

Sheffield Local Plan

Integrated Impact Assessment Report (Update and Addendum)

April 2025

Quality information

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1. Introduction

1.1 Background

- 1.1.1 AECOM is commissioned by Sheffield City Council to undertake an Integrated Impact Assessment (IIA) of the emerging Sheffield Local Plan. The IIA encapsulates several processes including a sustainability appraisal / strategic environmental assessment (SA/SEA), equalities impact assessment (EqIA) and a health impact assessment (HIA).
- 1.1.2 The IIA is being undertaken alongside the development of the Local Plan, with the intention of aiding the decision-making process.
- 1.1.3 The Plan preparation process has been iterative, as has the IIA. As a result, there have been several key stages of consultation and decision making, each with accompanying Plan documents and Interim IIA Reports.
- 1.1.4 A full IIA Report (CD17) was submitted alongside the Publication version of the Local Plan, which is currently undergoing Examination in Public. The IIA Report appraises the Plan and brings together all previous stages of appraisal. Updates are presented in this latest version of the IIA Report to ensure that the final IIA is legally compliant and provides a robust assessment of the impact of the Plan, as well as full consideration of reasonable alternatives.
- 1.1.5 To aid in the understanding of where key changes to the IIA Report have been made, please refer to **Appendix M**.
- 1.1.6 A non-technical summary has also been prepared. The non-technical summary has been written, to assist future readers' understanding of this report.

1.2 The IIA Report

- 1.2.1 This document is the Integrated Impact Assessment Report and presents the latest iteration of the IIA process. The report is structured so that it meets the legislative requirements of SA/SEA, whilst also ensuring that the key elements of equality impact assessment and health impact assessments are captured in the process.
- 1.2.2 An integrated approach enables a more holistic assessment approach to be taken, seeks to reduce any duplication of assessment work and benefits from a shared understanding of the policies.

Sustainability Assessment and Strategic Environmental Assessment – required by EU Directive and UK legislation to assess the social, economic and environmental impacts of Plans.

Equalities Impact Assessment – related to the council's duties under the Equality Act 2010 and the Crime and Disorder Act 1998, and assessing the impact of new policies on people of different ethnicities.

Health Assessment – not a statutory requirement but good practice, to promote health gains for the local population, reduce health inequalities and ensure new policies do not actively damage health, particularly important in light of the Health and Social Care Act 2012.

- 1.2.3 The following table sets out how this IIA Report has been prepared to ensure compliance with Schedule 2, Regulation 12(3) of the SEA Regulations.

Schedule 2 requirements	Evidence
An outline of the contents and main objectives of the plan or programme, and of its relationship with other relevant plans and programmes.	Section 2 of this IIA Report The Scoping Report includes a review of relevant plans, programmes and policies, which then feeds into the identification of key issues.
The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme.	The Scoping Report contains the baseline information for each of the sustainability themes. Woven within appraisal findings throughout this IIA Report.
The environmental characteristics of areas likely to be significantly affected.	The Scoping Report identifies (through the baseline review) the characteristics of Sheffield, through the use of maps, text, tables and graphs. Woven within appraisal findings throughout this IIA Report.
Any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Council Directive 79/409/EEC on the conservation of wild birds(a) and the Habitats Directive.	The Scoping Report identifies the key sustainability issues for the Plan area, reflecting statutory designations such as European protected sites. Reference to key issues are also woven within appraisal findings throughout this IIA Report. Separate HRA report published.
The environmental protection objectives, established at international, Community or Member State level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation.	The Scoping Report (Through the context review), identifies key objectives, targets and guidance at international, national and local levels. Woven within appraisal findings throughout this IIA Report.

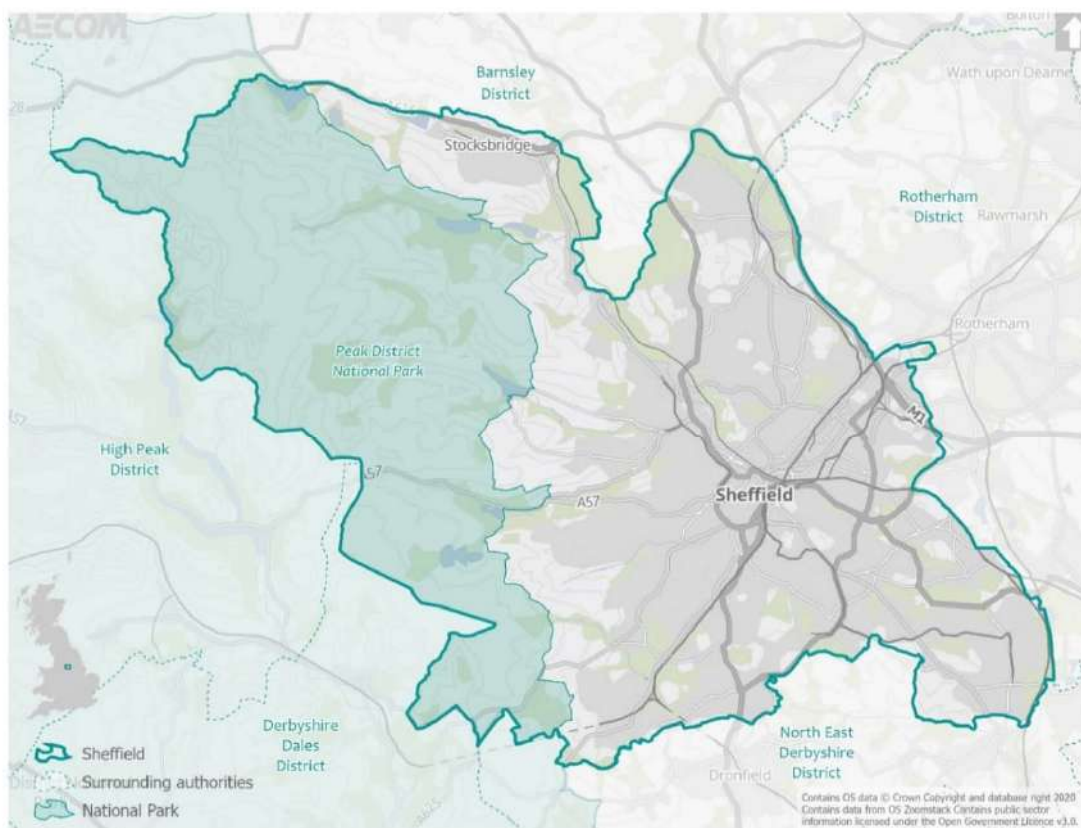
Schedule 2 requirements	Evidence
The likely significant effects on the environment, including short, medium and long-term effects, permanent and temporary effects, positive and negative effects, and secondary, cumulative and synergistic effects.	Woven throughout the IIA Report in various appraisal findings including consideration of options, policies, sites etc.
The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme.	Section 11 of this IIA Report summarises the mitigation measures identified throughout the IIA process.
An outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information.	Section 6 Issues and Options Stage Section 7 Green Belt locations Sections 9 and 10 Proposed Plan stage
A description of the measures envisaged concerning monitoring in accordance with regulation 17.	Section 12 outlines draft indicators. These will be finalised upon Adoption of the Plan.
A non-technical summary of the information provided under paragraphs 1 to 9.	Separate document prepared

2. Plan details

2.1 Introduction

- 2.1.1 Many of the policies in the current Adopted Local Plan for Sheffield are out of date and so a new plan is required. There is a need for the city to provide land for new homes and jobs, whilst also responding to the climate change emergency, supporting sustainable transport, protecting and enhancing environmental assets, and ensuring development is inclusive and benefits disadvantaged communities.
- 2.1.2 The new Plan will guide development in the city until 2039 and will be called 'The Sheffield Plan'. The Plan area is illustrated on Figure 2.1 below and will cover the whole of Sheffield City Council area, except for the area within the Peak District National Park (where the Peak District National Park Authority are the local planning authority).

Figure 2.1 The Plan area



2.2 Plan-making and the IIA process up to Plan Submission

- 2.2.1 The emerging draft Sheffield Local Plan has been informed by several steps to gain a better understanding of the key issues facing the City and how these can be addressed.
- 2.2.2 A consultation was undertaken in November 2015 on 'Citywide Options for Growth'. However, there were concerns with the potential approaches discussed, particularly in relation to Green Belt release. The picture has also changed in relation to housing and employment needs and supply. Therefore, a new issues and options consultation was undertaken in 2020. This was accompanied by two outputs from the Integrated Impact Assessment process (A scoping report and an interim IIA report exploring issues and options). These are summarised below:

Sheffield Plan: Our City, Our Future – Issues and Options 2020

- 2.2.3 The Issues and Options 2020 document outlined the key opportunities and challenges for the city. It also set out three broad spatial approaches to delivering growth across the City. [Five options were later derived from the original three broad options to facilitate discussions with the Council's Climate Change, Economy and Development Transitional Committee and Cooperative Executive in autumn 2021/early 2022].

IIA Scoping Report – 2020

- 2.2.4 The [Scoping Report](#) established baseline information and policy context to help identify a series of key issues that should be dealt with through the IIA. This subsequently informed a framework of objectives that will be used to appraise the Plan.

Interim IIA Report – 2020

- 2.2.5 This document focused on an appraisal of the options identified in the Issues and Options Consultation document. At that stage, the options were 'high-level' in nature, and therefore not site or settlement specific. Consultation was undertaken with the Statutory Consultees directly, and with wider stakeholders by making the report available for comment through the Council's consultation portal. The main comments received were from Historic England and the Environment Agency and were responded to by the Council accordingly (see the Council's [Summary of Consultation Responses](#))

Interim IIA Report – 2022

- 2.2.6 Focused IIA work was undertaken to understand the potential reasonable locations for growth in the Green Belt should it be demonstrated that exceptional circumstances exist to amend Green Belt boundaries. This helped to rule out unreasonable locations and provided an understanding of where development would likely be directed within the Green Belt at various scales of growth.

Pre – Submission IIA Report – December 2022

- 2.2.7 A full Integrated Impact Assessment report was published alongside the Pre-Submission Local Plan. The December 2022 version of the IIA Report brought together the key outputs from previous stages of the plan making and appraisal process.
- 2.2.8 A range of spatial strategy options for housing and employment growth was set out and appraised within the IIA Report, as well as an appraisal of the draft Plan viewed 'as a whole'. The IIA report was consulted upon alongside the Local Plan before being submitted as a core document for independent inspection. The Statutory Consultees did not make any specific comments in relation to the IIA Report at this stage (though there were responses from other stakeholders).

2.3 March 2025 IIA Update Report (this document)

Reasonable alternatives for scale and location of employment growth

- 2.3.1 During discussions at the Sheffield Plan Examination in June/July 2024, it was agreed between the Council and the Inspectors that the previous IIA work undertaken on the reasonable alternatives for employment growth should be updated to reflect the most up to date evidence on quantitative need. It was agreed that the IIA should also consider additional spatial locational alternatives for employment growth. The Inspectors Post Hearings Letter suggests what they consider to be reasonable to ensure that the Plan is sound with regards to employment land provision.

- 2.3.2 This has been reflected through further updates to this IIA Report (i.e. through appraisal of the strategy proposed by the Inspectors).

Reasonable alternatives for scale and location of housing growth

- 2.3.3 At the hearing sessions, the Inspectors also asked that the IIA update should consider a further alternative in relation to spatial locations for housing growth, to take account of a dispersed approach with sustainably located, smaller Green Belt sites on the edge of the urban area as a further reasonable alternative. The appraisal of reasonable alternatives for housing growth therefore considers 3 additional options in addition to the 5 options that were previously considered in the 2023 version of the IIA. The additional 3 options cover:

- High level impacts of a dispersed option to deliver homes entirely on sustainably located smaller sites; and
- High level impacts of a combined option with a mix of strategic locations (set out in Section 7 of the IIA) and dispersed sustainably located smaller sites

- 2.3.4 This latest iteration of the IIA updates the information on housing land supply¹ to reflect the latest available information for the period 2022-2039. This has enabled clarification of the amount of supply that would need to be delivered on 'Other Green Belt Locations' (greenfield sites) under Options 4 to 8.

