

Westley Green Strategy Documents

Sustainable Transport and Connectivity Strategy

Climate Change Strategy

Health and Wellbeing Strategy



WESTLEY

GREEN

CAMBRIDGESHIRE

SUSTAINABLE DEVELOPMENT AND CONNECTIVITY STRATEGY
DECEMBER 2021



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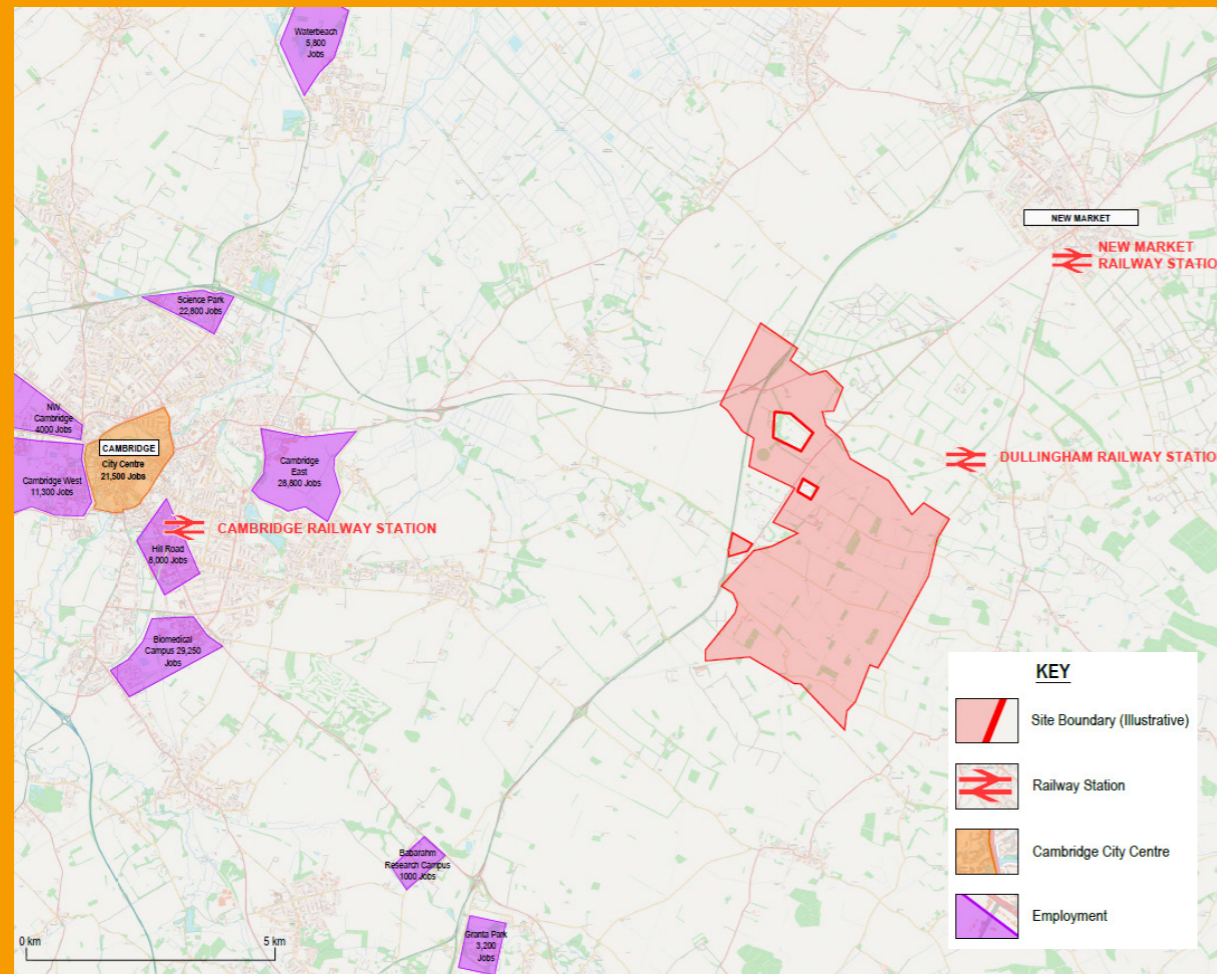
1.0

The Characteristics of Westley Green

- Westley Green will be located in South and East Cambridgeshire in the vicinity of the village of Six Mile Bottom approximately eight miles east of Cambridge and 6 miles south west of Newmarket. The proposals will bring forward a sustainable new, mixed-use community with associated facilities. This community will be future proofed to support its potential for up to circa 8,500 homes and the next major employment destination for Greater Cambridge and wider sub-region and ensure that sustainable travel is established early on in its growth.
- A community of this scale is able to provide a range of facilities to minimise the need to travel off site. Furthermore, the site is also able to connect with existing and proposed high quality sustainable transport links to enable sustainable travel for offsite trips.
- Westley Green will serve businesses in Greater Cambridge with a long-term affordable supply of homes, talent and employment space, that will instil confidence to invest in the area for the future. Cambridge itself has a higher proportion of personnel employed in the more knowledge intensive employment group comprising professional/research roles (equating to 44.5% of all roles compared to 22.2% nationally). South and East Cambridgeshire also have a higher rate of employment in these types of roles.
- The site is within close proximity to a number of major employment locations to the south and east of Cambridge such as the Babraham Research Campus (providing 1,000 jobs and due for expansion) 5 miles southwest, the Wellcome Genome Campus (4,300 jobs) 8 miles southwest, Granta Park (providing 3,200 jobs) 5 miles southwest, Cambridge Science Park (providing 22,800 Jobs) 8 miles northeast, and the Cambridge Biomedical Campus (providing 29,250 Jobs) 7 miles west., These employment sites are located within a short journey of the proposed community and provide opportunity for connection via sustainable modes of transport.
- Westley Green is well positioned to provide further work force to serve these vibrant employment areas whilst at the same time providing further high-quality employment within the community itself.



Site Location Drawing



- The site lies on the line of the Cambridge-Newmarket-Ipswich rail route and therefore presents opportunity for a significant volume of trips to be undertaken by train with hourly train connections running between Cambridge and Ipswich through this line. Furthermore, the Greater Cambridge Partnership have also identified, in their recent Cambridge Eastern Access Transport Study, the line from Newmarket to Cambridge as offering potential for a step change in rail capacity in the area through the provision of double track and potential additional stations at Cambridge East and Six Mile Bottom.
- This presents an opportunity to link the proposals with these high-quality sustainable transport routes to ensure that a high proportion of journeys outside of the community are undertaken by sustainable modes. The proposals at Westley Green would therefore both benefit from these enhancements and would also be able provide potential land to enable delivery (for example the station at Six Mile Bottom).

2.0

The Design Philosophy of Westley Green

- The vision of the proposals is to create a zero carbon community where a large proportion of day to day needs are met within the site to reduce the need to travel. These facilities will include high quality employment and houses designed to accommodate the growing demand for homeworking. Furthermore, where travel outside of the community is required this will be achieved primarily by high quality, convenient and high-capacity sustainable transport links with reduced focus on the delivery of large scale highway infrastructure.
- The design philosophy is also to create a future proofed community to allow for developing technologies in terms of travel that build on advancements in telecommunications and real time travel data, electrification of modes of transport, and greater automation of travel.
- This well connected highly sustainable community would exhibit traffic flows that would be only a small percentage of a similar sized community today. Notwithstanding this all movement junctions would be provided connecting with the A11 and other local roads to ensure that these relatively small number of journeys would be carried out in an efficient manner. This highway infrastructure will also assist in reallocating movements at existing all movements junctions (e.g. at the Balsham Road junction) to more appropriate and direct routes.



3.0

National Travel Trends

- Existing travel trends show following prevailing changes in travel pattern nationally:
 - Reducing vehicle trip numbers per person
 - Reducing time spent in car per person
 - Reducing distance travelled per person in private cars
- Assuming these trends continue at the same rate this would point towards a subsequent 19% reduction in car use towards 2040.
- However, current traditional transport models and previous trends do not consider the recent acceleration of transformative impacts in terms of travel. These include;
 - The changing nature of work (e.g. greater propensity for home working,
 - The change in social norms (e.g. less status attributed to car ownership), and
 - Forthcoming technologies such as autonomous vehicles, vehicle electrification, micro-mobility and sharing.
- It is evident that these changes would significantly reduce vehicle travel demand and therefore opportunity exists at Westley Green to capitalise on these changes to build a community with sustainable travel as its cornerstone.

4.0

A Self-Contained Community

Home working

- Recent control measures introduced nationally as a result of the Covid 19 pandemic appear to have resulted in major behavioural change that has resulted in more home working that is likely to result in subsequent permanent long-term changes even after these measures are lifted. These changes in travel pattern are discussed in the Royal Town Planning Institute document titled "Plan the World We Need", which was released in June 2020, that in section 3.1 states the following:

"In the UK during April, 39% of those in employment reported working only from home, while 6% both worked from home and travelled to work. This contrasts with 5% of the workforce who reported working mainly from home during 2019."

- Given the area's draw as a centre for professional, scientific and technical activities, and the already high levels of homeworking associated with the knowledge sector, there would be great potential for homeworking at Westley Green. Even prior to the Covid 19 pandemic an annual population survey showed this sector having high levels of homeworking (i.e. almost 50% of the workforce had worked from home).
- Westley Green would be designed to capitalise on this and facilitate homeworking through the use of enhanced telecommunications, the establishment of appropriate work areas within each property and areas to support coworking.

Mixed Use Community

- Westley Green will include a range of facilities to support high levels of self-containment within the new settlement. These uses will include:
 - Education Facilities comprising Nursery, Primary and Secondary Education provision
 - Community facilities such as local centres, community halls and community shops
 - Health and wellbeing facilities such public open space, parks, and sports facilities.
- The scale of the development allows these facilities to be introduced in a way that smaller, more piecemeal development, could not achieve.
- These facilities will also be linked with the proposed residential community by a network of high quality walking and cycling routes that will serve to encourage journeys to be made by active modes of travel (e.g. on foot and by bicycle). These active journeys would also contribute to the overall health and wellbeing of the residents of the community.
- Given that data from the Department for Transport National Travel Survey identifies that for the average person only 25% of all journeys during a typical day are work related journeys with the remaining journeys comprising other purposes such as shopping, leisure, and education there is high potential to remove vehicle journeys from the network, in favour of walking/cycling journeys, by providing these facilities within the community.

