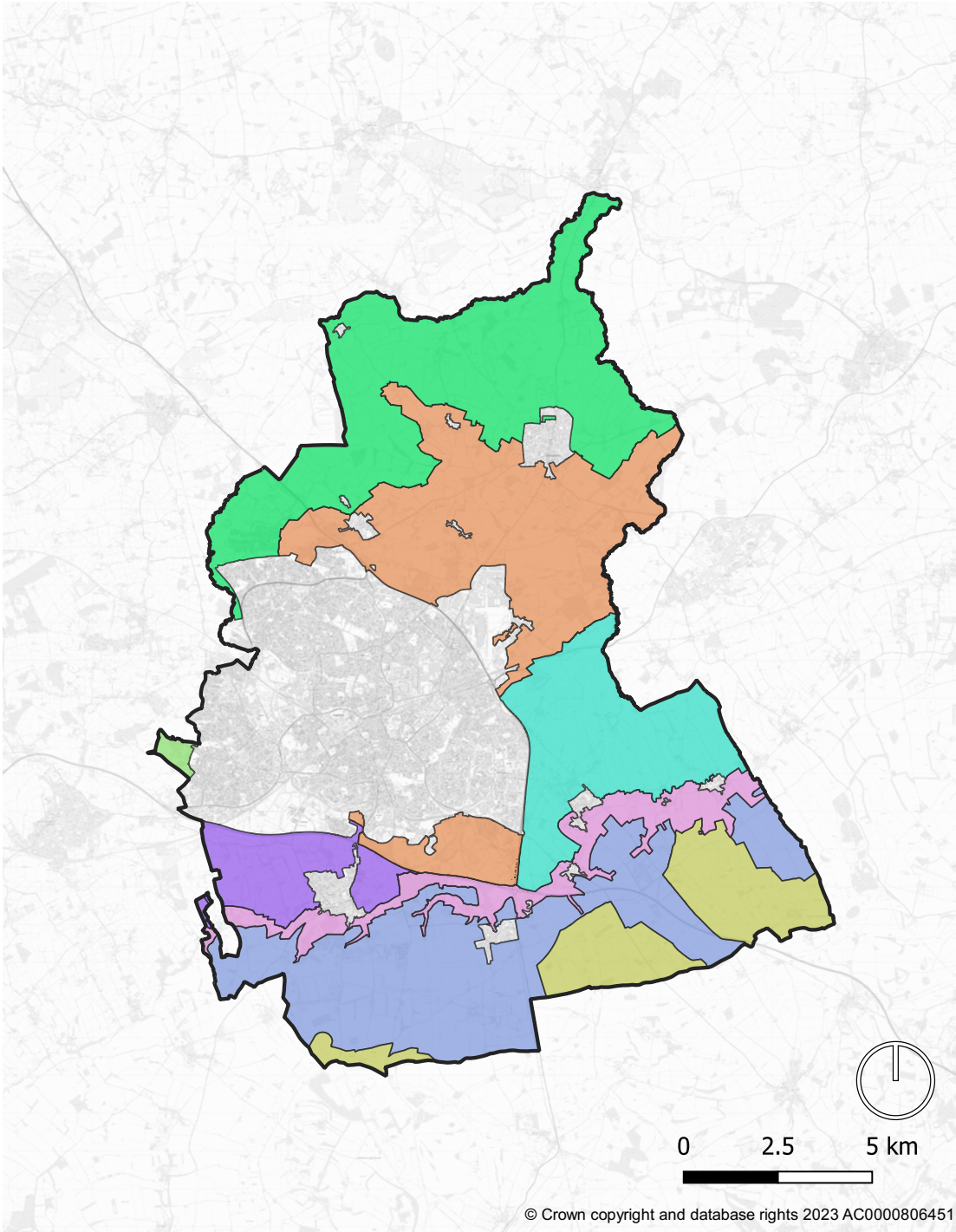
The borough reaches from the banks of the Thames in the north, along which runs the National Trail, The Thames Path. This is a key GI corridor, rich in birdlife and other wildlife and a key leisure route and destination for walkers, day trippers and boaters. The flat and open expanses of the Thames Vales stretch away to the south, dominated by waterways, tributaries to the Thames. This area is characterised by intensively farmed pasture and arable, historically with many water meadows, and ditches and waterways lined with willows and poplars. This is a distinctive landscape with areas of seemingly remote, tranquil landscapes enjoyed by tourists and local visitors from the public rights of way network.

Internationally important lowland meadows lie just outside the borough at Clattinger Farm and North Meadow (Special Area of Conservation) near Cricklade.



View from Thames path near Lechlade

Swindon Borough Landscape Character Areas



- Legend
- Administrative Boundaries
- Borough Boundary
- Landscape Character Areas Swindon Borough
- i. Thames Vale
 - ii. Vale of The White Horse
 - iii. Wroughton Vale
 - iv. Scarp
 - v. Down Plains
 - vi. High Downs
 - vii. Mid Vale Ridge
 - viii. Lydiard Ridge



Figure 20: Swindon Borough LCA Map

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Midvale Ridge

Immediately to the south of the Thames Vale is a band of low-lying limestone hills the ‘Midvale Ridge’, stretching east west from the Vale of Aylesbury in Buckinghamshire to Swindon. It is surrounded by the flat lands of the Thames Vale with extensive views across the surrounding countryside.