Updates to the Sustainability Appraisals of Site Options

- 2.3.5 Sustainability appraisal of all promoted sites (Green Belt sites and any additional non-Green Belt sites) has been undertaken by the Council as part of an update to the Site Selection Methodology Background Paper. The results have been reproduced in this iteration of the IIA for completeness. It should be noted that an initial sift of sites has been undertaken to exclude sites that are not adjoining or close to the edge of the urban area.
- 2.3.6 Given that such sites are not sustainably located, these sites are not regarded by the Council as being reasonable alternatives.
- 2.3.7 Additional information on the sustainability appraisal of Gypsy and Traveller and Travelling Showpeople sites has also been added to this iteration of the IIA. This follows assessment of any relevant smaller private sites originally sifted out under the site selection methodology owing to site area being under 1ha, as well as consideration of Council-owned Green Belt sites and any other greenfield Green Belt sites promoted for Traveller use, (both below and above 1ha in size). The IIA includes a detailed assessment of the current site selected for allocation and an explanation of why there are no other reasonable alternatives.

¹ Previously set out in Table 9.1 in the IIA 2023.

Level 2 Strategic Flood Risk Assessment

- 2.3.8 This IIA update also takes account of the Level 2 Strategic Flood Risk Assessment. In particular, it relates this to the diagram in paragraph 007 of Flood Risk and Coastal Change Planning Practice Guidance. The Level 2 Assessment identified suitable and achievable mitigation for the majority of the sites. The effect on the overall quantum of development is relatively minor. These changes do not have a material effect on the overall delivery of the spatial strategy, so the assumptions and analysis made within the previous IIA (December 2022) are considered to still remain reasonable and valid.

General Update

- 2.3.9 In addition to the four areas outlined above, updates have been made to sections of the IIA to ensure consistency with the Plan and the revised information on housing land supply, in order to ease of understanding the document. Additional information has also been included in the IIA Report to assist in the understanding of the appraisal methods. See **Appendix M** for a summary of changes made.
- 2.3.10 A new **Non-Technical Summary** has also been produced to sit alongside the updated IIA during public consultation, including an explanation of what has changed since publication of the 2022 IIA.

2.4 Plan aims and objectives

- 2.4.1 The draft Plan contains a vision, aims and objectives. These are summarised below.

Vision

Our vision is that, by 2039, Sheffield will be an economically stronger, fairer, more inclusive and sustainable city. It will be playing a nationally significant economic role at the heart of its region, with thriving neighbourhoods and communities, and have a distinct urban and rural identity. It will be known as a city that increases the skills of its people and the productivity of its businesses, enabling everyone to reach their full potential, regardless of their background or where they live. Income and health inequalities will be significantly reduced and we will already have achieved net zero carbon status by 2030. The city will be known worldwide as a 'city of makers': recognised for advanced manufacturing, specialist steels, forged products and digital innovation, award winning theatre, international art and design, ground-breaking research and world class talent. It will be the destination city, major employment centre and academic and cultural heart of the city region. Its reputation as the 'Outdoor City' will have nurtured an unparalleled quality of life for existing and new residents, retaining talent and attracting investors. The city's prosperity will be underpinned by a strong, integrated and sustainable transport system, with most shorter trips carried out by bicycle or on foot. The city will provide a good quality housing offer meeting the needs of different household types and sizes.

Aims and objectives

- 2.4.2 The vision is expanded through the following eight aims, which are each supported by several objectives.

Aim 1: *A fair, inclusive and healthy city*

Aim 2: *An environmentally sustainable city, that has responded effectively to the climate emergency*

Aim 3: *Thriving neighbourhood and communities with high quality and affordable homes provided in sustainable locations.*

Aim 4: *A strong economy based on lifelong learning, innovation and enterprise that delivers decent living standards for everyone.*

Aim 5: *A vibrant City Centre, which is a great place to work, live and visit.*

Aim 6: *A connected city, which has a sustainable, efficient and safe transport network and excellent digital connectivity.*

Aim 7: *A green City that continues to cherish, protect and enhance its biodiversity and green and blue infrastructure.*

Aim 8: *A well designed city with a strong local identity and a reputation for quality buildings and valuing its heritage assets.*

3. Scoping

3.1 Introduction

- 3.1.1 The aim here is to summarise the scope of the IIA, i.e. the sustainability themes and objectives that should be a focus of the IIA.
- 3.1.2 The scoping stage involves five main steps; the collection of baseline information, undertaking a review of relevant plans, programmes and policies, establishing key issues, formulating an appraisal framework and consultation on these matters.
- 3.1.3 Full details of the process and outputs can be found in the [IIA Scoping Report 2020](#) (which updates a 2015 Scoping Report).

3.2 Consultation

- 3.2.1 The IIA is being driven by the SA/SEA process to ensure legal compliance (whilst also weaving in elements of HIA and EqIA).
- 3.2.2 The SEA Regulations require that “when deciding on the scope and level of detail of the information that must be included in the report, the responsible authority shall consult the consultation bodies”. In England, the consultation bodies are the Environment Agency, Historic England, and Natural England. As such, these authorities were consulted over the period September to October 2020. The feedback provided was taken into consideration to refresh the scoping report following consultation.

3.3 The IIA framework

- 3.3.1 Table 3.1 presents a list of sustainability aims and supporting appraisal criteria / key issues. Together they comprise a ‘framework’ under which to undertake assessment. The IIA framework was developed by examining a range of baseline information, undertaking a review of relevant policies, plans, programmes, objectives and targets at national, regional and local level. This information was used to establish a set of key sustainability issues, upon which the IIA framework was based upon. For each sustainability aim, the assessment considers short/medium/long term impacts, as well as potential cumulative and synergistic effects – these are discussed where relevant.
- 3.3.2 The IIA framework was developed as part of the initial Scoping Report produced in 2020 and was further refined as part of the IIA Report 2022. The framework produced in 2022 has been used at a strategic level to appraise the reasonable alternatives for the scale and location of future growth (Sections 6 and 7 below), as well as to appraise the Plan policies (Section 10). It has also been used as the part of the ‘suitability’ assessment undertaken as part of the Site Selection Methodology, part of which is reproduced as the ‘Site Appraisals’ described in Section 8 and Appendix I of this report.
- 3.3.3 Table 3.2 groups the Sustainability Aims into topic areas. This helps to rationalise the appraisals into areas where there are similarities / overlaps (which reduces duplication in the presentation of findings).

Table 3.1: The IIA Framework

Sustainability Aims	Appraisal criteria
SA1: A vibrant and competitive economy with good job opportunities available to the whole community.	Ensure a sufficient supply of good quality land for office, industrial and other commercial uses including the protection of existing employment land where necessary?
	Ensure a high quality of office floorspace is provided?
	Support job growth targets?
	Contribute to providing good quality, skilled jobs that meet the requirements of the growing Sheffield economy?
	Support the development of employment sites in the priority economic regeneration areas (the 'Growth Areas')?
	Help provide a quality portfolio of commercial sites and premises that are available for development?
	Promote the development and expansion of advanced manufacturing, particularly in the Innovation District area?
	Consolidate the City Centre as the City Region's focus for office provision and employment, particularly for financial and professional services?
SA2: Education and training opportunities provided which build the skills and capacity for the whole population and which encourage lifelong learning.	Improve the vibrancy of the City's retail offer in the City Centre, District or Local Centres and their role in providing non-retail services?
	Encourage and support leisure and tourism, particularly the 'Outdoor City'?
	Meet the need for well-designed education and/or training facilities?
	Locate education and/or training facilities close to the communities they serve, in suitable environments, which are accessible by good public transport?
SA3: Decent and appropriate housing available to everyone	Help to provide a diverse range of learning opportunities?
	Help to ensure that local schools have the capacity to meet the needs of new housing development?
	Support the creation of sustainable housing markets in existing neighbourhoods?
	Assist with the provision of sufficient new homes to meet local needs (taking into account requirements of location, size, type and affordability)?
	Ensure that homes are well designed and provide enough space for the types of household they are intended for?
	Integrate new housing development with existing communities?

**Sustainability
Aims**

Appraisal criteria

	Help to create mixed income communities by providing a better mix of house types and tenures (including affordable housing)? Provide housing to meet the needs of all vulnerable people and disadvantaged groups (including people on low incomes, older people, people needing supported housing, BME communities, people with disabilities and Gypsies and Travellers)?
SA4: Health services provided for the health needs of the whole population and which tackle health inequalities	Focus policies and site allocations on those locations of greatest need? Better recognise the economic, as well as social, benefits of good health? Focus on Primary care to improve health, as this also has a significant preventative role that takes pressure off secondary care? Ensure facilities are located locally, close to the communities they serve and near to public transport/cycling routes, as land availability must address health facility relocation? Address the issue that more people (and an ageing population) mean health facilities need to change or expand to accommodate changing health needs? Meet needs for health services and facilities across the city as a whole and in different communities? Help to ensure that health facilities will be available to meet the needs of new housing developments?
SA5: Open space and cultural, leisure and recreational facilities available for all	Enable people to have access to sufficient good quality open space, near to their homes? Improve access to wildlife and green spaces, through delivery of green infrastructure? Improve access to the countryside through public rights of way or cycle paths? Enable provision of built cultural, leisure and recreation (CLR) facilities? Encourage and support tourism?
SA6: Significant development focused in locations that reduce the need to travel and make the fullest possible use of public transport, walking and cycling	Enable shorter journeys, improve modal choice and integration of transport modes to encourage or facilitate walking, cycling and public transport? Enable shorter journeys by locating homes near to the main employment areas (City Centre, Lower Don Valley, Upper Don Valley)?

Sustainability Aims

Appraisal criteria

	Locate high trip generating uses and job opportunities (offices, built leisure, retail) where there is good access by public transport? Make more efficient use of the car (e.g. through car sharing or providing opportunities to make linked trips)? Result in essential services (e.g. health services, shops, leisure facilities) and opportunities to access the natural environment) being available within easy reach of people's homes by foot, cycle or public transport? Provide levels of car parking which are appropriate to the location (i.e. lower levels of provision where other modes of transport are more viable)?
SA7: An efficient network which maximises access and minimises impacts	Prevent unacceptable levels of traffic congestion? Support the movement of freight by means other than the road? Support the development of good road and rail links to other cities and international airports? Make more efficient use of, or improve the viability of, existing public transport services? Create an attractive and safe transport network for non-car users (pedestrians, cyclists, etc.)?
SA8: Use of land which supports regeneration of the urban area and protection of valuable soil and mineral resources	Avoid the sterilisation of economic mineral reserves? Encourage the use of secondary and recycled aggregates? Result in the reuse of previously developed land and/or vacant buildings? Encourage development which makes efficient use of land (e.g. by focussing development in urban areas, development densities)? Protect and enhance the best and most versatile agricultural land and soil of other environmental value, and therefore safeguard soil quality?
SA9: An attractive, high quality built environment that works well and lasts	Promote city-wide characteristics around: distinctive settlement layouts, townscapes, buildings, topography and natural features? Optimise the potential of a site and promote attractive and locally distinct places and buildings? Protect and enhance the character and functionality of higher quality environments whilst improving poor quality environments? Promote inclusive design principles? Promote safe and secure environments? Promote places that function well for all users now and in the future?