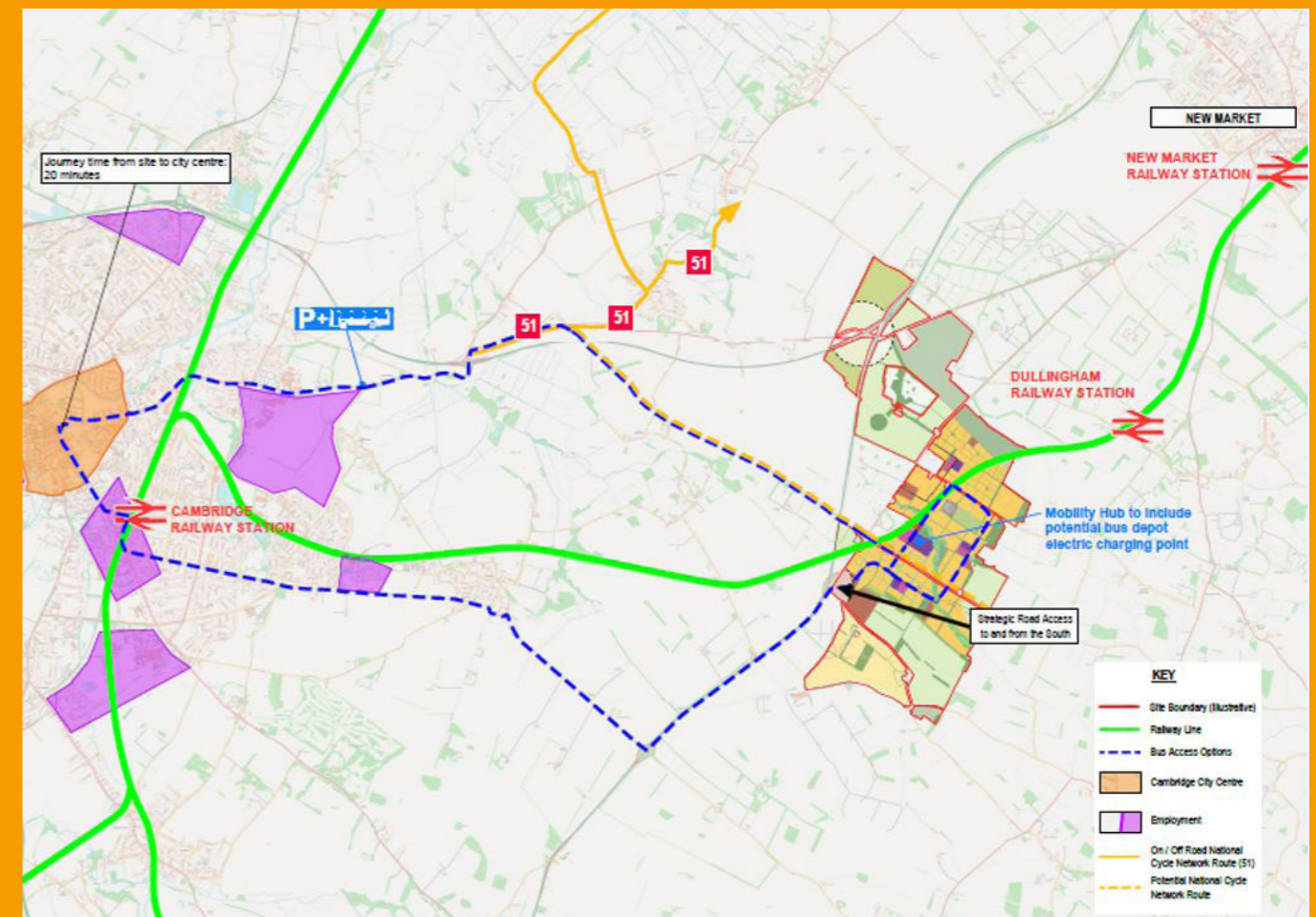
5.0

A Community with Reduced Transport CO² Emissions and External Vehicle Trips

- It is proposed that the community be served via a high frequency electrified bus service. This service could be provided through the extension of existing services and through the establishment of dedicated high frequency routes linking with key employment areas and Cambridge City Centre. A dedicated express service linking with the site would allow a connection with Cambridge City Centre within 20 minutes.
- The Westley Green proposals will include a number of uses that provide demand for the use of these buses across the day (i.e. not just the peaks). Moreover, potential demand responsive services can also be used to provide connections during off-peaks hours where required (i.e. during the later evening and Sundays).
- Charging facilities can also be accommodated within the site to future proof the proposals to allow potential electrified buses to be charged within the Westley Green proposals. These charging facilities will provide associated benefit both for the residents of Westley Green and the wider community through reduced bus emissions from existing services that will be able to use this charging facility to enable electrification of bus routes.
- The scale of the development allows these facilities to be introduced in a way that smaller, more piecemeal development, could not achieve.
- There is the potential for the delivery of a new railway station within the new community which would enable easy access to the local and wider rail network for residents, employees and visitors.



Transport Vision Diagram



6.0

A Future Proof Network

Mobility Hubs

- The proposals will be future proofed to account for anticipated changes in the way people travel. This will include provision of a central mobility hub within the community with smart connectivity linked to a community app that will allow for real time journey planning. Smaller mobility hubs will be located at local centres where people can interchange mode, park bikes/ electric scooters and access electric buses for external journeys. These will be social places where parcels and delivery hubs can also be located. In addition, the hubs could also provide a depot for robot deliveries or drone landing areas.
- 5G delivery will be important to enable the smart cities type approach to connectivity that is proposed at Westley Green. The delivery of this technology will ensure that residents of the community have the ability to check the availability of services and facilities (i.e. such as electric bike parking spaces), through the community app, when outside of their home.
- The mobility hubs could also provide potential connections and charging depots for electric buses. These buses could either be offered through extensions and enhancements of existing services or provided as additional services to connect the Westley Green community with key destinations.
- The provision of these mobility hubs also provides the potential to deliver "Mobility As A Service" (MAAS) within Westley Green where people pay a fixed amount each month for all of their travel needs, including electric bike hire, scooter hire, electric bus, car club membership etc. Such a system gives residents the ultimate flexibility in terms of travel options.

- A case study of the Møhlenpris area of Bergen in Norway as referenced in the "Mobility Hubs Guidance" document as published by CoMoUK in November 2019 showed that the inclusion of mobility hubs led to a 30% decrease in private car ownership in 2 years. In the case of Westley Green the mobility hub will be provided in the early phase of development to set sustainable travel habits from the outset.

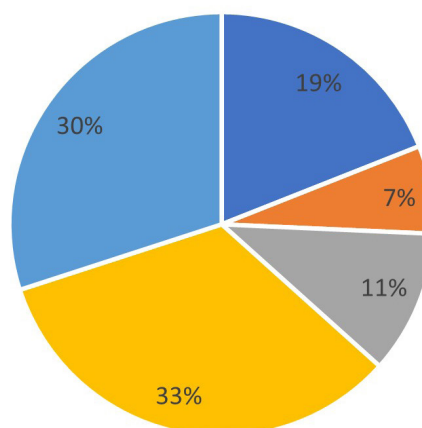


Future Vehicle Technologies

- It is noted that the "Future of Mobility" document published by the Government Office for Science has forecast that electric cars will be widespread by 2030. Thus, vehicle journeys that would be significantly reduced in number, would also be less polluting and would therefore have reduced impact on nearby air quality.
- The "Future of Mobility" document also forecasts that full (i.e. level 5) vehicle automation whereby private vehicles perform all tasks previously undertaken by the driver, will be widespread by 2040. This could potentially also permit vehicle journeys to also be provided "as a service" that would reduce the requirement for car ownership. In this regard an automated electric car club vehicle could be provided within each community hub to facilitate this service.
- Given the reduced running costs of driverless vehicles, automation would also allow greater flexibility for public transport services allowing for further cost-effective rural services linking Westley Green and nearby villages to link these areas with key travel destinations.

Summary

- As set out in this transport vision Westley Green will be planned as a sustainable community from the outset and will also be future proofed to allow for new technologies that will further reduce reliance on the private motor vehicle. In addition, the proposals will also include a range of uses that will serve to retain journeys within this sustainable community thereby further minimising transport impact. Thus, in consideration of changes in travel and the planned nature of the proposals to capitalise on these changes, the resultant future vehicle journeys from these proposals would be a fraction of what would typically be expected to be generated by a similar size community today. This is identified in the chart below which shows how current trends and the planned nature of the proposals as identified within this Vision document will serve to reduce vehicle movements. Furthermore, in the long term, these journeys would mostly be undertaken in automated/ electric vehicles and would therefore have a far lower impact in terms of air quality.
- The site has also been reviewed as part of Greater Cambridge's Housing and Economic Land Availability Assessment and has been shown to have no strategic transport constraints.



■ Trend reduction ■ Remaining Vehicle Trips ■ Home Working
■ Internal Trips ■ Mobility Hub / Electric Bus



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CLIMATE CHANGE STRATEGY
DECEMBER 2021

Westley Green: Climate Change Strategy

Prepared on behalf of L&Q Estates Limited and Hill Residential Limited

December 2021

Westley Green: Climate Change Strategy

Prepared on behalf of L&Q Estates Limited and Hill Residential Limited

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EXECUTIVE SUMMARY

This Climate Change Strategy outlines a proportionate and high-level strategy to achieve net-zero carbon development that is also resilient to the changing climate at Westley Green, Cambridge. The Strategy recognises that Westley Green will be designed with climate change mitigation and adaptation principles from the outset and has also been informed by the ever-changing legislature and policy landscape, which will continue to evolve over the life span of the proposed development. Central to this is the ability of the proposed development to have inherent flexibility to adapt and adopt the best available technologies when needed.

The Strategy focuses on four key themes which in combination, comprise the majority of the carbon emissions attributable to individuals: Infrastructure & Building Design, Energy Supply, Connectivity and Waste. In doing so, the Climate Change Strategy is cognisant of the local context of the surrounding area, whilst setting meaningful objectives and measurable outcomes through which progress can be assessed against. The critical mass of development and mix of uses in this location will lead to internalisation of trips, reducing the level of travel by unsustainable modes. Westley Green benefits from a unique location with short, sustainable transport links to Cambridge and Newmarket, which will provide the foundation for a sustainable transport strategy.

Westley Green will put forward measures that will promote the resilience of the proposed development to the effects of climate change, with a particular emphasis on mitigating extreme weather event risks, such as flooding. It is also recognised that the implementation of Green and Blue Infrastructure networks provides an opportunity for the proposed development to not only be functional, but also to help assist in the creation of a distinctive place with a distinguished character.

The scale of development proposed at Westley Green as well as the size of land holding mean that the proposed development can consider a 'gold standard' approach to climate change mitigation and adaptation. This approach includes:

- A transport strategy which prioritises the need for self-containment that will be achieved through reducing the need to travel from the outset by facilitating a mixed-use community, but also prioritises sustainable transport modes to key employment hubs such as Cambridge and Newmarket. The need for private car

will be lessened, whilst all houses will be fitted with a 'fast' 32A charging point as standard;

- The provision of active and sustainable travel options plus a range of employment opportunities offered on site (flexible working in a local hub and employment on designated larger scale employment plots, to include opportunities in the tech and Green Economy sectors to complement existing offers);
- The potential to include pre-fabricated / modular units;
- Embedding circular economy principles and site-based agriculture including community food growing whilst exploring urban farming principles;
- Taking an 'ecosystems' approach to green and blue infrastructure provision to maximise carbon sequestration, flood attenuation and other natural regulatory services;
- Smart systems integrated throughout to monitor and manage environmental conditions on site, to maximise climate change mitigation through efficient and less wasteful resource use and ensure that the development itself responds to changing climatic conditions for the safety and comfort of site users. These smart systems could integrate emerging technologies through the use of other systems such as the Internet of Things;
- Exploration of innovative housing adhering to Passivhaus principles; and
- Large scale renewable energy generation systems with storage technologies to facilitate micro-heat networks (ground and water sourced) to ensure all electricity and heating requirements are met through on-site renewable generations.

1.0 INTRODUCTION

- 1.2 This report sets out the Climate Change Strategy for the promotion of a residential-led scheme comprising approximately 8,500 homes, employment land, schools, community facilities, transport hub and green infrastructure. The proposed development is known as 'Westley Green'.
- 1.3 The Climate Change Strategy outlines the approach to delivering a highly innovative, sustainable, net-zero carbon development. The Strategy considers both climate change mitigation (reducing the development's contribution to climate change) and climate change adaptation (ensuring that the development is resilient to the changing climate).
- 1.4 The Strategy sets objectives and key performance indicators for the proposed development at Westley Green that provide a route map to be followed as the design vision progresses to a planning application and beyond, to demonstrate how the development would be net zero carbon and be adaptable and resilient to climate change based on conservative climate forecasts.

Policy Context

Climate Change and Sustainable Energy Act

- 1.5 The Climate Change and Sustainable Energy Act (2006) is an Act of Parliament which aims to boost the number of heat and electricity microgeneration installations in the United Kingdom, helping to cut carbon emissions and reduce fuel poverty. It gives powers to the UK Government to require certain organisations to report on how they are adapting to climate change through the Adaptation Reporting Power.
- 1.6 The Act provides that the government must set and meet national targets for the number of installed microgeneration systems and informs that the government must promote community energy projects. Local planning authorities may influence the success of community energy schemes through making planning permission for certain developments conditional on the use of such schemes.

Climate Change Act 2008 and UK Carbon Plan 2011

- 1.7 Further to the Climate Change and Sustainable Energy Act (2006), the Climate Change Act (2008) sets a legally binding target for reducing greenhouse gas (GHG) emissions, in particular carbon dioxide (CO₂), by at least 80% (on 1990 levels) by the year 2050 in the United Kingdom (UK), and a requirement that domestic emissions are reduced by no less than 3% each year.