Settlement has a defining impact upon this area. Much of the Swindon urban area sits on the eastern extents of the ridge. The edge of Swindon, with a mix of land uses, including large industrial warehouses, residential estates, recreational areas such as Stratton Woods and Stanton Park Country Park and busy transport routes has a fragmented feel and is dominated by traffic. Beyond this, further north, the landscape becomes rural with some tranquil areas and panoramic views out across the Thames Vale. Within the southern part of the Midvale Ridge, the land drops away to the Vale of the White Horse.

The settlement pattern is of nucleated villages and towns such as Blunsdon, Highworth and Hannington on the hill tops. Locally quarried limestone is commonly used as a vernacular material for local houses. The area is scattered with evidence of previous land use such as iron-age and Romano-British settlements and ridge and furrow, such as the iron age hillfort at Blunsdon and the Eighteenth Century landscape at Stanton Fitzwarren which includes a large area of ancient woodland within Stanton Country Park. The area is more wooded in character than the surrounding vale, with a third of the woodland designated ancient woodland, it also contains a strong hedgerow network with frequent hedgerow trees, within which sits a network of quiet rural lanes.

The Vale of the White Horse

To the south of the Midvale Ridge, within the northern part of the South East planning area is another low-lying vale, extending eastwards from Swindon towards Shrivenham and beyond. The area is a broad, flat, relatively open valley with several small raised areas and with only small-scale settlement patterns and scattered farmsteads, giving the perception of a remote landscape.

Villages are of vernacular materials. There are extensive views towards (and from) the Downs and Midvale Ridge. Numerous streams cross the valley. Much of the area is mixed pastoral and arable farmland with some remnant meadows and rich riparian vegetation. There are a few small woodlands, however, there is a distinctive network of hedgerows and some scattered field trees. The south-western corner of this area, comprising the land to the south of Pack Hill, lies within the North Wessex Downs Area of Outstanding Natural Beauty. Around Swindon, large-scale buildings dominate views, and there are busy transport routes through the area with the A419, A420 and London to Bristol railway. However, the area to the north retains a rural, remote feel. Hilltop villages of Wanborough, Bishopstone and Idstone, lie on the southern boundary of this area. A large part of this area will become the New Eastern Villages urban extension.

Wroughton Vale

A low lying, generally level vale is enclosed by the Downs scarp slope to the south and the Swindon Hill in the north around the village of Wroughton. Several chalk streams flow northwards across the river valley, forming tributaries to the River Ray. Hedgerows and their trees form the main vegetation type although there are several small woodlands. The large village of Wroughton dominates the eastern end of the vale, and across the rest of the area there are scattered houses and farms, and more recently some solar farms. There are considerable areas of ridge and furrow and the disused Wilts and Berks canal crosses the vale. Airfields and redundant military sites are concentrated on the plain to the north of the area.*The Downs*

The southern part of the borough rises up to the rolling chalk hills of the Berkshire and Marlborough Downs.

This includes the Scarp, Down Plains and High Downs as characterised in the Swindon Landscape Character Assessment.

This area is included within the North Wessex Downs Area of Outstanding Natural Beauty, recently renamed a ‘National Landscape’, protected for the natural beauty and the special scenic qualities of the area. The downs are a vast, scenic landscape of sparsely populated, high, rolling chalk hills, recognised for their natural beauty, tranquility and dark skies. Fragments of biodiverse chalk grasslands remain, such as is found at Barbury Castle, although in recent years this has been somewhat overtaken with coarse grasses.

There are extensive views, punctuated by chalk cut horse figures, ancient monuments such as the Iron Age hillfort at Liddington Hill, another at Barbury Castle and beech clumps. Writers and artists including Eric Ravilious, Alfred Williams and Richard Jefferies are associated with this landscape. The Ridgeway, an important pre-historic route, runs along the top of the northern escarpment. Traditional building materials include brick, flint, sarsen and clunch with roofs of thatch or clay tile.



Liddington Hill (photo: Meadowbank House B&B, Liddington)

‘Let us get of these indoor narrow modern days, whose twelve hours somehow have become shortened, into the sunlight and the pure wind. A something that the ancients thought divine can be found and felt there still’ Richard Jefferies, *The Amateur Poacher- Poachers and Poaching*

9.1.2 Biodiversity

The diversity of landscape character types across the borough provides the context for a diversity of habitats. Priority habitats found within the borough include deciduous woodland, lowland calcareous grassland, lowland fens, lowland meadows and wood pasture and parkland. Floodplain grazing marsh is found just outside of the borough to the north of the Thames.