**Sustainability
Aims**

Appraisal criteria

	Improve the landscape, quality of streets and the public realm? Promote sustainable design principles? Protect the natural environment, increase biodiversity and expand green infrastructure? Reduce the city's carbon footprint? Enable healthy place making? Contribute to people's health and well being both physical and psychological?
SA10: The historic environment protected and enhanced	Preserve Conservation Areas, Listed buildings and their settings? Preserve archaeological sites and their settings? Enable the reuse of heritage assets to support their conservation and bring wider social, cultural, economic and environmental benefits?
SA11: High quality natural landscapes protected and poor landscapes enhanced	Minimise the impact of development on the setting and special qualities of the Peak District National Park, its fringe landscapes and the wider countryside? Protect and enhance valued landscapes and the character of rural areas? Value and protect local diversity and local distinctiveness? Safeguard individual landscape features such as trees, hedgerows, dry-stone walls and ponds? Preserve or improve woodland or tree cover in appropriate locations? Result in the restoration and appropriate after-use of mineral extraction and landfill sites? Balance needs of the landscape and biodiversity with greater levels of participation in outdoor activities?
SA12: Ecological and geological assets created, conserved, managed and enhanced	Protect and improve the diversity of international, national and locally designated wildlife habitats and species or make provision for their long-term management? Safeguard important geological sites? Establish a Nature Recovery Network based on South Yorkshire wide mapping of existing ecological/geological assets, which reduces habitat fragmentation, enhances native species, and helps deliver habitat restoration, expansion and creation (also helping to achieve Biodiversity Action Plan Targets)? Achieve a 10% increase in Biodiversity Net Gain through development, which includes ongoing monitoring and long term management? (This should include indicators for the quantity and type of habitat created)

**Sustainability
Aims**

Appraisal criteria

	Provide a reduction in or has controlled the spread of pests, diseases and invasive non native species within or reaching the city? Achieve an improvement in the quality of habitats or the wider environment e.g. water quality and/or levels, air quality, NRN, BNG monitoring? Improve access to nature for people e.g. NRN, BNG monitoring, creation of new open space and pedestrian/cycle routes?
SA13: Water resources protected and enhanced	Protect and where possible enhance the quality of the water environment? Safeguard watercourses?
SA14: Greenhouse gas emissions minimised and the impact of climate change effectively managed	Reduce greenhouse gas emissions and promote water and energy efficiency through sustainable design, layout, and construction practices? Reduce or not worsen the Urban Heat Island effect? Minimise the risk of all types of flooding to people and property? Seek to safeguard land needed for current or future flood risk management processes? Avoid inappropriate development in areas of flood risk? Improve or provide flood defences in areas at risk of flooding? Minimise risk to people and property from all sources of flooding?
SA15: Environmental pollution improved and impacts on air quality minimised or mitigated	Locate sensitive uses where health risks from poor air quality is minimised? Minimise air quality impacts arising from new development, including from traffic generation? Minimise, and where possible improve on, unacceptable effects of noise and light pollution? Minimise, and where possible address, land contamination or environmental pollution? Ensure there is appropriate distance between hazardous installations, population and/or environmentally sensitive areas?
SA16: Energy consumption minimised and use of sustainable energy sources maximised	Minimise energy consumption in the construction or use of buildings? Support the use or development of renewable and low carbon energy sources? Help to maximise the potential of District Heating Networks?

**Sustainability
Aims**

Appraisal criteria

SA17: Minimal
production of waste
and the re-use,
recycling and
recovery of waste
maximised

Promote the minimisation of waste generated?

Encourage the recycling/re-use and recovery of waste?

Table 3.2: Grouping Sustainability Aims into sustainability topics

SA topic	IIA 'Sustainability Aims'
Economy	SA1: A vibrant and competitive economy with good job opportunities available to the whole community. SA2: Education and training opportunities
Housing	SA3: Decent and appropriate housing available to everyone
Health and wellbeing	SA4: Health services provided for the health needs of the whole population and which tackle health inequalities SA5: Open space and cultural, leisure and recreational facilities available for all SA2. Education and training opportunities
Transport and accessibility	SA6: Significant development focused in locations that reduce the need to travel and make the fullest possible use of public transport, walking and cycling SA7: An efficient network which maximises access and minimises impacts SA2. Education and training opportunities
Soil and Land	SA8: Use of land which supports regeneration of the urban area and protection of valuable soil and mineral resources
Historic Environment	SA10: The historic environment protected and enhanced
Landscape and townscape	SA11: High quality natural landscapes protected and poor landscapes enhanced SA9: An attractive, high quality built environment that works well and lasts
Biodiversity and Geodiversity	SA12: Ecological and geological assets created, conserved, managed and enhanced SA9: An attractive, high quality built environment that works well and lasts
Climate change resilience	SA14: Greenhouse gas emissions minimised and the impact of climate change effectively managed

SA topic	IIA 'Sustainability Aims'
Natural resources and pollution	SA15: Environmental pollution improved and impacts on air quality minimised or mitigated SA13: Water resources protected and enhanced
Climate change mitigation and resource efficiency	SA14: Greenhouse gas emissions minimised and the impact of climate change effectively managed SA16: Energy consumption minimised and use of sustainable energy sources maximised SA17: Minimal production of waste and the re-use, recycling and recovery of waste maximised SA2: Education and training opportunities

3.3.4 Consideration of equality impacts and health impacts is factored into the IIA framework, with these topics being cross cutting issues across all the sustainability topics. There are also specific sustainability aims directly relating to health and equality, namely SA1, SA2, SA3, SA4 and SA5.

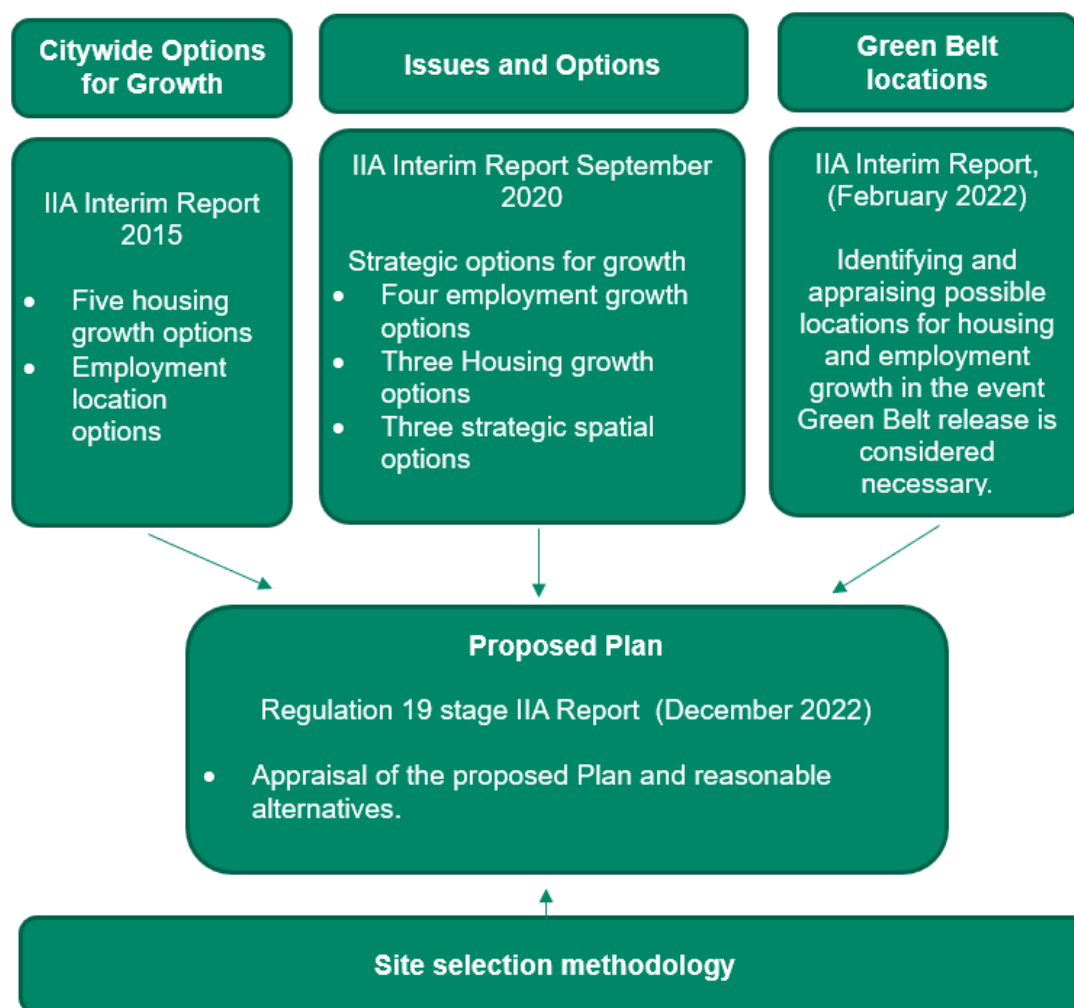
3.3.5 In addition to equality and health issues being addressed through the IIA itself, conclusions are also drawn from the independent Equality Impact Assessments prepared by Council officers ([11-2023-7-17 EIA -Publication Draft Sheffield Plan.pdf](#)). This ensures that the issues raised are reflected in the findings of the IIA.