- 1.8 In setting these targets, the Act established the Committee for Climate Change (CCC), which is responsible for setting binding interim targets for the Government over five-year periods. In May 2019, the CCC recommend a new emissions target for the UK: a 100% reduction ('net zero') in greenhouse gases by 2050. This change is legislation mandating a 100% reduction in CO2 emissions by 2050 was approved by the House of Commons on 24th June 2019 and the House of Lords on 26th June 2019.
- 1.9 The government's plans for achieving the emissions reductions it has committed to, including actions and incremental five-year milestones, are set-out in the UK Carbon Plan¹ which includes an interim target of 34% reduction in CO2 emissions on 1990 levels by the year 2029ⁱ.

The Clean Growth Strategy

- 1.10 In October 2017, the UK Government published its Clean Growth Strategy (CGS)ⁱⁱ setting out ambitious policies and proposals, through to 2032 and beyond, to reduce emissions across the economy and promote clean growth. The CGS provides an 'ambitious' blueprint for Britain's low carbon future, outlining how investment in green energy goes hand – in – hand with economic growth and industrial, commercial and residential strategies. Core to the strategy are actions that will cut emissions, increase efficiency and lower the amount consumers and business spent on energy. The CGS six key areas that together are responsible for 100% of the UK's carbon emissions. These are:
1. Improving business and industry efficiency (25% of UK emissions): Improving business and industry efficiency, improving energy productivity and commercial building standards, delivering industrial energy efficiency, investing in industrial innovation;
 2. Accelerating the shift to low-carbon transport (24% of UK emissions): Accelerating the shift to low – carbon transport, supporting the take – up of ultra – low emission vehicles, developing electric vehicle charging network, shifting freight from road to rail and innovation in Connected and Autonomous Vehicles and electric batteries;
 3. Improving our homes (13% of UK emissions): Improving our homes, upgrading energy efficiency across a million homes, strengthening building standards, rolling out heat networks, phasing out of high carbon heating;
 4. Enhancing the benefits and value of our natural resources (15% of UK emissions): Enhancing the benefits and value of our natural resources, supporting agriculture, a new network of forests, zero avoidable waste by 2050, managing emissions from landfill;
 5. Leading the public sector (2% of UK emissions): Leading in the public sector, setting a voluntary 30 percent public sector carbon reduction target by 2020 and funding for energy efficiency improvements in England; and

6. Delivering clean, smart, flexible power (21% of UK emissions): Delivering clean, smart, flexible power, phasing – out of coal, developing new ways of balancing the grid through electricity storage and demand response.

25 Year Environment Plan

1.11 Building on the proposals set out in the CGS, the UK outlined its plans to improve the environment in 'A Green Future: Our 25 Year Plan to Improve the Environment' (2018)iii. The 25 Year Environment Plan was published in January 2018 and sets out the UK's approach to deliver on our ambition to leave our environment in a better state than we inherited, and to fully seize the opportunities of clean growth. At a glance, the key proponents of the 25 Year Plan are:

- **Embedding an 'environment net gain' principle for development, including housing and infrastructure:** reforming developer contributions and tariffs to limit environmental damage and secure investment in natural capital.
- **Clean Air:** meeting legally binding targets to reduce emissions of five damaging air pollutants; this should halve the effects of air pollution on health by 2030 and maintaining the continuous improvement in industrial emissions by building on existing good practice and the successful regulatory framework.
- **Reducing the risks of harm from environmental hazards:** We will reduce the risk of harm to people, the environment and the economy from natural hazards including flooding, drought and coastal erosion.
- **Increasing resource efficiency and reducing pollution and waste:** achieving zero avoidable waste by 2050 and eliminating avoidable plastic waste by 2042 and reducing food chain emissions and wastage as well as improving the management of residual waste.
- **Using resources from nature more sustainably and efficiently:** ensure that resources from nature, such as timber, are used more sustainably and efficiently.
- **Enhancing beauty, heritage and engagement with the natural environment:** making sure that there are high quality, accessible, natural spaces close to where people live and work, particularly in urban areas, and encouraging more people to spend time in them to benefit their health and wellbeing.
- **Mitigating and adapting to climate change:** We will take all possible action to mitigate climate change, while adapting to reduce its impact.

1.12 The current environmental improvement plan is "A Green Future: our 25 year plan to improve the environment", which as outlined above seeks to holistically tackle specific environmental issues and the wider climate change challenge.

Environment Act

- 1.13 The Environment Act received Royal Assent on the 10th November 2021 and sets objectives to restore habitats, increase biodiversity, reduce waste, halt species decline, tackle deforestation and make better use of resources. One purpose of the Act is described as: “to transform our domestic environmental governance based on environmental principles; codify a comprehensive framework for legally binding targets; and the establishment of a new Office for Environmental Protection”. In effect, the Act aims to replicate a set of overarching EU principles into UK law.

National Planning Policy Framework and Planning Practice Guidance

- 1.14 The National Planning Policy Framework (NPPF), which was revised in July 2021, requires developments to “take a proactive approach to mitigating and adapting to climate change.” Section 14 of the NPPF (Meeting the challenge of climate change, flooding and coastal change) emphasises the planning system’s pivotal role in sustainable development through “minimising vulnerability and improve resilience to the impacts of climate change”. Paragraph 153 of the NPPF states:

“Plans should take a proactive approach to mitigating and adapting to climate change, taking into account the long-term implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating from rising temperatures. Policies should support appropriate measures to ensure the future resilience of communities and infrastructure to climate change impacts, such as providing space for physical protection measures, or making provision for the possible future relocation of vulnerable development and infrastructure.”

- 1.15 Section 11 (Making effective use of land) of the NPPF promotes an effective use of land in meeting housing requirements whilst safeguarding and improving the environment. The use of Brownfield land helps to regenerate derelict sites and remediate land contaminated by previous uses. It can also help to protect the environment by minimising the use of Greenfield sites for development. The re-use of previously developed land provides a desirable and sustainable approach for accommodating future growth; as such sites are often located close to existing services and facilities (i.e. public transport, community amenities, open space). This can help to increase the likelihood of people choosing more sustainable modes of transport, such as walking, cycling or public transport, thereby helping to reduce carbon emissions and the negative effects of climate change.
- 1.16 Section 12 (Achieving Well-Designed Places) emphasises the need for sustainability measures, climate mitigation and adaptation to contribute to the character and quality of urban environments. All new streets are proposed to be tree-lined, with trees incorporated elsewhere within developments as possible such as in parks and community orchards.

- 1.17 National Planning Practice Guidance (PPG)iv was published in June 2014 and recognises that the planning system can “increase resilience to climate change impact through the location, mix and design of development”. The guidance advises how to identify suitable mitigation and adaptation measures in the planning process to address the impacts of climate change.
- 1.18 Paragraph 005 of the PPG puts forwards recommendations for Local Planning Authorities to consider:
- Identifying no or low-cost responses to climate risks that also deliver other benefits, such as green infrastructure that improves adaptation, biodiversity and amenity;
 - Building in flexibility to allow future adaptation if it is needed, such as setting back new development from rivers so that it does not make it harder to improve flood defences in the future; and
 - The potential vulnerability of a development to climate change risk over its whole lifetime.
- 1.19 The PPG on climate change (Paragraph 007) also recognises that every area will have different challenges and opportunities for reducing carbon emissions from new development such as homes, businesses, energy, transport and agricultural related development:
- Robust evaluation of future emissions will require consideration of different emission sources, likely trends taking into account requirements set in national legislation, and a range of development scenarios;
 - The distribution of new development and the potential for servicing sites through sustainable transport solutions, are particularly important considerations that affect transport emissions; and
 - Different sectors may have different options for mitigation. For example, measures for reducing emissions in agricultural related development include anaerobic digestion, improve slurry and manure storage and improvements to buildings. In more energy intensive sectors, energy efficiency and generation of renewable energy can make a significant contribution to emissions reduction.
- 1.20 Further detailed guidance is also provided with regards to specific considerations for climate change. For example, the PPG companion document to the NPPF sets out the required approach to climate change for the assessment of flood risk. It provides recommendations for sensitivity ranges and allowances for future increases in rainfall, sea levels, river flows and tidal effects such as wind speed and wave height. For example, paragraphs 155 and 156 of the NPPF state:

"Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without

increasing flood risk elsewhere.

Strategic policies should be informed by a strategic flood risk assessment, and should manage flood risk from all sources. They should consider cumulative impacts in, or affecting, local areas susceptible to flooding, and take account of advice from the Environment Agency and other relevant flood risk management authorities, such as lead local flood authorities and internal drainage boards."

2.0 TRENDS

- 2.1 This chapter focuses on the emissions and climate change trends in order to provide context for the climate change strategy.

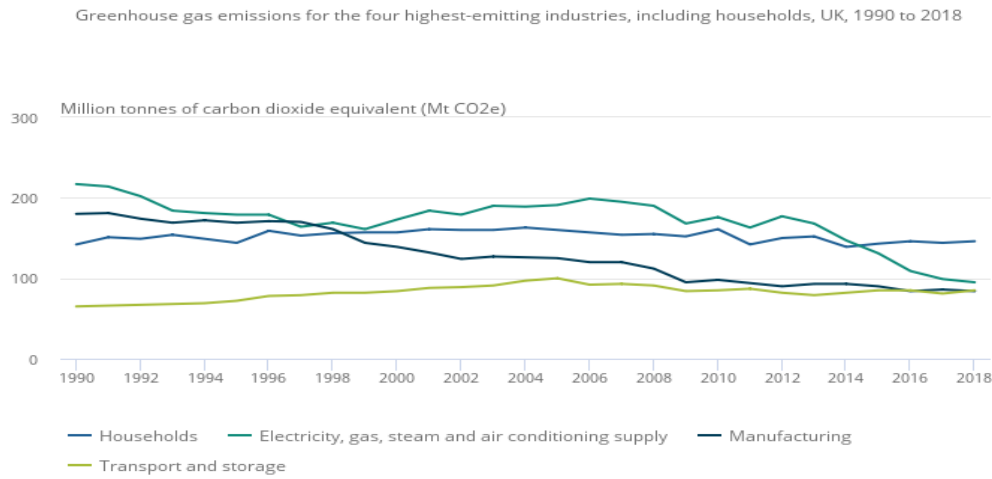
Climate Change Projections

- 2.2 The UK Climate Projections 2018 (UKCP18) are based on the latest climate science. They project future temperature change and precipitation for England. By the end of the 21st century, all areas of the UK are projected to be warmer, more so in summer than in winter. Low, central and high changes across the UK are provided. The range of temperature increase is between 2.0 degrees C to 8.7 degrees C in summer and 0.9 degrees C to 6.3 degrees C in winter, by 2099. Key trends can be summarised as hotter, drier summers, warmer wetter winters, and more extreme and frequent precipitation events (storms) in winter.

Sources of Emissions

- 2.3 Emissions have fallen across industry sectors at different rates, as the graph below from the ONS Environmental Accounts (2020) demonstrates, with households contributing the highest proportion of total emissions since 2015. Household emissions includes emissions from domestic travel (i.e. transport by private car etc). Around 46% of greenhouse gas emissions by households in 2018 related to travel, mostly from domestic car use. The transport sector emissions have risen by 30% between 1990 and 2018. Power generation has rapidly decarbonised over the last decade or so, a trend that is set to continue, as discussed below.

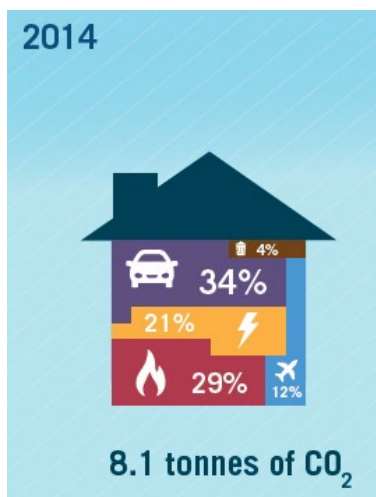
Figure 2.1 Emissions from Households, Transport, Power generation, Manufacturing and Transport and Storage



Source: Office for National Statistics – UK Environmental Accounts

2.4 The Committee on Climate Change’s (CCC) Fifth Carbon Budget infographic demonstrates the breakdown of emissions for households in 2014 with the total average carbon footprint (as shown below). The emissions sources are heating, electricity, transport, waste and aviation. This is important to setting the objectives for the climate change strategy as tackling these areas will have the most impact in climate change mitigation at Westley Green. Naturally, there is some year-on-year variation within the specific contributors to climate change, particularly owing to Covid-19, but these figures from the CCC remain a robust baseline to frame the routes to minimising household emissions.