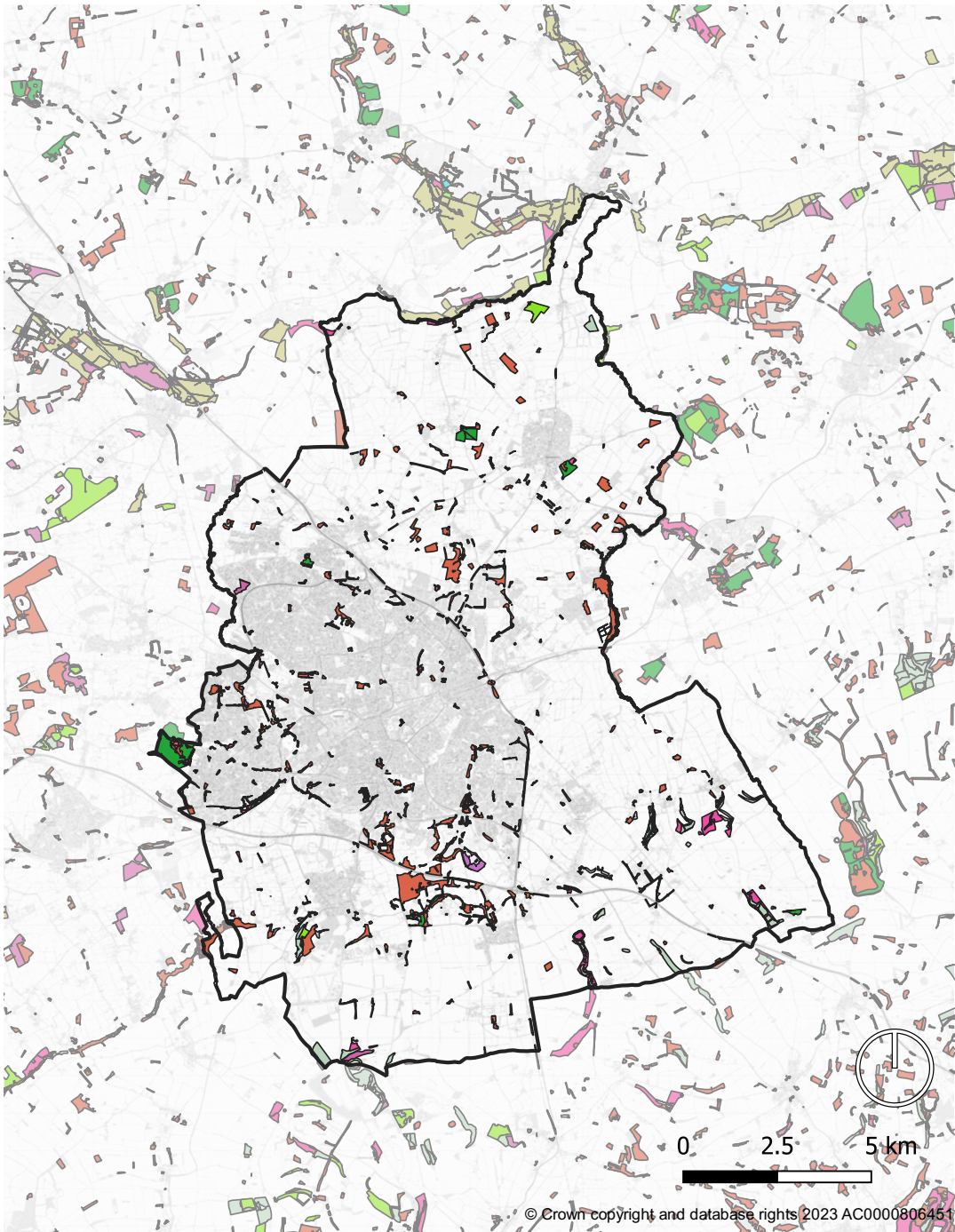
There are a number of designated biodiversity sites within the borough. These include Sites of Special Scientific Interest at Coate Water, Hinton Parva, Burderop Wood and Clouts Wood near Wroughton. Local Nature Reserves are found at Barbury Castle, Stanton Park, Coate Water and Seven Fields Nature Reserve in the town.

There are numerous fragments of ancient woodland in the north of the borough, see section 5.3.3 ‘Trees and woodlands’ below.

There are numerous County Wildlife Sites within the borough.

A biodiversity site of international importance, North Meadow and Clattinger Farm Special Area of Conservation (SAC) is situated just outside of the borough, near to Cricklade, adjacent to the Thames. Although outside the borough Natural England have identified that some recreational pressure on the site comes from Swindon Borough. New development is subject to a mitigation strategy, North Meadow SAC Interim Recreation Mitigation Strategy.

Priority Habitats



- Legend

Administrative Boundaries

 - Borough Boundary

Priority Habitat Inventory England

 - Coastal and floodplain grazing marsh
 - Deciduous woodland
 - Good quality semi improved grassland
 - Lowland calcareous grassland
 - Lowland fens
 - Lowland heathland
 - Lowland meadows
- No main habitat but additional habitats present
 - Ponds
 - Purple moor grass and rush pastures
 - Traditional orchard
 - Wood pasture and parkland



Figure 21: Swindon Borough Priority Habitats map

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