4. Consideration of alternatives throughout the IIA

4.1 Introduction

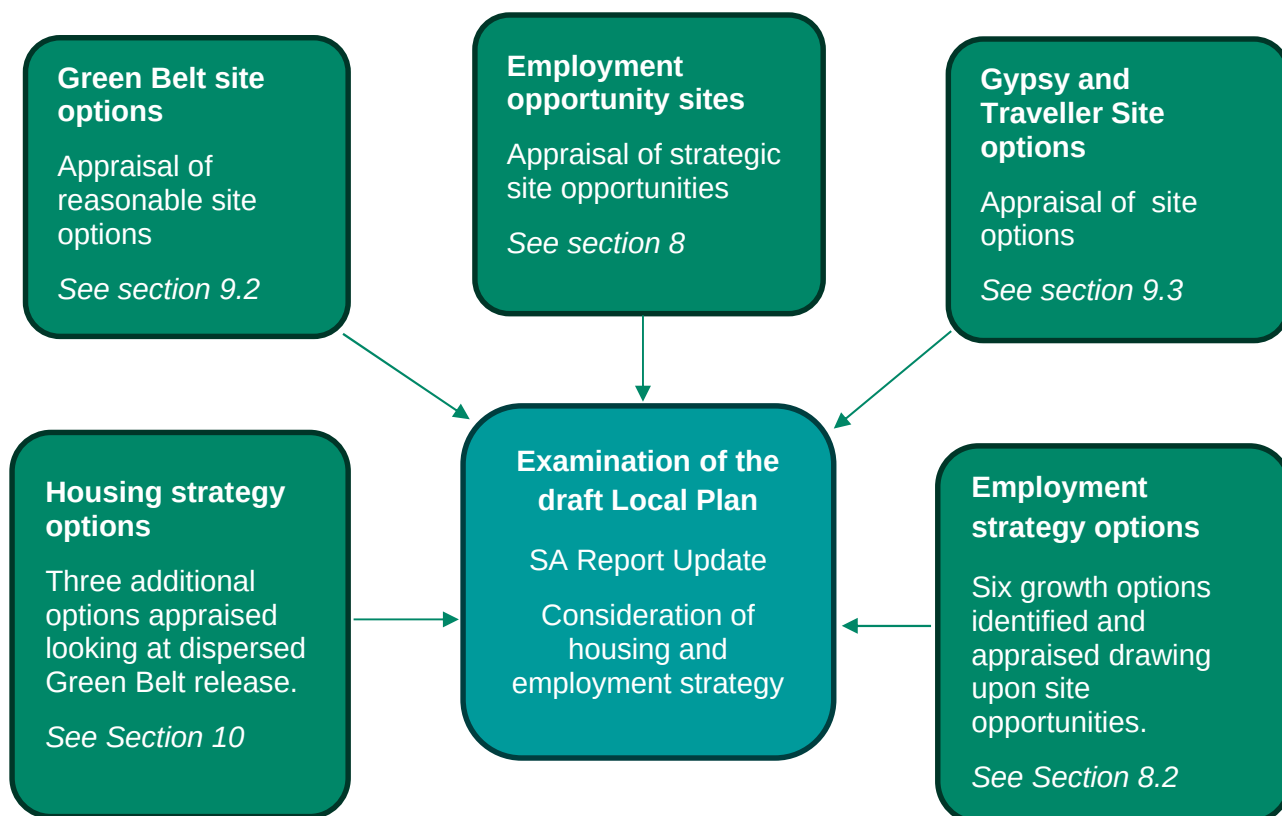
- 4.1.1 This section sets out an overview of how options have been explored and tested throughout the IIA process.
- 4.1.2 The Council has considered and appraised a range of options (reasonable alternatives) throughout the plan-making process. The focus has been on the strategic matters of housing and employment delivery as these are at the heart of the Plan. The diagram below illustrates the options that have been appraised throughout the different stages of plan-making, and how this has culminated in the development of a proposed Plan approach (i.e. a strategy for growth supported by a range of policies) and a set of reasonable alternatives for housing growth.
- 4.1.3 Following the consultation on Issues and Options in autumn 2020, the three broad housing growth options were expanded into 5 options to better convey the choices around urban concentration versus urban expansion. One of the Options (Option 5) potentially allowed for a higher level of development on Green Belt land than Options B and C in the Issues and Options document. This was deemed necessary in order to consider the implications of the higher level of housing need calculated using the Government's revised standard methodology (published December 2020).
- 4.1.4 Figure 4.1 illustrates that several steps were taken to influence the development of reasonable alternatives. It is normal for options to become more refined as the plan progresses, and for certain approaches to be discounted. However, the consideration of options is an iterative process, and there has been a need to revisit some options in light of new evidence and in response to consultation feedback. For example, options exploring Green Belt release were considered at a strategic level through the City Wide Options for Growth and the Issues and Options stages. These stages influenced the Council's decision that Green Belt release was not necessary for housing or employment growth. However, with changes/ uncertainties in relation to the calculation of housing and employment needs, the Council recognised that it would be helpful to undertake further work to understand the potential impacts of Green Belt release (should it become apparent that there were exceptional circumstances). This led to additional options work being undertaken as an interim step, before finally, an emerging plan was appraised alongside reasonable alternatives.
- 4.1.5 Alongside work to look at strategic options, the Council also explored the 'supply side', to understand the sites that could contribute towards delivery of the spatial strategy.
- 4.1.6 Each of the steps within Figure 4.1 are described in the chapters that follow section 4.

Figure 4.1: *Consideration of options throughout the IIA process*



4.1.7 Following Hearing Session 1 of the Examination of the Local Plan, the Council has undertaken further work in relation to options. Figure 4.2 summarises the updates / additional appraisal work that has been undertaken signposting to the relevant sections within this report (where further detail can be found).

Figure 4.2: Consideration of options Post Regulation 19 Consultation



5. Citywide Options for Growth (Reg 18) (2015)

5.1 Introduction

- 5.1.1 The Citywide Options for Growth to 2034 Document (November 2015) was the first published stage of the Sheffield Plan. It set out the challenges and opportunities for the city identified at that time and provided a range of options for the nature and scale of development in Sheffield over the next 15-20 years.
- 5.1.2 The IIA was used to appraise two key aspects of the Citywide Options for Growth to 2034 Document, in relation to its likely impacts on the key sustainability issues for Sheffield:
- The emerging Vision, Aims and Objectives of the Sheffield Plan
 - The housing and employment growth options
- 5.1.3 The appraisal of the emerging Vision, Aims and Objectives was superseded by subsequent appraisals of updated versions.

5.2 Employment options

- 5.2.1 The employment options explored alternatives to that already set out in the Core Strategy, which is:
- City Centre, Upper Don Valley, Lower Don Valley and Outer South East, Chapeltown/Ecclesfield, Stocksbridge/Deeple, Sheaf Valley, Blackburn Valley, Holbrook and Orgreave as main locations for new offices and manufacturing, distribution and warehousing
 - Priority office location is only City Centre
 - Promotion of high-tech knowledge-based industries, but there is no promotion of the Advanced Manufacturing Park/Sheffield Business Park.
 - Support City Centre, District Centres and Local Centres. If no in- or edge-of centre sites are available, retail and leisure can go anywhere.
- 5.2.2 The realistic alternatives proposed were as follows:

Main Employment Locations for Offices, Manufacturing, Distribution and Warehousing

- 5.2.3 City Centre, Upper Don Valley, Lower Don Valley and Outer South East as main locations for new offices and manufacturing, distribution and warehousing; Chapeltown/Ecclesfield, Stocksbridge/Deeple, Sheaf Valley, Blackburn Valley, Holbrook and Orgreave – for B-class uses providing employment opportunities close to new homes.

Advanced Manufacturing locations

- 5.2.4 Manufacturing development focused around the Advanced Manufacturing Park and Sheffield Business Park area; with identification of land not currently designated for business and industrial use.

Priority Office Locations

- 5.2.5 Supplementary options to the Core Strategy approach are:
- Higher densities of office development in City Centre.
 - Target for office development in Advanced Manufacturing Park/Sheffield Business Park area.
 - Limited amount of office development in other outlying areas of well-connected locations e.g. Hillsborough, Crystal Peaks, Chapeltown, Stocksbridge.

Retail and Leisure Locations

- 5.2.6 Meadowhall Shopping Centre and retail parks identified as commercial centres where retail and leisure development is preferred, if no in- or edge of centre sites are available

Appraisal summary

- 5.2.7 All the options proposed showed more positive impacts than the current Core Strategy approach. Therefore, together they would provide a synergistic positive impact. However, there were some unknown impacts which would need investigating through appraisal of site options or appraisal of policies, to ensure mitigation would be required at the planning application stage. The largest number of unknown impacts was for the options at the Advanced Manufacturing Park, as this would introduce new employment site allocations at a new location identified in the Employment Land Review to meet the economic sustainability aims.
- 5.2.8 The appraisal findings are presented in full in **Appendix A**.

5.3 Housing options

Option A

- 5.3.1 Continue with the current strategy of concentrating new development on brownfield sites within the existing urban areas and make an additional allowance for windfalls on larger sites. Develop sites at similar densities to those achieved in the past.

Option B

- 5.3.2 Make more intensive use of sites within the existing urban areas by:
- A further emphasis on City Centre living as a part of a strategy for mixed use within the area bounded by the Inner Ring Road and Kelham/Shalesmoor (this could include some taller buildings in certain locations).

- Relaxing amenity standards and reducing off-street parking provision in existing neighbourhoods close to District and Neighbourhood Centres, resulting in higher overall densities (meaning smaller houses and apartments would make up a greater proportion of the new homes built in those locations).
- Relaxing policies for the protection of open space to enable some surplus urban green space to be developed, with the money generated being invested in improving the quality of remaining areas.

Option C

- 5.3.3 Remodelling parts of the existing urban area to enable the reallocation of poorer quality employment uses for housing. Locations proposed for these are:

(a) Neepsend/Shalesmoor

(b) Attercliffe

Option D

- 5.3.4 Plan for a limited number of larger urban extensions (at least 1,000 homes) into the Green Belt in locations that are well served by, or have potential to be served by, the Supertram network or rail services. Locations proposed for these are: (a) Stocksbridge/Upper Don Valley (b) East Sheffield (as extension to the Waverley in Rotherham Borough) (c) South East Sheffield (d) East of Norton.

Option E

- 5.3.5 Develop multiple smaller urban extensions around the built-up areas and allow redevelopment of large brownfield sites in the Green Belt for housing. Typically, developments would have capacity for up to 300 homes though potentially with a small number of larger extensions in the four locations identified under Option D.

Appraisal Findings

- 5.3.6 Each option would make a positive contribution towards having enough housing land in Sheffield. Not all the options may need to be taken forward to provide sufficient numbers of new homes to meet all Sheffield's need within Sheffield. But further consideration of potential site options will be needed during the next stage of plan preparation, to ascertain the extent of the likely impact and the significance of each option. This will help in weighing which combination of options would maximise beneficial effects, which of the negative impacts are significant, and which can be mitigated.
- 5.3.7 By proposing greenfield development in the Green Belt, Options D and E have the potential for significant negative impacts on Efficient Use of Land and potential negative impact on Landscape, Ecology and Geology depending on which sites are proposed.

- 5.3.8 The potential for not developing any sites with landscape or ecological and geological value needs to be weighed against the need for new homes, and whether developing less housing impacts on the viability of extending or providing social and transport infrastructure. Further investigation is needed regarding public transport accessibility, although, at this stage, there remains uncertainty about whether the transport network extensions would be implemented.
- 5.3.9 Large scale development as proposed by Options C and D would allow the provision of flood and water management measures, facilities, shops, local employment, and infrastructure, and could reduce the need to travel for some people. However, it would not completely negate the need to travel to distant employment areas and the potential impact on traffic congestion and air pollution elsewhere in the city.
- 5.3.10 Options A, B and C concentrate more development within the urban area, due to higher densities, thus indirectly protecting greenfield land of high quality landscape value, ecological value or archaeological value. Increasing capacity of the City Centre and Kelham is positive on many impacts directly and indirectly impacted by its accessible location.
- 5.3.11 Although, as with the other urban options, intensification will support the viability of centres and current facilities, it may make it difficult to provide the health, education and other facilities, open space and flood and water management measures required to accompany the increased population.
- 5.3.12 The options do not factor in any additional dwelling capacity from Employment Land Review sites which are not attractive for strategic or local employment use. This could provide additional dwelling capacity (through windfalls or allocations in future reviews of the local plan), depending on their performance in site sustainability appraisals, which could counter the drop of dwelling capacity due to the need to provide additional infrastructure and facilities.
- 5.3.13 The appraisal findings are presented in full in **Appendix B**.

Unrealistic options ruled out

- 5.3.14 The following housing options were ruled out on the grounds that they are not reasonable alternatives for accommodating growth in Sheffield, because of the closeness of the city's boundary to the Peak District, the high-quality landscape value of land and the lack of any sustainable location or facilities to expand from:
- Growth of the smaller villages and hamlets, which are little more than loose clusters of homes and farms and lack local services and facilities.
 - Building a major new settlement in the countryside.