Figure 2.2 Household Carbon Footprint



Source: Committee on Climate Change: The Fifth Carbon Budget – How every household can help reduce the UK’s carbon footprint

Local emissions rates

- 2.5 Overall, the carbon emissions have steadily declined in both South and East Cambridgeshire between 2005 and 2019. This can be seen in tables 2.1 and 2.2 showing that the emissions produced in all Industrial, Commercial and Transport have declined over the 14-year period.
- 2.6 The total reduction in emissions in South Cambridgeshire is 35.4% from 2005 to 2019 whereas there has been a 10.4% reduction in the total emissions produced for East Cambridgeshire.

Table 2.1 GHG Emissions within South Cambridgeshire 2005-2019^v

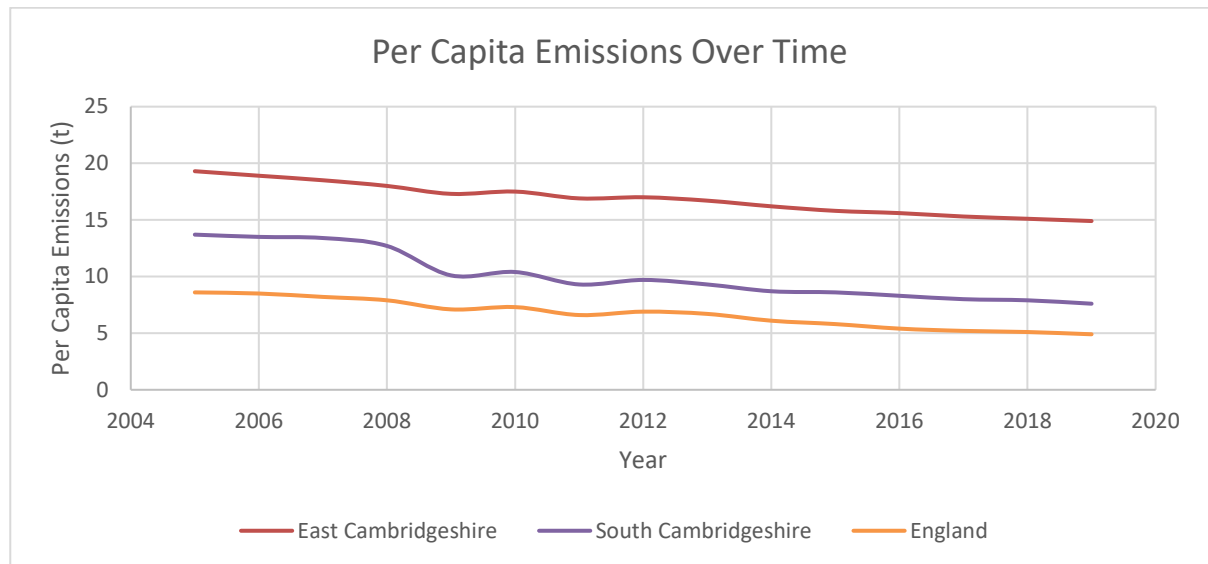
Year	Industry Total (kt CO2)	Commercial Total (kt CO2)	Domestic Total (kt CO2)	Transport Total (kt CO2)	Grand Total (CO2)	Population ('000s, mid-year estimate)	Per Capita Emissions (t)
2005	619.2	145.8	355.8	636.9	1,877.4	137.4	13.7
2006	615.5	144.3	368.3	631.7	1,877.0	139.3	13.5
2007	621.5	146.3	360.3	648.0	1,891.8	141.5	13.4
2008	573.9	151.9	360.2	625.1	1,827.2	143.6	12.7
2009	297.3	137.4	331.3	593.1	1,472.7	145.7	10.1
2010	326.0	147.7	360.1	593.2	1,541.2	147.9	10.4
2011	274.8	115.1	315.4	578.8	1,391.4	149.8	9.3
2012	301.1	136.9	338.4	572.9	1,460.7	150.9	9.7
2013	275.8	128.0	329.6	570.0	1,412.0	151.2	9.3
2014	257.3	114.7	281.3	573.4	1,328.3	152.9	8.7
2015	245.5	108.8	272.9	600.9	1,327.5	154.5	8.6
2016	227.6	93.0	259.0	618.1	1,295.1	156.0	8.3
2017	213.5	79.9	242.8	631.5	1,258.6	156.7	8.0
2018	212.7	86.5	243.4	615.4	1,247.7	157.5	7.9
2019	206.7	79.1	236.7	601.0	1,213.0	159.1	7.6

Table 2. GHG Emissions within East Cambridgeshire 2005-2019^{vi}

Year	Industry Total (kt CO2)	Commercial Total (kt CO2)	Domestic Total (kt CO2)	Transport Total (kt CO2)	Grand Total (CO2)	Population ('000s, mid-year estimate)	Per Capita Emissions (t)
2005	141.0	60.1	201.7	283.3	1,493.1	77.2	19.3
2006	140.5	52.0	207.8	282.8	1,483.5	78.4	18.9
2007	137.3	50.7	203.8	287.2	1,478.8	79.9	18.5
2008	132.8	51.5	201.5	274.0	1,459.3	81.0	18.0
2009	131.4	44.9	186.0	262.8	1,423.0	82.4	17.3
2010	149.1	45.5	201.4	262.5	1,456.2	83.3	17.5
2011	143.5	45.9	175.7	259.4	1,421.4	84.2	16.9
2012	156.1	50.0	187.9	253.0	1,445.5	85.2	17.0
2013	156.5	47.5	182.3	254.7	1,438.1	85.9	16.7
2014	161.1	41.6	155.5	256.8	1,408.7	87.0	16.2
2015	142.2	38.0	149.8	268.4	1,391.2	87.8	15.8
2016	130.3	34.0	141.4	276.9	1,376.6	88.2	15.6
2017	122.7	32.2	132.3	283.3	1,363.3	88.9	15.3
2018	116.5	31.6	132.0	281.5	1,353.7	89.4	15.1

2019	111.3	29.9	128.3	276.7	1,338.5	89.8	14.9
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Figure 2.3 Capita Intensity for South Cambridgeshire, East Cambridgeshire and the United Kingdom



2.7 Figure 2.3 compares the CO₂ per capita emissions for both South and East Cambridgeshire when compared to the national average. The per capita figure is helpful in demonstrating the average impact on carbon dioxide emissions per person, by dividing the total carbon emissions by the total population. Despite all three regions showing that CO₂ emissions per capita have reduced, the figure shows that South and East Cambridgeshire have greater emissions per capita than the national average in each year over the 14-year time period.

Accessibility and Travel Patterns

2.8 Westley Green is located approximately eight miles east of Cambridge and six miles south west of Newmarket. The site lies on the Cambridge-Newmarket-Ipswich Rail route.

2.9 The site is within close proximity to a number of major employment locations including: the Babraham Research Campus; Wellcome Genome Campus, Granta Park; Cambridge Science Park; and Cambridge Biomedical Campus. Westley Green is well positioned to provide further work force to serve these vibrant employment areas whilst at the same time providing further high quality employment within the community itself.

2.10 The COVID-19 pandemic has increased home working and decreased travel for some and this is set to continue to some extent. In order to promote a self-contained community, properties within Westley Green will facilitate home working provision through enhanced telecommunications and the establishment of appropriate work areas within each property and

coworking spaces. Furthermore, Westley Green is a mixed-use community, which will serve to retain journeys within the proposals or encourage journeys to be made by active modes of travel due to their proximity.

- 2.11 Maximising internal trips modes by sustainable trips is therefore a priority for the project and will be essential to climate change mitigation.

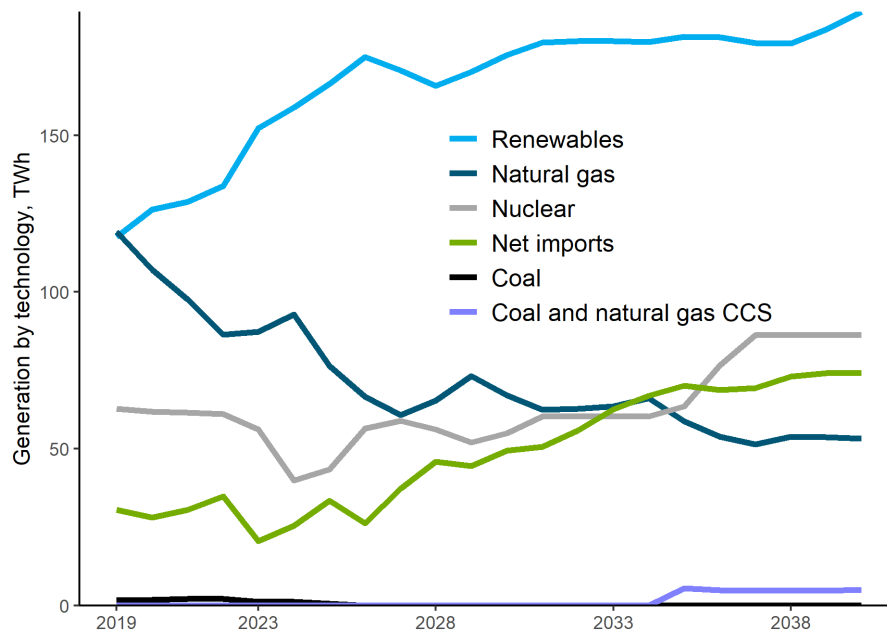
Centralised Grid Decarbonisation^{vii}

- 2.12 Given the build out period of Westley Green and the UK's commitment to net zero by 2050, it is important to consider the projected grid decarbonisation. The Government's 10 Point Plan for a Green Industrial Revolution, highlight that past trends have seen the proportion of renewable energy in the National Grid increase and major generation objectives like the drive for offshore wind powering every home by 2030 are important considerations in determining a possible energy strategy for Westley Green. The projections outlined below consider the centralised grid (i.e. excludes on-site / decentralised energy generation as it would not be possible to estimate with accuracy). It is reasonable to assume that any excess on-site energy that is fed to the National Grid would be renewable.
- 2.13 BEIS projections suggest that total final energy demand in 2040 will be around 135 million tonnes of oil equivalent (Mtoe). This is about 5 Mtoe (4%) lower than the demand in the year 2018. This represents around a 14% reduction in per capita demand.
- 2.14 Over time, low carbon generation (renewables, gas CCS and nuclear) increases. It makes up 83% of UK generation by 2040. This is around a 32 percentage point increase in the low carbon share from 51% in 2018.
- 2.15 Natural gas generation responds to increasing low carbon generation by falling rapidly until the late 2020s. It then stabilises as less new low carbon generation capacity comes online. By 2035 it will be around 59 TWh, 55% lower than 2018 levels. This compares with 34 TWh in the previous edition (25 TWh higher). In 2040, 53 TWh of demand is from gas generation, 16% of the total.
- 2.16 These projections are useful in assessing the likely operational impacts of new developments which may be more heavily reliant on electricity appliances for heating and transport as there is a transition away from fossil-fuelled powered systems.
- 2.17 It is also projected that net imports from interconnectors will rise as more connections with neighbouring markets open in the 2020s. Imports are higher than in EEP 2018 as they largely offset the lower increases in renewables and nuclear generation. These projections highlight

that not all energy demand domestically is to be met by domestic supply, but rather imported renewable energy will also achieve the decarbonising of the electricity grid.

2.18 Therefore, within the build out period of Westley Green, estimates show that the grid will increasingly be composed of renewable energy sources, with less reliance on fossil-fuel energy sources. This is shown in Figure 2.4.