6. Issues and Options (Reg 18) (2020)

6.1 Introduction

- 6.1.1 An interim IIA Report was published in September 2020, setting out the appraisal findings at this stage of plan-making. The document was shared for consultation with the statutory consultation bodies and made available for wider engagement on the Sheffield City Council website.
- 6.1.2 There had been considerable time between the Citywide Options for Growth consultation, and so the Council re-considered what potential options there could be with regards to key plan issues.
- 6.1.3 The IIA focused on the following:
- An appraisal of the updated Vision, Aims and Objectives.
 - Updated strategic options for the scale of growth – Employment
 - Updated strategic options for the scale of growth – Housing
 - Updated strategic spatial distribution options

6.2 Vision, aims and objectives

- 6.2.1 This appraisal identified the compatibility between the Sustainability Aims and the draft objectives and, any potential synergies but also any conflicts and tensions.
- 6.2.2 The findings demonstrated that the Sheffield Plan draft objectives were well-balanced in that they included environmental, social and economic aims, as well as objectives that include an element of all three. They also explore the relationship between the physical environment and economy and the effect that can have on creating a fairer, more inclusive city.
- 6.2.3 An overriding objective of the Plan is to seek sustainable development, fairness and inclusiveness and meet the needs of the population (e.g. in terms of housing, jobs, community infrastructure and access to green space). The SA Scoping Report also emphasises that health and equality cuts across all the Sustainability Aims.
- 6.2.4 All Sustainability Aims relate well to the draft objectives listed in the Issues and Options document. The appraisal did, however, recognise that any growth or development within Sheffield could have environmental impacts (particularly in terms of climate change, traffic congestion, air pollution) unless mitigated. The Issues and Options document highlights some of the interrelationships between the different aims. It was assumed that any adverse impact from development upon environmental or social objectives would be mitigated to some degree, although this would depend on the specific location and nature of the development.

6.3 Economic growth options

6.3.1 Four options were appraised with regards to employment land provision.

(a) 10 hectares of land per year for B1, B2 and B8 uses in order to meet the higher growth options of the Sheffield City Region Strategic Economic Plan;

(b) 8 hectares per year, which reflects the lower requirement forecast set out in the Employment Land Review analysis;

(c) continuing with the 2009 Core Strategy approach of requiring 29 hectares per year of land for B1, B2, B8 and other sui generis general industrial uses;

(d) basing need solely on past take-up rates of around 12 hectares per year.

Summary of appraisal findings

6.3.2 All of the options were found to deliver a generally positive outcome. Alternative (a) (10 hectares per year) is marginally more economically sustainable than alternative (b) (8 hectares per year), specifically in terms of Sustainability Aim 1 for a vibrant economy and job opportunities. Both options A and B have minor benefits relating to education and training, housing, health services, open space & cultural, leisure and recreational facilities and energy (Aims 2 to 5, 7 and 16), but the difference of impact between the two options is marginal. However, both options are more beneficial than Options (c) and (d), which have negative impacts relating to the alternative provision of sufficient housing land (Aim 3).

6.3.3 The full appraisal findings are set out in **Appendix C**.

6.4 Housing growth options

6.4.1 For the purposes of the Sheffield Plan Issues and Options document (2020), the Council appraised reasonable alternatives based on the city's jobs growth aspirations. These options were:

a) Lower than the local housing need (LHN) – continuing with the 2009 Core Strategy target (1,425 per year) – equating to 25,650 additional homes over the period 2020-2038

b) LHN using the new Government methodology (2,131 per year) – equating to 38,358 additional homes over the period 2020-2038

c) Higher than the Government OAHN (2,660 p.a. which reflects the highest number of new homes needed to meet the Sheffield City Region Strategic Economic Plan aspirational jobs growth target with no improvement in economic activity rate) - equating to 47,880 additional homes over the period 2020-2038

Summary of appraisal findings

6.4.2 All of the options would result in an increase in the number of new homes in the city. However, planning for fewer new homes than needed (Option a) would have a negative impact.

- 6.4.3 This option would deliver insufficient new housing to meet the identified need and would restrict the ability of households to access decent, appropriate housing, including affordable housing (Aim 3).
- 6.4.4 The other key impact relates to the ability of new housing to support a vibrant and competitive economy (Aim 1). Options (b) and (c) would ensure a sufficiently large working population could be accommodated to support and sustain economic growth. Whereas a lower than trend requirement (a) would have a negative impact on the economy by not supporting a sufficiently sized workforce. No comment is made on the relative sustainability of locations to accommodate different levels of housing growth, as this is considered in relation to those options. However, it might be assumed that a lower housing target (a) would be less likely to have a negative impact on the environment as it would probably require less land to be used for house building. Option (b) is considered to be the most sustainable approach. It combines positive impacts for housing and economic growth with a likely lower negative environmental impact when compared to the high growth option (c).

6.5 Spatial development options

- 6.5.1 The Council identified three different approaches for meeting the identified level of need for the city of 40,000 dwellings. These are outlined below.

Table 6.1: Strategic growth options

	Description	Central area	Wider urban area	Green Belt
Option A	High density, vibrant walkable neighbourhoods with a wide choice of homes.	20,000	20,000	0
Option B	Mid-rise and vibrant central area and some new houses with private gardens in the suburbs.	15,000	20,000	5,000
Option C	Less dense central area, more new houses with private gardens in the suburbs	10,000	20,000	10,000

Summary of appraisal findings

- 6.5.2 Table 6.2 below illustrates the appraisal scores for the spatial options. The significance scale utilised is as follows:

- ✓✓ = Significant positive impacts likely
- ✓ = Some positive impacts likely
- = Neutral impact likely
- ✗ = Some negative impact likely
- ✗✗ = Significant negative impact likely
- ? = Impact uncertain/unknown

Table 6.2: *Summary of the strategic growth options appraisal*

Sustainability Aims	Option A	Option B	Option C
1. A vibrant and competitive economy with good job opportunities available to the whole community.	✓	✓✓	✓
2. Education and training opportunities.	✓	✓✓	✓✓
3. Decent and appropriate housing available to everyone.	✓	✓✓	✓✓
4. Health services provided for the health needs of the whole population and which tackle health inequalities.	✗	O	O
5. Open space and cultural, leisure and recreational facilities available for all.	✓ / ?	✓ / ?	?
6. Significant development focused in locations that reduce the need to travel and the fullest possible use made of public transport, walking and cycling.	✓✓	✓ / ✗ / ?	✓ / ✗ / ?
7. An efficient transport network which maximises access and minimises detrimental impacts.	✓ / ✗	?	?
8. Use of land which supports regeneration of the urban area and protection of valuable soil and mineral resources.	✓✓	✓ / ✗	✓ / ✗
9. An attractive, high quality built environment that works well and lasts.	✓ / ✗ / ?	✓ / ✗ / ?	✓ / ✗✗ / ?
10. The historic environment protected and enhanced.	✓ / ✗	?	?
11. High quality natural landscapes protected and poor landscapes enhanced.	✓✓	✓ / ✗	✓ / ✗
12. Ecological and geological assets created, conserved, managed and enhanced.	✓ / ✗	✓ / ✗ / ?	✓ / ✗✗ / ?
13. Water resources protected and enhanced.	✓ / ✗	✓ / ✗	✓ / ✗
14. Greenhouse gas emissions minimised and the impact of climate change effectively managed.	✓✓ / ✗	✓ / ✗	✓ / ✗✗
15. Environmental pollution improved and impacts on air quality minimised or mitigated.	✓✓	✓ / ✗	✓ / ✗✗
16. Energy consumption minimised and use of sustainable energy sources maximised.	✓✓	✓	✓
17. Minimal production of waste and the reuse, recycling and recovery of waste maximised.	✗ / ?	✗ / ?	✗ / ?

- 6.5.3 The options appraisals are summarised below, with the full appraisal findings presented in **Appendix D**.
- 6.5.4 With regards to economic factors and housing delivery, Option A which directs the greatest amount of development into the central areas and does not involve any Green Belt release could lead to the greatest competition between residential and employment uses. It would also provide less flexibility in choice with regards to the range of locations and sites for growth. As such, Options B and C perform more favourably with regards to housing and employment.
- 6.5.5 Conversely, Option A is likely to lead to positive effects of greater significance (compared to B and C) for several sustainability aims with an environmental focus. This is because it is most likely to support regeneration objectives, conserve soil, protect important landscapes, minimise pollution and create a pattern of growth that minimises the need to travel, reduces energy use and carbon emissions. Options B and C (to a greater extent) both result in negative effects and less prominent positive effects against these sustainability aims, mainly through the need to release greenfield land in more peripheral locations.
- 6.5.6 With regards to heritage and the built environment, the urban concentration approach is considered more likely to bring about effects, and these could be positive and / or negative. Dispersal of growth could reduce the potential for negative effects in the urban areas, but would be less likely to see comprehensive regeneration, and could potentially have effects on heritage assets in the countryside and wider urban area (though this is uncertain given the lack of site-specific locations at this stage).

7. Considering reasonable locations for growth in the Green Belt

7.1 Establishing Strategic Locations for Housing Growth

- 7.1.1 At the Draft Plan (Regulation 19) stage of plan making, the Council made the decision to focus delivery of new homes within the existing built-up area and on sustainably located previously developed sites in the Green Belt. This is informed by evidence looking to establish the capacity of the inner urban areas, and also making the most of suitable strategic locations and sites within the wider urban area.
- 7.1.2 However, should it be necessary for residual needs to be met on land currently in the Green Belt, the Council considered it useful to understand the following:
- What reasonable locations for growth there are in the Green Belt (seeking to avoid the most constrained areas and adhere to the NPPF).
 - What the broad sustainability implications of growth might be should growth occur in different locations within the Green Belt.
- 7.1.3 To help inform this, the Council worked alongside AECOM to set out a method for identifying and appraising reasonable alternatives in respect of the sustainability appraisal process. This was undertaken in several iterative steps.

Step–1 - The first stage was to identify the site supply

- 7.1.4 The first step was to identify the sites for consideration. Figure 7.1 maps all of the Green Belt sites contained in the Green Belt Review plus additional sites that were subsequently put forward at the Regulation 19 stage. Through the Green Belt Review certain parcels of land were not deemed to provide reasonable alternatives for growth and so were not assessed against the purposes of Green Belts. The following areas were excluded from further consideration through the Green Belt Review:
- Areas with a high flood risk
 - Scheduled archaeological sites
 - Parks and gardens of historic interest
 - Mature woodland (not covered by nature conservation designations)
 - Land in active recreational use
 - Land in close proximity to overhead power lines
 - Locally important nature conservation sites, e.g. Local Wildlife Site
- 7.1.5 There is an assumption that all suitable sites in the urban areas would be part of the spatial strategy before exceptional circumstances for Green Belt release can be demonstrated.

- 7.1.6 This is important given the context of para 141 in the NPPF² which requires plan-making authorities to demonstrate that 'it has examined fully all other reasonable options for meeting its identified need for development'. Therefore, the focus of the SA at this stage is on identifying locations in the Green Belt that could support strategic growth (if this becomes a reasonable / necessary prospect).
- 7.1.7 In identifying appropriate locations, there is a need to give first consideration to land which has been previously developed and / or is well served by public transport (NPPF, paragraph 142).
- 7.1.8 With regards to previously developed land, strategic locations that contain suitable parcels of brownfield land have therefore been included for further consideration. Given the NPPF direction towards brownfield land first, these locations have been explored regardless of whether they overlap with significant constraints or whether they meet the definition of 'major development'.
- 7.1.9 With regards to access to public transport, some locations are currently better served than others. However, it is recognised that strategic growth could bring opportunities to enhance public transport links. For this reason, strategic locations have not been ruled out for further consideration simply because they are poorly located with regards to existing public transport links.
- 7.1.10 There are many sites proposed in the Green Belt, some of which are small scale. Should Green Belt release be necessary, there is a need to ensure that sustainable patterns of growth are achieved. There may be smaller individual site options that are well located, and these are now considered through the Site Appraisals (see Section 9 below and Appendix I). However, the Council consider that if Green Belt release is necessary, it should bring with it significant benefits in terms of the provision of new social infrastructure, environmental enhancements, sustainable transport and high-quality design. Growth of a strategic scale is more likely to support such improvements, and therefore, in the first instance the focus was on identifying locations that could potentially achieve these aims.
- 7.1.11 What constitutes strategic growth is somewhat subjective, but for the purposes of the SA, several assumptions have been made when identifying the long list of locations for housing:
- Potential capacity of strategic sites / particular locations: Development above 1,000 dwellings (either individually or a combination of sites) is considered more likely to support strategic growth. For example, the Sheffield Community Infrastructure Levy and Planning Obligations SPD (2015) outlines that:
 - o Development of 1,000+ dwellings is sufficient to trigger a new individual primary school within the local area or physical extension; to meet the needs of the development.

² NPPF, Sept 2023.

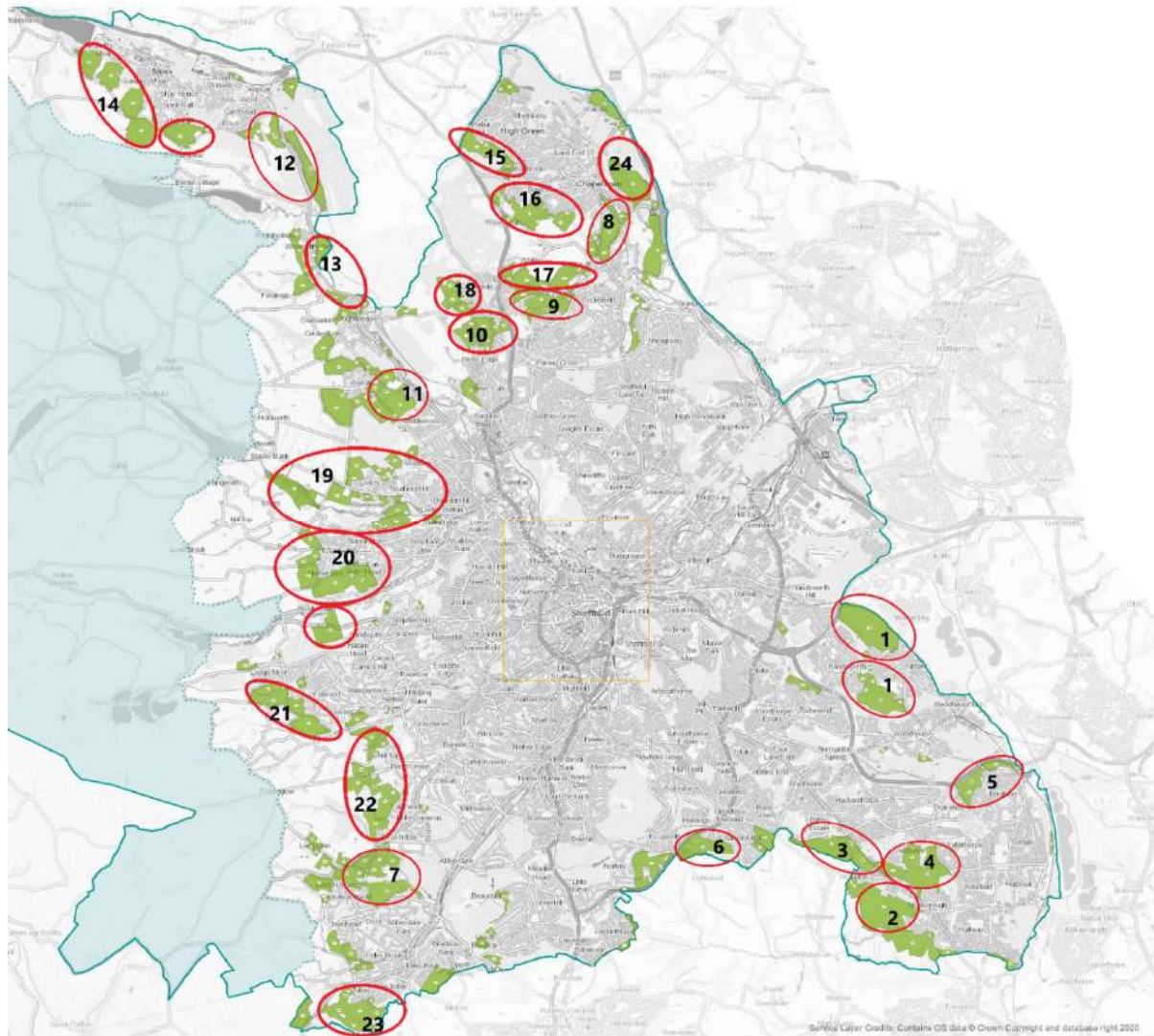
- o Provision of community facilities will be required to make major residential developments sustainable (the current definition of 'major development' being 1,000 dwellings or more)

Strategic sites or locations that fall way short of this threshold are therefore to be unreasonable alternatives in this respect.

- Relationship of site parcels: where there are multiple sites in a location, whether these are connected / logical to bring together as a growth location

7.1.12 Applying these guiding principles and a degree of professional planning judgement, the following long list of potential strategic locations has been identified (See Figure 7.1).

Figure 7.1 Potential strategic locations for housing growth in the Green Belt



1. Handsworth	15. Potter Hill / High Green
2. West of Mosborough	16. South of Burncross
3. South of Birley Estate	17. Whitley
4. Owlthorpe	18. West of Grenoside
5. Beighton	19. Wadsley / Loxley
6. Norton Charnock	20. Stannington
7. Dore / Whirlow	21. SW of Fulwood
8. South of Chapeltown	22. Hill Top / Park Head
9. Grenoside / Ecclesfield	23. South of Totley
10. Birley Edge	24. Chapeltown/ Hesley Wood
11. Worrall / Middlewood	
12. South of Deepcar	
13. Oughtibridge / Wharncliffe Side	
14. Stocksbridge	

- 7.1.13 Given that there is excess supply of potential development sites / strategic locations in the Green Belt, it is sensible (and required by the NPPF) to avoid areas of greatest sensitivity first. Therefore, an objective approach has been established to identify areas where strategic scale growth ought to be avoided given their constraint characteristics.
- 7.1.14 In determining what constitutes a 'significant constraint', consideration has been given to the following issues:
- *Landscape sensitivity*: There are many locations across the Plan area that are sensitive to change, particularly those that are related to the Peak District National Park. Retention of landscape character is also a priority for local communities. Though mitigation can be implemented, it is likely that residual negative effects would remain and therefore, avoidance of the most sensitive locations is a reasonable constraint parameter to apply.
 - *Biodiversity*: The presence of designated biodiversity sites should be considered a major constraint to development if there are sufficient alternative locations. Though there would be requirements to mitigate, compensate and achieve net gain for development affecting designated sites, it is clear that avoidance of negative effects is preferable.
 - *Flood Risk*: The NPPF makes it clear that a sequential approach to site selection should be taken with regards to flood risk. In this respect, sites that overlap substantially with flood zones 2 and 3 ought to be avoided in the first instance.
 - *Green Belt function*: It is preferential to avoid the release of Green Belt that performs strongly against the purposes of Green Belt set out in the NPPF³.
- 7.1.15 A wider range of issues could be factored into the sifting process, but at this stage the focus was upon the critical constraints listed above. This is not to say that other factors are less important, but that there may be greater scope for acceptable mitigation, and / or enhancement measures.
- 7.1.16 **Appendix F** details the parameters that were set for each of the four factors listed above to determine whether a strategic location can be identified as 'reasonable' or not. As discussed above, the focus was upon sifting out the most significantly constrained locations, and therefore the parameters for determining a significant constraint were relatively strict at this stage. The set of parameters used at this stage are referred to as 'Scenario A' from here on in for ease of reference.
- 7.1.17 Figures 7.2 to 7.5 below map the parcels of land that are categorised as 'significantly constrained' or not in relation to the factors discussed above (i.e. landscape sensitivity, biodiversity, flood risk, Green Belt). Figure 7.6 overlays these constraints onto one map to illustrate sites that are significantly constrained by more than one factor.

³ NPPF, 2023, paragraph 138.

Green Belt Sites

Significant Biodiversity Constraints

■ No Note: Thresholds for determining a significant constraint can be found in the site assessment methodology.
■ Yes

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Figure 7.4: Sites significantly constrained by flood risk(>50% overlap with FZ2, 3 or 3b)