Figure 2.4 BEIS 2019 Updated Energy & Emissions Projections^{viii} to 2040



3.0 METHODOLOGY

Climate Change Strategy Themes and Objectives

- 3.1 This chapter outlines how the objectives for the Climate Change strategy have been derived and sets the framework for key performance indicators (KPI) that will be monitored, reviewed and updated over time. This will allow changes in regulation, policy, technology and lifestyle to be accommodated so that the strategy remains live and current. It is critical that the strategy is kept flexible given the unknowns associated with projecting far ahead into the future.
- 3.2 Four climate change mitigation themes have been selected for the Climate Change Strategy. They are derived from the UK Environmental Accounts (see above).
- 3.3 The main contributors to carbon emissions from a household in the UK are heating, electricity, transport, waste and aviation. With regards to achieving net zero for the proposed development, it is critical to realise what interventions will yield the greatest reductions in greenhouse gas emissions. Designers and promoters of a development have no control over future site residents' and users' propensity to take flights but design can affect the other four categories of emissions. In tackling these four sources of household emissions through design, the climate change strategy will be most effective. The following themes were therefore taken forward:
- Building & Infrastructure design & Performance (covering heating, electricity, materials and waste);
 - Energy Supply (covering heating and electricity);
 - Connectivity (covering transport and communications infrastructure); and
 - Waste.
- 3.4 Climate change adaptation will consider measures embedded into the scheme to ensure comfortable and safe living conditions within the bounds of the UKCP18 scenarios. Carbon sinks and carbon sequestration are important factors that can be addressed through a green and blue infrastructure strategy and assist with climate change mitigation and adaptation. Vegetation absorbs carbon dioxide from the atmosphere, keeps carbon locked up and contributes to maintaining more comfortable living conditions through the forecast warmer periods through natural shading and cooling.
- 3.5 Blue and green infrastructure also provides climate change resilience by attenuating more intense rainfall events that are forecast. These measures have wide ranging benefits including biodiversity gains, health and wellbeing. Green and blue infrastructure design does not fit within the four themes above, which are derived from the UK Environmental Accounts, but is

a critical part of the strategy for Westley Green. This is particularly true given the scale of Westley Green which provides scope for large areas of planting with resultant sequestration benefits.

- 3.6 It is important to define some terminology, particularly concerning net zero.

Definitions

What is net zero?

- 3.7 The UKGBC^x defines two terms: one for construction and one for operation.

Net zero carbon – construction:

"When the amount of carbon emissions associated with a building's product and construction stages up to practical completion is zero or negative, through the use of offsets or the net export of on-site renewable energy."

Net zero carbon – operational energy:

"When the amount of carbon emissions associated with the building's operational energy on an annual basis is zero or negative. A net zero carbon building is highly energy efficient and powered from on-site and/or off-site renewable energy sources, with any remaining carbon balance offset."

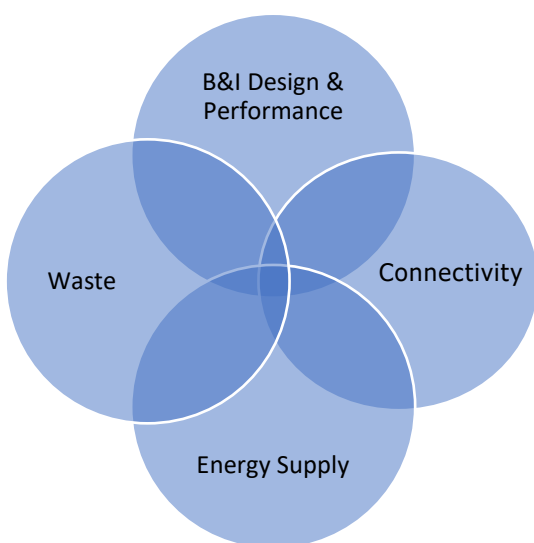
- 3.8 As discussed above, Westley Green would contain built development but also a significant amount of blue, green and connectivity infrastructure. The trajectory to net zero has been considered for all of these elements, not just buildings.
- 3.9 With net zero in mind as an ambition for 2050 at the latest, the Committee on Climate Change guidance has been consulted to determine the design principles that will facilitate zero carbon living at Westley Green. Objectives for Westley Green also draw on the Employment Strategy, Sustainable Transport and Connectivity Strategy and Health and Wellbeing Strategy as all are interrelated.

Objectives, Key Performance Indicators and Review

- 3.10 Objectives have been set for Westley Green for each of the four themes listed above. They have been split according to whether they are focused on the construction or operational period of the proposed development.
- 3.11 The premise of the Climate Change Strategy is that it is integral to the Strategic Vision and they flow through and influence all of the other Strategies supporting plan promotion. The Strategy has been developed alongside the Strategic Vision, Employment, Sustainable Transport and Health & Wellbeing Strategies so that objectives are not cumbersome for future

residents and site users – they are just a way of life that ties in neatly with all other aspects. This is in recognition that climate change is multi-faceted and interfaces with all aspects of day-to-day life. Importantly, the climate change mitigation and adaptation measures are deliverable and can be reviewed and adapted over time to suit the future circumstances and priorities.

- 3.12 At a later stage, KPIs can be set which are measurable to track the efficacy of the design principles embedded in the project and the commitment made by the promoter. The intention is that the Strategy will be reviewed and updated at outline planning application stage, again at Reserved Matters stage, during the construction and operational phases when the community takes ownership and, through stewardship ensures the long-term success of the development in terms of climate change mitigation and adaption.
- 3.13 The objectives against each of the four themes for Westley Green are set out below.



Building & Infrastructure Design & Performance – framework masterplan to enable passive design, high levels of energy efficiency, on-site renewable energy generation, flexibility of layout for home working/EV charging. To meet Future Homes Standard. Higher density, Passivhaus housing and/or Passivhaus principles enshrined. Modular Homes or pre-fabrication construction materials.

Connectivity – Active travel prioritised with sustainable options as standard. Digital connectivity future-proofed including data requirements.

Energy Supply – net zero carbon development. Framework masterplan with safeguarded areas for future energy infrastructure, on site renewable energy generation, storage and facility to export back to the grid. Smart systems to monitor and regulate environmental conditions and energy use.

Waste – zero waste. Minimal construction waste, materials to minimise embodied carbon. Masterplan designed for maximised reuse, recycling, composting, with waste disposal as last resort.

- 3.14 Some climate change adaptation measures also fall into these four themes with the exception of the roles played by green and blue infrastructure. Objectives have also been set in relation to these.

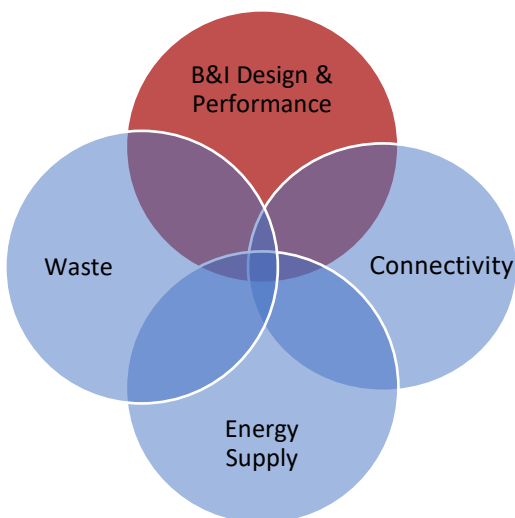
4.0 STRATEGY

4.1 The scale of development proposed at Westley Green as well as the size of land holding mean that the proposed development can consider a 'gold standard' approach to climate change mitigation and adaptation. This approach includes:

- A transport strategy which prioritises the need for self-containment that will be achieved through reducing the need to travel from the outset by facilitating a mixed-use community, but also prioritises sustainable transport modes to key employment hubs such as Cambridge City Centre and Newmarket. The need for private car will be lessened, whilst all houses will be fitted with a 'fast' 32A charging point as standard;
- The provision of active and sustainable travel options plus a range of employment opportunities offered on site (flexible working in a local hub and employment on designated larger scale employment plots, to include opportunities in the tech and Green Economy sectors to complement existing offers);
- The potential to include pre-fabricated / modular units and involvement of a house builder that has delivered the UK's largest Passivhaus scheme;
- Embedding circular economy principles and site-based agriculture including community food growing whilst exploring urban farming principles;
- Taking an 'ecosystems' approach to green and blue infrastructure provision to maximise carbon sequestration, flood attenuation and other natural regulatory services;
- Smart systems integrated throughout to monitor and manage environmental conditions on site, to maximise climate change mitigation through efficient and less wasteful resource use and ensure that the development itself responds to changing climatic conditions for the safety and comfort of site users. These smart systems could integrate emerging technologies through the use of other systems such as the Internet of Things;
- Exploration of innovative housing adhering to Passivhaus principles;
- Large scale renewable energy generation systems with storage technologies to facilitate micro-heat networks (ground and water sourced) to ensure all electricity and heating requirements are met through on-site renewable generations;

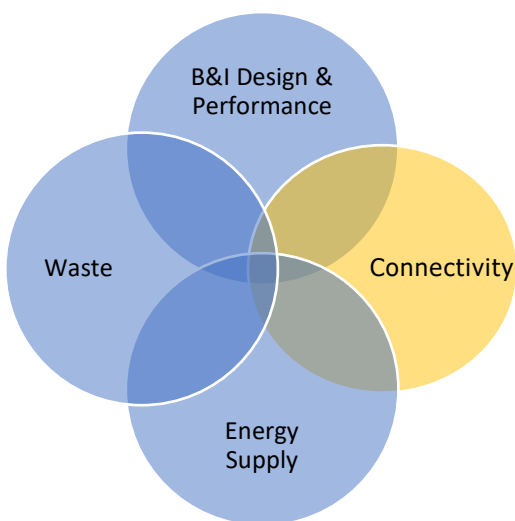
KPIs for Westley Green

4.2 KPIs for each climate change mitigation theme and climate change adaptation have been set for Westley Green.



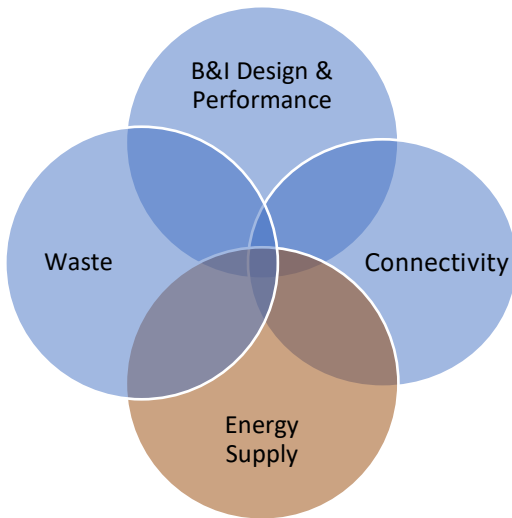
Building & Infrastructure Design and Performance:

- Passivhaus standard and principles to be explored
 - Incorporate a proportion of modular build where feasible
 - New Homes Standard met for all homes
 - Homes enabled for home working, EV and bicycle charging and storage
 - A 'Fabric First' approach to maximise material performance
 - Water meters with water-efficient homes to minimise potable water demand, with water harvesting where appropriate
 - Homes enabled for PV/heat pump installation
 - Corridors retained for infrastructure upgrades to all development zones
 - All development zones to be protected from extreme rainfall events and flooding through the use of SuDs
 - Buildings and infrastructure to be resilient to the higher average temperatures predicted
- Trees to be retained where possible. Any unavoidable tree loss to be matched by native planted trees to act as carbon sink and provide natural shading and cooling



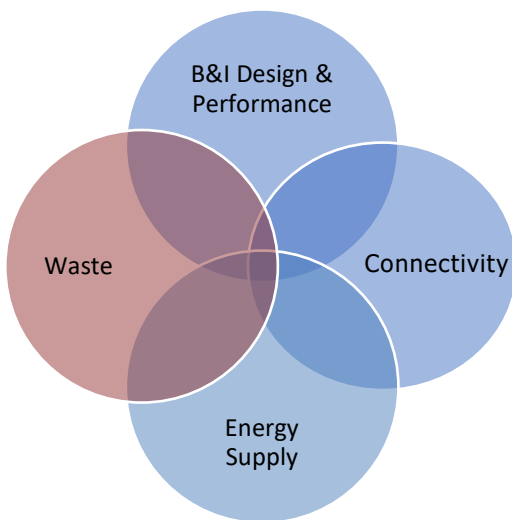
Connectivity:

- Promote and encourage modal shift from private car to active/sustainable modes, achieved through creating walkable neighbourhoods, providing a Mobility Hub, electric cycle/scooter hire schemes and providing everyday services on-site, with an internalisation trip target of 60%
 - Town centre to be car free to maximise walking and cycling
 - All development plots enabled for high speed internet
 - Communication corridors to be resilient to, and protected from, flooding and heat stress
 - All buildings to be smart and include sensors for sharing information, maximising energy efficiency and alerting users to environmental changes
 - Corridors safeguarded to all development zones for potential future technological upgrades
 - Storage for active travel equipment (bicycles, e-scooters etc.) to be provided across the settlement at safe, easy and convenient locations
- Priority at transport junctions to be given to pedestrians and cyclists over vehicles
 - All homes to be able to access a convenience shop and primary school within walking distance
 - All homes to be within a 5-minute walk of a green space



Energy Supply

- All operational energy demand provided by onsite low/zero carbon generation;
- Potential for reinforcing electricity infrastructure for decarbonised grid and/or hydrogen pipes; and/or
- Heat network providing district heating
- Flexible energy system to manage fluctuating demand, including localised energy storage.



Waste

- Net cut and fill balance across the site
- Site Waste Management Plan for construction phase
- Some modular build
- Just in time delivery
- “Take back” scheme with suppliers
- Maximise use of recycled/second-hand construction materials where feasible
- Seek to source a proportion of materials locally (within 20km radius)
- All buildings to provide appropriate storage for sorting different types of recyclables and waste, including food waste for composting, with opportunities for using the compost on site explored

Climate Change Adaptation

- 4.3 The proposed development will adhere to a series of key design principles as detailed in the emerging design. These principles include:
- Orientating buildings to maximise solar gains, both in terms of potential energy generation from solar PV panels, but also to provide thermal comfort;
 - Sustainable Drainage Systems (SuDS) to provide surface water attenuation, allowing for climate change. This will include swales, attenuation ponds, basins and permeable surfacing as well as rain gardens and green spaces;
 - Urban cooling principles to mitigate against the warming effect associated with traditional materials such as asphalt and concrete. This includes encouraging urban cooling through strategic placement of vegetation and green spaces to provide shade and cool the surrounding air temperature. Lighter coloured surface materials will help reflect solar energy away from the build environment, particularly within denser parts of the proposed development. Other measures such as green roofs, sprinklers, fountains and other misting systems will be explored.
 - Integrating the green, blue and grey infrastructure for the proposed development, framed via an 'ecosystems services' approach. A network of green corridors interconnecting habitats and connecting people to nature will be incorporated across the site, utilising existing landscape and waterways to support biodiversity.

The Trajectory to Net Zero

- 4.4 This Strategy would be reviewed, revised and updated at the following key milestones:
- Submission of outline planning application for Westley Green
 - Submission of Reserved Matters
 - Once operational
- 4.5 KPIs will be quantified at a later date, to capture current and emerging legislation, particularly with regards to the energy generation technologies available. Currently, a separate Wardell Armstrong Energy Strategy provides an indicative pathway to achieving operational net-zero from on-site renewable electricity generation.

5.0 SUMMARY

- 5.1 This Climate Change Strategy outlines a proportionate and high-level strategy to achieve net-zero carbon development at Westley Green, Cambridge. The Strategy has been informed by the wider 'Vision' for the proposed development and responds to unique contemporary challenges, such as the post-Covid-19 pandemic recovery and promoting biodiversity net gain. The Strategy has also been informed by the ever-changing legislature and policy landscape, which will continue to evolve over the life span of the proposed development. Central to this evolutionary framework, is the ability of the proposed development to have inherent flexibility to adapt and adopt the best available technologies when needed.
- 5.2 The Strategy focuses on four key themes which in combination, comprise the majority of the carbon emissions attributable to individuals: Infrastructure & Building Design; Energy Supply; Connectivity & Waste. In doing so, the Climate Change Strategy is cognisant of the local context of the surrounding area, whilst setting meaningful objectives and measurable outcomes through which progress can be assessed against.
- 5.3 The Strategy has put forward measures that will promote the resilience of the proposed development to the effects of climate change, with a particular emphasis on mitigating extreme weather event risks, such as flooding. It is also recognised that the implementation of Green and Blue Infrastructure networks provides an opportunity for the proposed development to not only be functional, but also to help assist in the creation of a distinctive place with a distinguished character at Westley Green. In particular, the scale of land available at Westley Green lends the proposed development to achieve sustainability principles that set a 'gold standard' for both reducing emissions and adapting to climate change.
- 5.4 The Strategy will be reviewed at set 'milestones', to ensure that it stays current.

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HEALTH AND WELLBEING STRATEGY
DECEMBER 2021

Westley Green: Health & Wellbeing Strategy

Prepared on behalf of L&Q Estates Limited and Hill Residential Limited

Project Ref:	32397	
Status:	Final	
Issue/ Rev:	01	
Date:	December 2021	
Prepared by:	AD/BK	
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EXECUTIVE SUMMARY

This report sets out the Health & Wellbeing Strategy for inclusive development at Westley Green, Cambridge. This strategy recognises that health and wellbeing interface across many facets of a new development and therefore it is imperative that a holistic approach to health is taken. In doing so, a broad definition of health is utilised to capture physical, environmental, social, economic and psychological wellbeing and ensure that design measures are integrated into Westley Green from the outset.

In order for these design measures to be effective, a review of the baseline physical and mental health indicators is necessary. In particular, this has identified that frequency of intentional self-harm and serious road traffic injuries are above the national average. This baseline data gathering is alongside a review of the Cambridge and Peterborough Joint Health and Wellbeing Strategy which outlines four key local objectives:

- Places that support health and wellbeing (Place-making);
- Helping children achieve the best start in life (Inequality/Equal Opportunities);
- Staying healthy throughout life (Healthy Lifestyle);
- Quality health and social care (Services).

The Strategy utilises these objectives to form the framework and lens through which health and wellbeing interventions have been assessed at Westley Green. This is to ensure that local priorities to deliver meaningful health outcomes are realised within the proposed development. The Strategy has been informed by the wider 'Vision' for the proposed development, but also responds to unique contemporary challenges, particularly the post-Covid-19 pandemic recovery which has highlighted the need to prioritise health.

The Strategy puts forward 16 objectives which cover the multi-faceted topic of health, ranging from promoting physical health, to fostering community stewardship programmes to promote a sense of community and reduce the propensity for loneliness within key demographics. This is to ensure a holistic approach to health has been considered which is integrated throughout the life cycle of the proposed development.

1.0 INTRODUCTION

- 1.2 This report sets out the Health & Wellbeing Strategy for the promotion of a proposed new settlement comprising approximately 8,500 new homes, commercial uses, schools, community facilities, transport hub and green infrastructure. The proposed development is known as 'Westley Green'.
- 1.3 This Strategy recognises the increasing need to facilitate health-oriented planning and development, through applying healthy design principles tailored to the context of the local area. The Strategy considers a broad definition of health and wellbeing and sets objectives to form the basis of a route map for review and update as the design progresses.
- 1.4 This Strategy will be used to inform the future design of the proposed development, as well as to promote engagement with the relevant stakeholders during the future stages of site promotion, design and planning.
- 1.5 The Strategy has been prepared with reference to, and alongside, the Climate Change Strategy, Sustainable Transport Strategy and Employment Strategy, all of which have a bearing on health and wellbeing.

Policy Context

- 1.6 The relevant national and local policy requirements to health and wellbeing have been considered. As health and wellbeing or multi-faceted and by nature have many indirect links to other issues contained within policy, only those policies which explicit mention health and/or wellbeing are referred to.

National Policy & Best Practice

National Planning Policy Framework (2021)

- 1.7 The revised NPPF published in July 2021 identifies the key principles in relation to health that local planning authorities should consider. In particular, Chapter 8 of the NPPF 'Promoting healthy and safe communities' states that decisions should aim to achieve developments which:

"Promote social interaction, including opportunities for meetings between people who might not otherwise come into contact with each other – for example through mixed-use development, strong neighbourhood centre, street layouts that allow for easy pedestrian and cycle connections within and between neighbourhoods, and active street frontages;

Are safe and accessible, so that crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion – for example through the use of attractive, well-designed, clear and legible pedestrian and cycle

routes, and high quality public space, which encourage the active and continual use of public areas; and

Enable and support healthy lifestyles, especially where this would address identified local health and well-being needs – for example through the provision of safe and accessible green infrastructure, sports facilities, local shops, access to healthier food, allotments and layouts that encourage walking and cycling.”

NHS England Healthy New Towns: Putting Health Into Placeⁱⁱ

1.8 NHS England launched the Healthy New Towns programme in 2015 to explore how the development of new places could provide an opportunity to create healthier and connected communities with integrated and high-quality services.

1.9 This resulted in the adoption of the following 10 principles for healthy places:

- i) Plan Ahead Collectively;
- ii) Assess Local Health and Care Needs and Assets;
- iii) Connect, Involve and Empower People and Communities;
- iv) Create Compact Neighbourhoods;
- v) Maximise Active Travel;
- vi) Inspire and Enable Healthy Eating;
- vii) Foster Health in Homes and Buildings;
- viii) Enable Healthy Play and Leisure;
- ix) Develop Health Services That Help People Stay Well; and
- x) Create Integrated Health.

1.10 These ten principles were developed and culminated in the publishing of four reports in 2019. The first, “Putting Health into Place Principles 1-3: Plan, Assess and Involveⁱⁱⁱ” is most appropriate to health and wellbeing assessments. It advocates a thorough understanding of baseline health conditions and circumstances of an area so that design can incorporate and embed opportunities to improve health outcomes. It provides guidance for establishing the processes that lead to impact and how these can be measured.

IEMA Impact Assessment Outlook Journal: Health Impact Assessment in Planning, October 2020^{iv}

1.11 This is a selection of thought pieces featuring case studies by practitioners working in health, planning and impact assessment. This document presents best practice ideas and shows the direction of travel for embedding health and wellbeing in placemaking and integrating health impact with other impact assessments including Environmental Impact Assessment, as well as

'designing-in' positive health outcomes from the outset of the proposed scheme. The discussions in this collection of papers have influenced the assessment within this report.

Sports England: The 10 Principles of Active Design^v

1.12 Sports England has also developed ten principles to inspire and inform the layout of cities, towns, villages, neighbourhoods, buildings, streets and open spaces, to promote sport and active lifestyles. A summary is provided:

- i) Activity for all neighbourhoods: enabling those who want to be active, whilst encouraging those who are inactive to become active;
- ii) Walkable communities: creating the conditions for active travel between all locations;
- iii) Connected walking and cycling routes: prioritising active travel through safe, integrated walking and cycling routes;
- iv) Co-location of community facilities: creating multiple reasons to visit a designation, minimising the number and length of trips and increasing the awareness and convenience of opportunities to participate in sport and physical activity;
- v) Network of multifunctional open space: providing multifunctional spaces open up opportunities for sport and physical activity and has numerous wider benefits;
- vi) High quality streets and spaces: well designed streets and spaces support and sustain a broader variety of users and community activities;
- vii) Appropriate infrastructure: providing and facilitating access to facilities and other infrastructure to enable all members of society to take part in sport and physical activity;
- viii) Active buildings: providing opportunities for activity inside and around buildings;
- ix) Management, maintenance, monitoring and evaluation: a high standard of management, maintenance, monitoring and evaluation is essential to ensure the long-term desired functionality of all spaces; and
- x) Activity promotion and local champions: physical measures need to be matched by community and stakeholder ambition, leadership and engagement.

Local Policy

*Cambridgeshire and Peterborough Joint Health and Wellbeing Strategy 2020-2024*¹

1.13 The Joint Health and Wellbeing Strategy sets out the strategic priorities identified through the Joint Strategic Needs Assessment (JSNA) that local government, the NHS and other partners

¹ Cambridgeshire and Peterborough Joint Health and Wellbeing Strategy 2020-2024 Available at: <https://www.peterborough.gov.uk/asset-library/draftcambridgeshireandpeterboroughjointhealthandwellbeingstrategy2020-24.pdf>

will deliver. The priorities for actions are targeted as those where there is chance to make a 'real impact' to improve health and wellbeing outcomes and a reduction in health inequalities.

1.14 The Strategy covers local authorities of the City of Peterborough, Fenland, Huntingdonshire, East Cambridgeshire, Cambridge and South Cambridgeshire.

1.15 The Health and Wellbeing Strategy has four priorities:

- Places that support health and wellbeing;
- Helping children achieve the best start in life;
- Staying healthy throughout life;
- Quality health and social care.