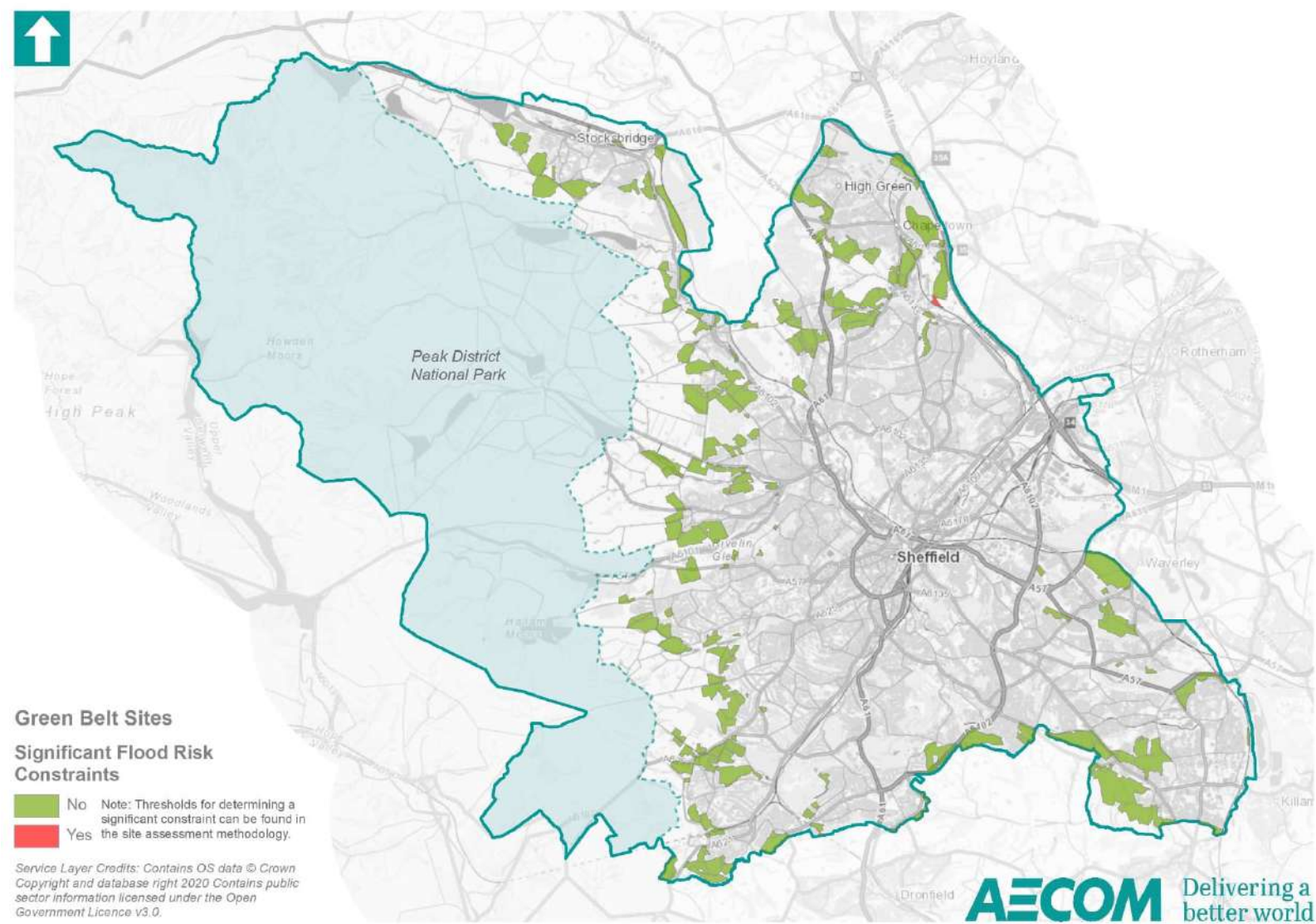
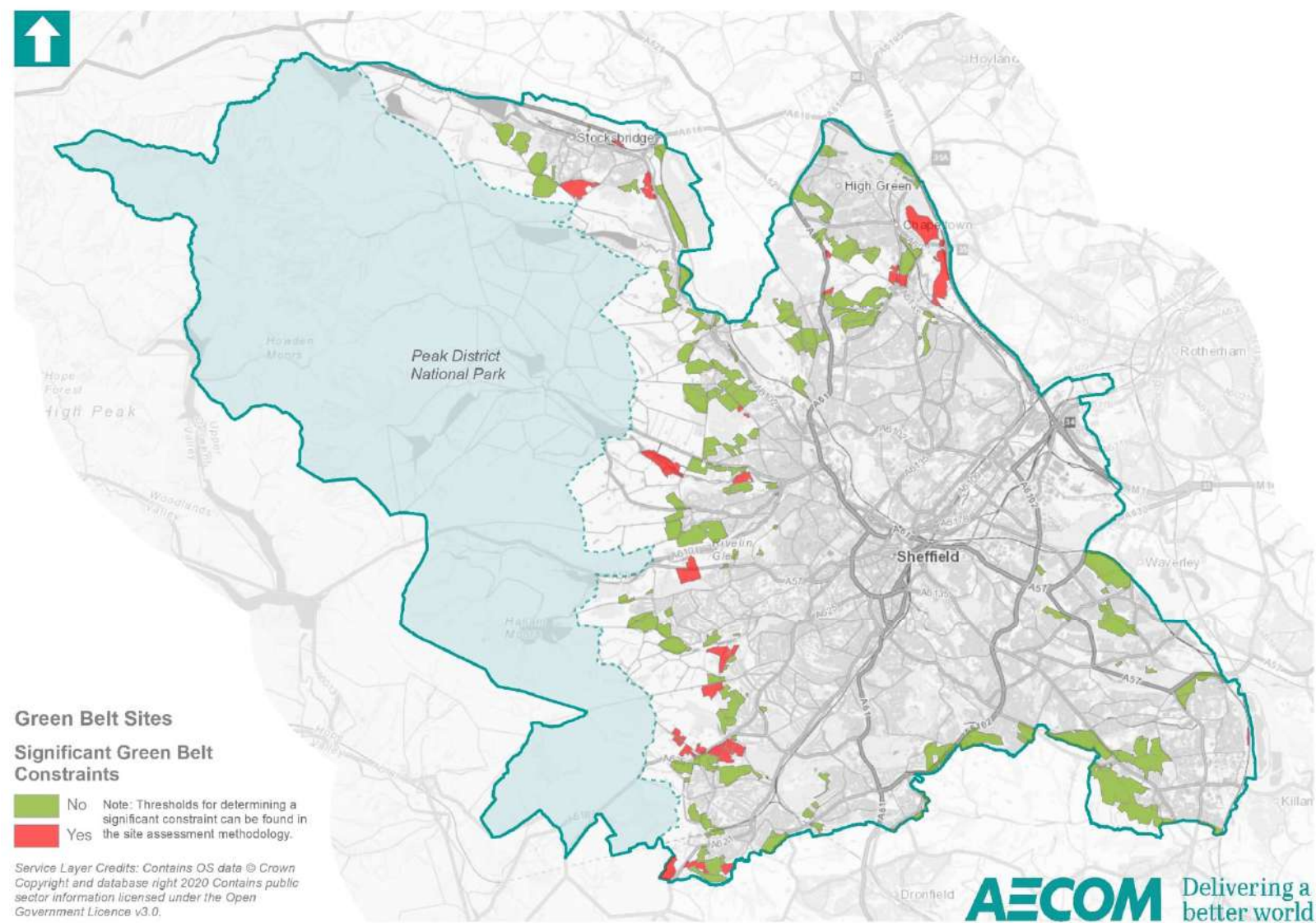


Figure 7.5: Sites performing a significant Green Belt Function (Score of 5 for purposes 1 or 2)



Green Belt Sites

Dimensions of Constraint

0	Green
1	Yellow
2	Orange
3	Red

Note: Thresholds for determining a significant constraint can be found in the site assessment methodology.

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Table 7.1: *Shortlisting the strategic growth locations for further appraisal*

Location	Indicative capacity	Environmental constraints / sequential consideration	Council commentary	Discount at this stage?
1. Handsworth	2,615 1,436 at one urban extension site 1,179 at multiple site cluster	One single site presents good opportunity for strategic growth. Further cluster might create a second opportunity. Grade 3 agricultural land on southern site.	Strategic case around infrastructure / rail potential (new housing would support the business case for reopening the line for passenger services). Feasibility work already undertaken by the site promoter suggests a new rail station here would be viable (and has potential to also serve the Advanced Manufacturing Park in Rotherham).	No
2. West of Mosborough	1,713 (capacity more likely to be 1,200 taking constraints into account)	Listed Buildings Landscape sensitivity Grade 3 ALC	Landscape concerns with parts of the area. Potential issues with historic landscape (ancient strip fields on part of this area).	No
3. South of Birley Estate	1,503 across several adjacent sites	Almost entirely within Conservation Area. Grade 3 ALC	Existing uses – but not necessarily insurmountable from landowner perspective - site promoted by landowner. Consider inclusion of White Lane Farm site S02898. Golf course may not be available.	No
4. Owlthorpe / Mosborough	1,736	Though sites are in multiple parcels, could form a wider strategic site that is well connected.	Some of the area will have local landscape value. Not too far from the tram route.	No

Location	Indicative capacity	Environmental constraints / sequential consideration	Council commentary	Discount at this stage?
	Consists of several medium to large sites	Capacity likely to reduce if excluding most sensitive areas for landscape. Grade 3 ALC.		
5. Beighton	879 across two sites	Few constraints, but contains Grade 3 ALC. Sites likely to be urban extension / rounding off. Capacity to accommodate change.	Links to opportunities with new rail line proposal (new housing would support the business case for reopening the line for passenger services). Opportunities for a new rail station. Smaller scale potential development than alternative locations.	No
6. Norton / Charnock	963 on one site	Norton Aerodrome / Lightwood is less constrained compared to nearby Oakes Park. Landscape can accommodate change. Partly brownfield.	Nearby Oakes Park is a Historic Park. Site only includes the area around Norton Aerodrome / Lightwood. Smaller scale potential development than alternative locations.	No

Location	Indicative capacity	Environmental constraints / sequential consideration	Council commentary	Discount at this stage?
7. Dore	1,208 - Cluster of multiple sites 612 - Ryecroft Farm	Though sites are in multiple parcels, they could form a wider strategic site that is well connected. Informal open space could be affected.	Currently unknown whether all land is available for development. Location includes land currently in use as sports grounds and open space (2 Local Green Spaces designated in Dore NP). Potential impact on Peak District National Park of any development north of Hathersage Road.	No
8. South of Chapeltown	Approximately 1,200 Cluster of several sites	Flood zone 2/3 on one site, but part of the site could be suitable. Strongly performing Green Belt on some parcels of land.	Merging of settlements – a critical Green Belt purpose – is an issue with some of the land. A relatively sustainable location. Some existing sports uses.	No
9. Land between Grenoside / Ecclesfield	994 across four sites	No significant constraints identified.	Potential for Upper Don passenger rail line to be reopened although this is uncertain and likely long term (currently only used for freight). Housing site options don't necessarily relate well to the potential line. Practical difficulties in terms of where new rail stations could be located.	No
10. Birley edge	1,087 Consists of multiple sites	. Avoidance of sensitive landscapes, and that containing ancient	May be some landscape concerns to the west.	No

Location	Indicative capacity	Environmental constraints / sequential consideration	Council commentary	Discount at this stage?
		woodland / LWS, reduces capacity to lower than 500 (which does not meet the definition of Major Development)		
11.Worrall / Middlewood	1,101 Consists of several medium sized sites	If parcels performing strongly against Green Belt purposes are avoided, other constraints can be avoided.	Potential landscape issues. Size of settlement may be a constraint. Growth would be limited to specific parcels to avoid coalescence with Middlewood (main Sheffield urban area).	No
12. E/SE Deepcar	1,279	Largely brownfield land. Can accommodate change. Some small overlap with biodiversity assets.	Includes a linear ex-spoil heap which is distant from facilities. Previously considered as an option linked to regeneration funding opportunities.	No
13. Oughtibridge / Wharncliffe Side	1,358	Relatively unconstrained from an environmental perspective.	Potential for Upper Don passenger rail line to be reopened although this is uncertain and likely long term (currently only used for freight). Housing site options don't necessarily relate well to the potential line. Difficulties in terms of where new rail stations could be located.	No – excluding most sensitive locations though

Location	Indicative capacity	Environmental constraints / sequential consideration	Council commentary	Discount at this stage?
		Sites don't form a logical singular extension.		
14. Stocksbridge	1,095 Consists of multiple sites, some within Green Belt, some in wider urban area	Listed buildings, strongly performing Green Belt parcels and landscape sensitivity high	Landscape – very prominent. Impact on gap between Stocksbridge and Bolsterstone. Topography issues.	Yes
	1,968 4 medium sized sites	Sites somewhat detached from one another.	Landscape – very prominent. Access issues from main roads at the bottom of the hill.	Yes
15. High Green	1,046 Consists of 2 medium sites and several small sites	Capacity reduces to around 700 if Local Wildlife site and Ancient Woodland is avoided. Reduces by a further 44approx. 300 if area of high landscape value is excluded.		Yes

Location	Indicative capacity	Environmental constraints / sequential consideration	Council commentary	Discount at this stage?
		Grade 3 agricultural land.		
16. Area S of Burncross	1,082	Grade 3 agricultural land. Large areas of most sensitive landscape.		Yes
17. Whitley	1,302	Landscape and strong Green Belt. Grade 3 agricultural land.		Yes
18. W of Grenoside	681	Several constraints – landscape and biodiversity. Significantly short of the definition of ‘major development’.	On top of the plateau – likely landscape issues.	Yes
19. Wadsley / Loxley / Wisewood	2,886	Some parcels affected notably by FZ2/3. Some areas classed as highly maintained landscapes.	Landscape issues in some places. Not a cohesive area, although some smaller parcels of land may merit consideration. Hepworths (PDL) large site as a separate consideration – recent appeal for 300 homes dismissed – remote from urban area, poor access.	Yes