Greater Cambridge Emerging Local Plan 2020-2041²

1.16 Cambridge City Council and South Cambridgeshire District Council are working together to produce a Local Plan for the two areas which will be referred to as Greater Cambridge. The Local Plan will cover areas of new homes and jobs to be planned for, services and infrastructure required and where new development will occur.

1.17 Within the first proposals of the Local Plan there are multiple policies that will shape the health and wellbeing of the area. These include:

1. Policy WS/HD: Creating healthy new developments: Integrating health considerations into policies across the plan, Health Impact Assessments will be required to accompany planning applications applied to new developments, drawing on the ten principles developed from the Healthy New Towns initiative;
2. Policy WS/CF: Community, sports, and leisure facility: Sets out what new community (including culture, education and healthcare), sports, and leisure facilities should be provided and sustained through new development;
3. Policy BG/BG: Biodiversity and Geodiversity: Controlling the biodiversity impacts from development, including the approach to biodiversity net gain (which requires developers to ensure habitats for wildlife are enhanced and left in a measurably better state than they were before the development);
4. Policy BG/GI: Green Infrastructure: Identification of the green infrastructure network and strategic initiatives intended to enhance it and address how development proposals should relate to green infrastructure;

² Greater Cambridge Local Plan First Proposals 2020 – 2041 Available at: <https://consultations.greatercambridgeplanning.org/sites/gcp/files/2021-10/First%20Proposals%20-%20FINAL%20FURTHER%20REVISED%2028.10.21-red.pdf>

5. Policy WS/IO: Creating inclusive employment and business opportunities through new developments): Sets out how new developments should support the skills and training needs of local residents and provide opportunities for local development;

2.0 BASELINE CONDITIONS

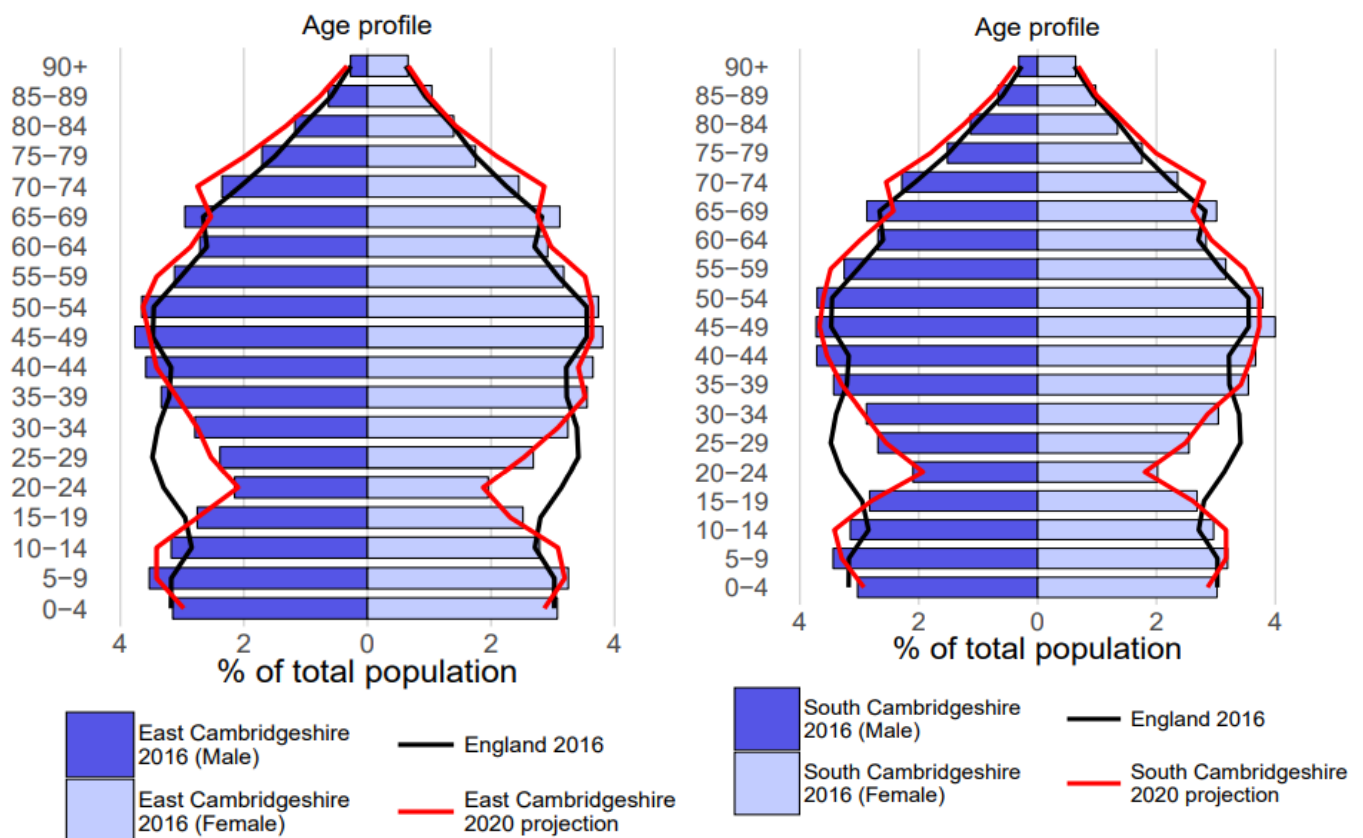
Local Context

- 2.1 In creating a comprehensive health and wellbeing strategy, it is important to understand the different health profiles in the wider community. The healthy design principles embedded within the development are then able to actively respond and support local community health needs, to ensure the delivery of tangible benefits to the community.
- 2.2 Baseline data is available for both South Cambridgeshire (SCDC) and East Cambridgeshire District Councils (ECDC) (which the site straddles). Whilst the Local Plan area covers Greater Cambridge, these are the most recent and relevant data sets for the Site.

Health and Wellbeing

- 2.3 The population of both East and South Cambridgeshire contrasts to the national demographic spread. (See Figures 2.1 and 2.2). The proportion of adults in the 20-24, 25-29 and 30-34 age brackets is comparatively lower than the national average. However, both Districts are comparable with the national average for other age brackets.

Figures 2.1 and 2.2 Age Profiles for East and South Cambridgeshire^{vi}



Life Expectancy and Mortality

- 2.4 As shown in Table 2.1, physical health statistics relating to East and South Cambridgeshire compared to the national average perform on the whole, better or marginally worse than the national average. The number of people killed and seriously injured (KSI) casualties on England's roads is significantly worse than the England average.
- 2.5 The life expectancy for both males and females are significantly better than the national average.
- 2.6 Across the mortality statistics, East Cambridgeshire performs slightly worse than South Cambridgeshire, where only two of the five mortality indicators are significantly better than the national average. This contrasts to South Cambridgeshire where all five mortality indicators presented are significantly better than the national average.
- 2.7 To sum, the physical health indicators show that both East and South Cambridgeshire is on the whole, a healthy community and the proposed development will attempt to build upon these strengths, addressing areas which are proportionally worse than the national and regional average. This is particularly true with regards to road safety.

Table 2.1 Physical Health Baseline Statistics^{vii}

Indicator	Year	East Cambridgeshire	South Cambridgeshire	East of England	England
• Life expectancy					
Life expectancy at birth for males	2018-20	81.0	83.1	80.2	79.4
Life expectancy at birth for females	2018-20	84.8	85.9	83.3	83.1
• Morbidity					
Killed and seriously injured (KSI) casualties on England's roads	2016-18	67.1	63.6	46.7	42.6
Hip fractures in people aged 65 and over	2019/2020 and 2018/19 respectively	620	554	556	572
• Mortality					
Under 75 mortality rate: all causes	2017-19	268	230	298	326
Under 75 mortality rate from all cardiovascular diseases	2017-19	61.3	44.7	62.9	70.4
Under 75 mortality rate from cancer	2017-19	115.5	107.5	122.6	129.2
Infant Mortality Rate	2017-19	3.1	1.9	3.4	3.9
Excess winter deaths index	2019-2020	9.2%	6.7%	16.3%	17.4%
• Key					

Indicator	Year	East Cambridgeshire	South Cambridgeshire	East of England	England
•		Significantly better than the England average			
•		Better than the England average (but not significantly so)			
•		Worse than the England average (but not significantly so)			
•		Significantly worse than the England average			
•		Not Compared			

Mental Health and Behavioural Risk Factors

- 2.8 As shown in Table 2.2, the mental health insight for both East and South Cambridgeshire is more mixed, the mental health indicators present both districts to be far lower than the national averages, the indicators include emergency admission rates for self-harm, suicide rates and dementia diagnosis.
- 2.9 The Lifestyle indicators show that both districts studied outperform the national average. Of the five indicators selected, South Cambridgeshire is significantly better on four indicators whilst East Cambridgeshire is significantly better on three.

Table 2.2: Mental Health and Lifestyle/Behavioural Risk Factor Statistics

Indicator	Year	East Cambridgeshire	South Cambridgeshire	East of England	England
• Mental health					
Emergency hospital admission rate for intentional self-harm	2019/20	242.7	233.7	168.4	192.6
Suicide rate	2017-19	10.6	11.7	10.8	10.4
Estimated dementia diagnosis rate (65+ years)	2020	53.3%	48.4%	No data	61.6%
• Lifestyle					
Percentage of physically active adults	2018/19	70.9%	74.9%	67.3%	66.4%
Percentage of overweight or obese adults	2018/19	58.8%	58.1%	62.3%	62.8%
Prevalence of obesity in Year 6 children	2019/20	13.8%	11.3%	19.1%	21.0%
Smoking prevalence in adults - current smokers (APS)	2019	13.5%	11.9	13.7%	13.9%
Admission episodes for alcohol related conditions	2019/20	476	478	484	519
• Key					
		Significantly better than the England average			
		Better than the England average (but not significantly so)			
		Worse than the England average (but not significantly so)			
		Significantly worse than the England average			

Indicator	Year	East Cambridgeshire	South Cambridgeshire	East of England	England
		No interpretation of significance provided			

Primary Healthcare Infrastructure

- 2.1 In addition to the above physical and mental health baseline statistics, an audit of the current GP Provision has been undertaken. A study area of 2km (i.e. within a 30-minute walking distance) was utilised to examine the current level of primary healthcare infrastructure, as well as any capacity within existing provision; no GP Surgeries were identified within this buffer.

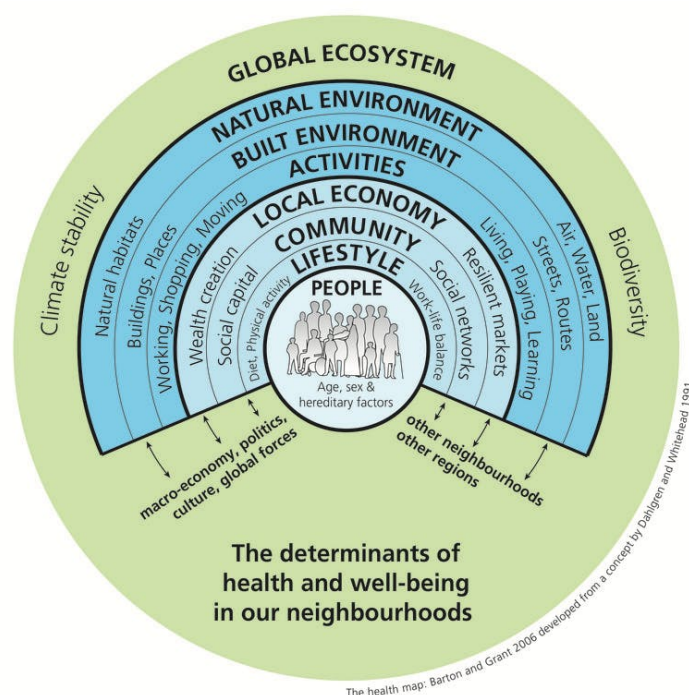
3.0 STRATEGY

Methodology

Health and Wellbeing Themes and Objectives

- 3.1 This chapter outlines how the objectives for the Health & Wellbeing strategy have been derived and sets the framework for appraising the Strategic Vision for Westley Green against them, that could be monitored, reviewed and updated over time. This will allow changes in regulation, policy, technology and lifestyle to be accommodated so that the strategy remains live and current. It is critical that the strategy is kept flexible given the unknowns associated with projecting far ahead into the future.
- 3.2 A broad definition of health has been considered in this Strategy. The World Health Organisation definition is “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”^{viii}.
- 3.3 The health and wellbeing of our neighbourhoods is influenced by a broad range of interconnected factors, as demonstrated in Figure 3.1.

Figure 3.1 Health Map^{ix}



- 3.4 It is known that many factors contribute to health and wellbeing. Genetics, lifestyle, community, local economy, the activities we undertake, our built and natural environments and

global ecosystem all play a part. We have more control over some of these factors than others. The Strategy seeks to embed positive design interventions for better health and wellbeing outcomes for those determinants that can be facilitated or enabled by design. Design interventions cover five aspects of wellbeing, informed by the WHO's broad definition:

- Environmental
- Psychological
- Social
- Physical
- Economic

3.5 Design features often influence more than one of these aspects of wellbeing. Therefore, rather than set objectives per theme, the themes within the Cambridgeshire and Peterborough Joint Health & Wellbeing Strategy (2020-2024) form the structure with abbreviated focuses provided in parenthesis. As set out earlier in this Strategy, the four areas of focus are:

- Places that support health and wellbeing (Place-making);
- Helping children achieve the best start in life (Inequality/Equal Opportunities);
- Staying healthy throughout life (Healthy Lifestyle);
- Quality health and social care (Services).

3.6 A review of the baseline public health data set out earlier and the Joint Health & Wellbeing Strategy reveals that intentional self harm rates and traffic accident-related deaths are higher than average. The JSNA particularly focuses on the relationship between people's social and economic circumstances and their health, recognising pockets of affluence and deprivation across the area. The Strategy also states that people with higher education and skills levels generally have better health, through higher incomes and a better understanding of how to stay healthy.

Objectives

3.7 Westley Green recognises that places that support health and wellbeing must be properly designed from the inception with a priority of future residents at the heart of the built form. Westley Green, owing to its size, will have a sufficient critical mass of services and facilities to promote self-containment and active travel modes.

3.8 Considering a broad definition of wellbeing is essential to designing a community where people will want to live, grow and contribute to a community that they feel proud of. It is this sense of belonging and pride that will enable successful management and stewardship of the development into the future, ensuring that positive wellbeing outcomes last and continue to be relevant.

- 3.9 Owing to the scale of Westley Green, there are unique opportunities with regards to climate change too. This interfaces with health and wellbeing such as the onsite provision of renewable energy sources which will help to combat fuel poverty and negate fluctuating energy market prices on the most vulnerable. Tied to this is a design-led framework which reduces energy demand from the outset through a fabric-first approach to building design. The blue and green infrastructure strategy is future proofed to ensure that surface water drainage and planting is resilient to the changing climate to provide a safe place to live.
- 3.10 Health & Wellbeing objectives are listed below in Table 3.1 alongside the most relevant aspects of wellbeing and relevant areas of focus from the Peterborough and Cambridge Health & Wellbeing Strategy. Consideration has also been given to the 10 principles for healthy places (set out in the Introduction chapter above) of *NHS England Healthy New Towns*. All objectives that are relevant to this stage of design visioning are included in the objectives. "Planning ahead collectively" and "create integrated health" will become more important as the project is taken forward and stakeholder engagement commences, including with the Council's public health team and local communities.

Table 3.1 Health & Wellbeing Objectives

No.	Objective	Aspects of Wellbeing	Areas of Focus (from the Cambridgeshire and Peterborough Health & Wellbeing Strategy)
1	All residential areas will include greenery, tree planting and be within a 5-minute walk of open space for recreation	<ul style="list-style-type: none"> • Environmental • Psychological • Physical 	Placemaking Healthy Lifestyle
2	The Site will provide a mix of employment uses and skills/training opportunities throughout the construction and operational phase	<ul style="list-style-type: none"> • Psychological • Physical • Social 	Inequality/Equal Opportunities Place-making
3	Residents will be provided the means to access formal leisure and exercise facilities and infrastructure on site	<ul style="list-style-type: none"> • Environmental • Psychological • Physical 	Place-making Healthy Lifestyles Inequality/Equal Opportunities
4	Site users will be able to access indoor and outdoor places for socialising on foot, cycle, or by public transport and remain safe from road accidents and/or fear and intimidation.	<ul style="list-style-type: none"> • Psychological • Physical • Social 	Placemaking Healthy Lifestyle
5	Employment and education facilities will promote and actively support the wellbeing of their workforce/ students	<ul style="list-style-type: none"> • Psychological 	Inequality/Equal Opportunities

6	Residents will feel a sense of place and pride in where they live, and enjoy living there	<ul style="list-style-type: none"> • Psychological • Social • Physical 	Placemaking Healthy Lifestyle
7	All residents will have clean air	<ul style="list-style-type: none"> • Physical 	Inequality/Equal Opportunities
8	Residents will feel safe in their built and natural environment	<ul style="list-style-type: none"> • Psychological • Physical 	Placemaking
9	Residents will have opportunities to interact and engage with their community and how it is managed	<ul style="list-style-type: none"> • Psychological • Social 	Placemaking Equal Opportunities
10	Residents will be able to register at, and access, a GP surgery on the site	<ul style="list-style-type: none"> • Psychological • Physical 	Placemaking Inequality Healthy Lifestyle Services
11	Children will be able to access safe and inclusive areas for informal and formal play, on foot	<ul style="list-style-type: none"> • Psychological • Physical • Social 	Healthy Lifestyle Services Inequality
12	Children will be able to safely walk, scoot or cycle to primary school	<ul style="list-style-type: none"> • Psychological • Physical • Social • Economic 	Healthy Lifestyle Services Inequality
13	Residents will be able to grow their own food in private or communal spaces	<ul style="list-style-type: none"> • Environmental • Social • Physical 	Healthy Lifestyle Inequality
14	Housing will be provided that will be suitable and/or adaptable to suit people with physical disabilities	<ul style="list-style-type: none"> • Physical • Psychological 	Placemaking Inequality
15	A mix of housing types and tenures will be provided that are affordable, with opportunities to get to know neighbours and avoid segregated communities	<ul style="list-style-type: none"> • Psychological • Social • Economic 	Placemaking Inequality
16	Built development and green infrastructure will be resilient to climate change	<ul style="list-style-type: none"> • Economic • Environmental • Psychological 	Placemaking

4.0 APPRAISAL

4.1 Table 4.1 summarises the main design features of the vision that contribute to positive health and wellbeing outcomes and achieve the objectives. The appraisal identifies where Westley Green addresses Health and Wellbeing objectives.

Table 4.1 Performance Against Health & Wellbeing Objectives

No.	Objective	Commentary
1	All residential areas will include greenery, tree planting and be within a 5-minute walk of open space for recreation	The network of blue and green infrastructure proposed, will maximise the use of trees and other vegetation and include a mixture of public open spaces for recreation and enjoyment, with mental and physical health benefits. All homes will be within a 5-minute walk of strategic green space.
2	The Site will provide a mix of employment uses and skills/training opportunities throughout the construction and operational phase	A diverse range of employment opportunities will be provided through Westley Green to compliment existing value-add services at Cambridge, but also provide training and skills opportunities. Employment will be provided at home, in the local hubs and on designated land for employment. Living in close proximity to work, accessed on foot or bicycle can have physical and mental health benefits. Employment has physical and mental health benefits. The range of employment locations and types will offer a range of opportunities to benefit a diverse cross section of the community.
3	Residents will be provided the means to access formal leisure and exercise facilities and infrastructure on site	Green open spaces will be varied and provide a mixture of sizes and types of space to bring people together for different reasons. Streets in the villages will be designed to prioritise human interaction. The whole site will be accessible on foot, with safe vehicular access provided where necessary, taking account of the wellbeing of pedestrians and cyclists. A 3km long linear park will run through the settlement, with play parks, sports pitches, running and cycle routes to encourage participation.
4	Site users will be able to access indoor and outdoor places for socialising on foot, cycle, or by public transport and remain safe from road accidents and/or fear and intimidation.	Active travel will be prioritised throughout the site and sustainable modes will be central to the transport nodes.
5	Employment and education facilities will promote and actively support the wellbeing of their students	In order to address inequality within younger generations, Westley Green will provide education facilities and a diverse range of employment opportunities to empower students. It is recognised

		that physical and mental ill-health is closely correlated to financial/economic wellbeing and therefore bridging the divergence is crucial.
6	Residents will feel a sense of place and pride in where they live, and enjoy living there	This objective will be achieved through facilitating healthy lifestyles but also educating them about the facets of health, in recognition that it is not just physical health but mental and psychological health that can foster stewardship and create a sense of community.
7	All residents will benefit from air quality that complies with national standards	Residents will have clean air predominantly through the prioritisation of sustainable transport modes over internal combustion engines within the development, but also through provision of on-site renewable energy generation as opposed to fossil-fuel generating systems. The extensive green infrastructure network will also provide a regulatory service in terms of air quality.
8	The development will be designed so that residents feel safe	Secured by Design principles (or the future equivalent) will be incorporated at the planning application stage. The mix of uses proposed in the vision will ensure active frontages, natural surveillance and the green infrastructure and open space provision will provide a beautiful and high – quality environment to foster a sense of community and ownership. Streets will be designed for people with pedestrians as the priority.
9	Residents will have opportunities to interact and engage with their community and how it is managed	Community trust groups can be set up which would take resident feedback in order to ensure the voices of marginalised groups are taken account of.
10	Residents will be able to register at, and access, a GP surgery on the site	Westley Green would provide GP facilities on site for new residents and would be accessible via sustainable transport modes. Other community facilities such as a secondary school are to be provided too.
11	Children will be able to access safe and inclusive areas for informal and formal play, on foot	Informal and formal play areas will be strategically placed throughout the development to encourage all to use them.
12	Children will be able to safely walk, scoot or cycle to primary school	This will be encouraged through the approach to sustainable transport at Westley Green, achieved through the de-prioritisation of the private car.
13	Residents will be able to grow their own food in private or communal spaces	Private gardens and community allotments will be provided and will encourage residents to grow food, reducing food inequality whilst also promoting stewardship.
14	Housing will be provided that will be suitable and/or	All dwellings would be Building Regulations Part M4 (2) compliant or comply with the relevant technical

	adaptable to suit people with physical disabilities	standards for inclusive design and access at the time of construction.
15	A mix of housing types and tenures will be provided that are affordable, with opportunities to get to know neighbours and avoid segregated communities	Private and affordable dwellings will be mixed and include intergenerational living. Blocks of apartments would be mixed tenure to foster a community feel. There will be a clear definition between private and public space but social junctions (nodes and streets) will be provided to promote interaction and reduce loneliness.
16	Built development and green infrastructure will be resilient to climate change	A network of blue and green infrastructure will be central to Westley Green. It will provide surface water attenuation designed to be resilient to climate change where more intense rainfall events are expected together with an increased likelihood of winter storms. The green infrastructure will include permeable surfaces and tree planting to provide shading and cooling to provide more comfortable conditions in hotter, drier summers. Careful consideration would be given to the planting strategy to ensure that resilient species are incorporated, including those not as reliant on water during summer months when it is likely to be more scarce.

5.0 CONCLUSION

- 5.1 The Health and Wellbeing Strategy has set a framework for achieving key health outcomes for achieving a sustainable development at Westley Green, Cambridge. The Strategy has been informed by the wider 'Vision' for the proposed development, but also responds to unique contemporary challenges, particularly the post-Covid-19 pandemic recovery which has highlighted the need to prioritise health. The Strategy has been aligned to, and informed by, the Peterborough and Cambridge Joint Health & Wellbeing Strategy to ensure that local priorities to deliver meaningful health outcomes are realised within the proposed development.
- 5.2 The Strategy puts forward 16 objectives which cover the multi-faceted topic of health, ranging from promoting physical health, to fostering community stewardship programmes to promote a sense of community and reduce the propensity for loneliness within key demographics. This is to ensure a holistic approach to health has been considered which is integrated throughout the life cycle of the proposed development.
- 5.3 These objectives have in turn, fed into the design principles outlined in the Vision document for Westley Green to ensure that any built development principles are put forward with health and wellbeing at the centre of discussion.

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