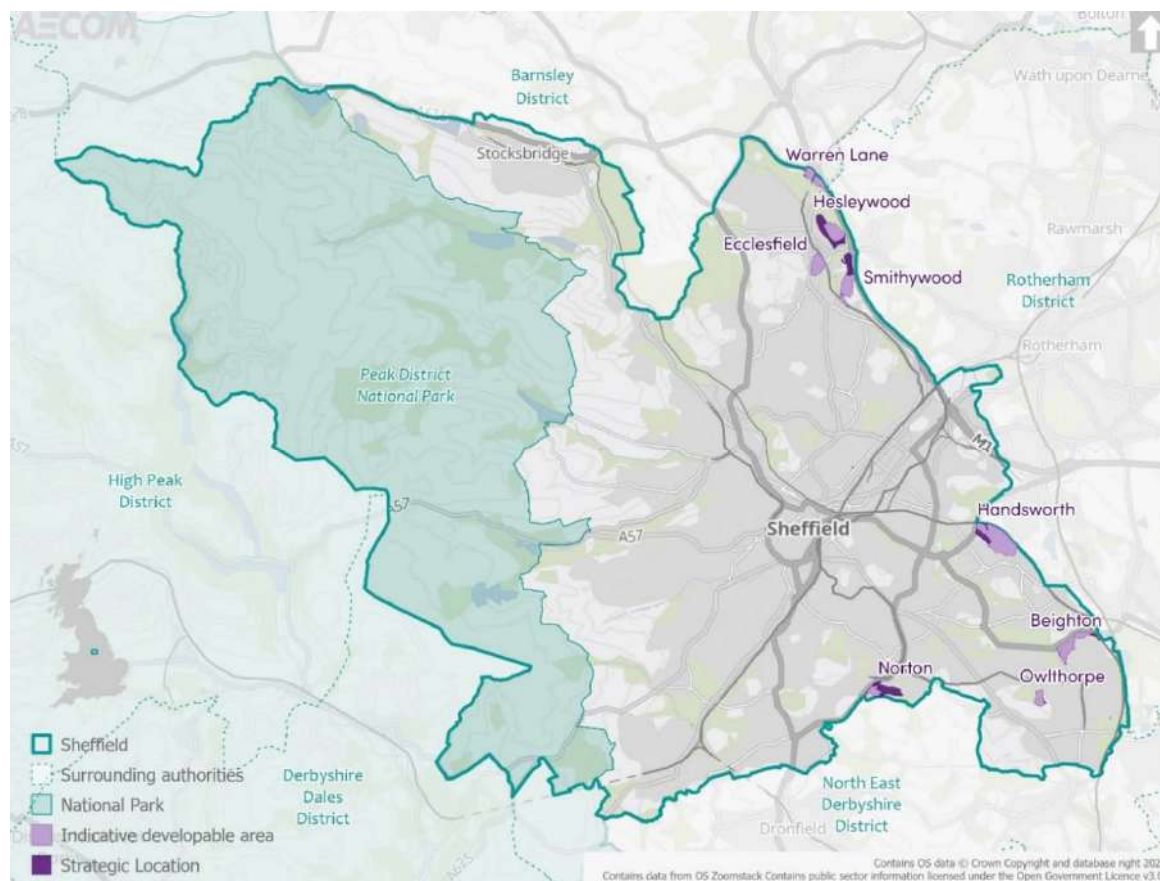
Location	Indicative capacity	Environmental constraints / sequential consideration	Council commentary	Discount at this stage?
		Remaining land would not form a logical strategic extension.		
20.Stannington	1,827 across multiple sites	Landscape very sensitive and topography could be an issue. Cluster of sites doesn't lend itself to a single strategic development.	Major landscape issues. Topographically not a cohesive area.	Yes
21. SW of Fulwood / Lodge Moor	1,426	Very sensitive landscape.	Landscape concerns.	Yes
22. Hill Top / Park Head / Bents Green / Whirlow / Goole Green	2,311 Across multiple unrelated sites	Some areas are sensitive to change in terms of landscape. Remaining area has topography challenges, would not form a logical singular strategic growth option.	Not a cohesive area topographically. Landscape issues. Partly Whirlow Hall Farm Trust.	Yes

Location	Indicative capacity	Environmental constraints / sequential consideration	Council commentary	Discount at this stage?
23.South of Totley	1,279 Multiple sites would need to be combined	Proximity to SSSI/SAC. Very sensitive landscape.	Landscape concerns. Current access from Baslow Road is very narrow.	Yes
24.Chapelton (Hesley Wood)	931 on one site	Over 50% local wildlife site. Grade 3 ALC.	Relationship to Chapelton – less easy to link to existing residential areas due to topography. Potential alternative employment use being promoted by site owner – supported by ELR update – (shortfall). Former coal spoil heap. Employment uses might result in less harm to the ancient woodland that fringes the site (residential poses greater risk to biodiversity through human disturbance, cats, etc).	Not for housing May be reasonable for employment

7.2 Establishing Strategic Locations for Employment Growth

- 7.2.1 Sheffield City Council's Employment Land Review Update 2021 and the Logistics Study (2022) highlighted a shortfall in supply to meet the need for economic / employment land to 2039. A search for potential additional land to meet this shortfall was undertaken focussing on suitable employment locations and sites proposed by promoters. Four sites were identified outside the existing urban area and were appraised in the IIA at pre-submission stage (Hesley Wood, East of Smithywood, Norton and Handsworth).
- 7.2.2 The Council's view at this stage was that the shortfall in the supply of allocated sites could be met through the 'churn' of employment land in existing employment areas and the need for logistics uses will be met within the wider South Yorkshire and city region market area. Therefore, no sites outside the existing urban areas were put forward for allocation in the Pre-Submission Local Plan.
- 7.2.3 The update to the IIA has taken the opportunity to reconsider locations in the Green Belt that could be suitable to meet some or all of the identified shortfall in supply within Sheffield. An additional four sites have been included that were previously considered as strategic housing locations (Warren Lane, Beighton, Owlthorpe, Ecclesfield). Figure 7.7 shows all eight sites identified as reasonable options for employment growth, taking into account proximity to strategic roads (particularly the M1 Motorway), topography and the general character and use of adjoining land. A threshold of at least 5 hectares is used for strategic employment land, consistent with that used in the sub-regional Strategic Employment Land Appraisal.

Figure 7.7: Strategic locations for employment land



7.3 Appraisal of strategic growth locations for housing and employment

- 7.3.1 For each strategic location taken forward for further consideration, an appraisal has been undertaken against the eleven sustainability topics (derived from the scoping process). The appraisal is set out in detail in Appendix G, which also shows location maps for each strategic location (for housing), along with photographs of key parcels of land in each cluster / location. Appendix H sets out an appraisal of the strategic locations / sites for employment.
- 7.3.2 In determining the significance of effects, professional judgement has been applied, being mindful of key effect characteristics including: magnitude, likelihood, duration, time-frame and cumulative effects. A range of information sources have been utilised to inform judgements:
- Geographical Information Systems data, which sets out a high level appraisal of each site parcel falling within the strategic locations.
 - Inputs from technical studies
 - Site visits
 - Reference to the Scoping Report
- 7.3.3 Whilst every effort is taken to predict effects accurately, there is a degree of uncertainty that must be acknowledged given the strategic nature of the appraisal. In particular, the level of detail is less granular with regards to specific on-site characteristics, so there is a reliance on higher level datasets (for example, the presence of designated environmental assets).
- 7.3.4 It is important to ensure a consistent comparison between the options. For this reason, the same high-level assumptions are made with regards to mitigation and enhancement. Rather than taking into account specific scheme details (which may be available for some locations and not others), the appraisal identifies the baseline situation for each site, and so the presence of constraints mostly equates to negative effects. This is not to say that such effects could not be different when mitigation and enhancement considerations are fully appreciated.

Summary of effects

- 7.3.5 Table 7.2 below presents a visual summary of the appraisal findings for each of the strategic locations for housing growth. Table 7.3 presents the findings in relation to the employment locations / sites.

Table 7.2: Summary of appraisal findings for the strategic locations for housing growth

Strategic Location	<i>Economy</i>	<i>Housing</i>	<i>Health and wellbeing</i>	<i>Transport</i>	<i>Soil and Land</i>	<i>Historic Environment</i>	<i>Landscape and Townscape</i>	<i>Biodiversity and Geodiversity</i>	<i>Climate Resilience</i>	<i>Natural Resources</i>	<i>Resource efficiency</i>
1.Handsworth	✓	✓✓	✓✓	✓✓	✗	✗	✗✗	✗	✗	-	- ?
2.W of Mosborough	✓	✓✓	✓✓	✓✓	✗	✗✗	✗✗	✗	✗	-	- ?
3.S of Birley Estate	✓	✓✓	✗	✓✓✓	✗	✗	✗	-	✗	-	- ?
4.Owlthorpe	✓	✓✓	-	✓✓	✗	✗	✗✗✗	✗✗	✗	-	- ?
5.Beighton	✓	✓	✓✓	✓✓	✗	-	✗	-	✗	✗	- ?
6.Norton	✓	✓✓?	-	✓✓?	✓	✗	✗	✗✗	✗	-	✗
7.Dore / Whirlow	-	✓✓	✓✓?	✓	-	✗✗	✗	✗	✗	-	- ?
8.S of Chapeltown	-	✓✓	✓	✓✓	✗	✗	✗✗	✗	✗✗	✗	- ?
9.Grenoside / Ecclesfield	✓	✓✓	✓	✓	✗	✗✗	✗✗	✗	✗	-	- ?
10.Birley Edge	✓✓	✓	✓✓	✓	✗?	-	✗✗✗	✗	✗	-	-
11.Worrall / Middlewood	✓✓	✓✓	✓✓	✓	✗	✗✗	✗✗✗	✗	✗	-	-
12.South of Deepcar	-	✓	-	✗	✓	✗✗	✗	✗✗? / ✗✗✗?	-	✓	✗
13. Oughtibridge	✓	✓	-	-	✗	✗	-	✗	-	-	-

Level of significance

<i>Major positive</i>	✓✓✓	Neutral -	? uncertainty	✗✗✗	<i>Major negative</i>
<i>Moderate positive</i>	✓✓			✗✗	<i>Moderate negative</i>
<i>Minor positive</i>	✓			✗	<i>Minor negative</i>

- 7.3.6 The appraisal demonstrates that housing growth in the majority of strategic locations would generate positive socio-economic effects through the creation of new homes and social infrastructure. There are negative effects associated with all locations relating to soil, heritage, landscape, biodiversity and climate change resilience. The negative effects are mostly minor and ought to be possible to mitigate. However, in some locations, there are more prominent effects recorded for the historic environment, landscape and biodiversity.
- 7.3.7 Several sites are (on the face of it) less constrained than others and also more likely to generate more significant positive effects. For example, strategic location 3 (South of Birley Estate) only generates minor negative effects and is also very well placed in terms of transport links, hence the prediction of major positive effects. Likewise, location 5 (Beighton) is predicted to have a handful of minor negative effects, yet generates moderate positive effects with regards to transport and health. Location 1 (Handsworth) is also amongst the most positive in relation to socio-economic effects, whilst only bringing moderate negative effects for just one topic (Landscape and Townscape).
- 7.3.8 Some of the locations are characterised by greater constraints against several SA topics. For example, for location 4 (Owlthorpe), there are potential major negative effects in terms of landscape, and moderate negative effects in terms of biodiversity. Likewise, location 9 (Grenoside / Ecclesfield) is constrained by heritage and landscape, whilst also only generating minor positive effects for transport, economy and health.
- 7.3.9 For location 13 (Oughtibridge) there are only minor effects (both positive and negative), which is due to the potential scale of growth being relatively low.
- 7.3.10 Location 10 (Birley Edge) scores very positively with regards to socio economic factors as it is well located in terms of providing homes close to transport links, jobs and where benefits for deprived communities could be achieved. However, there are major negative effects with regards to landscape.
- 7.3.11 Locations that involve brownfield land are important in the context of Green Belt release, as the NPPF requires that such opportunities are explored as a priority. Location 12 (South of Deepcar) involves previously developed land, and in this respect, there are limited effects on landscape objectives. However, other parcels of land in this cluster are more sensitive. There is also potential for biodiversity value across the brownfield site that would need to be explored in further detail and the site does not relate well to the existing built-up area.
- 7.3.12 Location 6 (Norton) has relatively minor environmental constraints, with the exception of biodiversity. Though there are no designated habitats on site, there are large areas of woodland and the site is potentially of high ecological value. The socio-economic benefits are relatively minor as the scale of growth is fairly low. However, the site is well located with regards to transportation and is partially previously developed.
- 7.3.13 Both of these locations (12 and 6) are the only ones that receive a positive effect with regards to land and soil, as they would facilitate the effective re-use of land whilst also preventing the need for best and most versatile agricultural land to be lost.

7.3.14 Table 7.3 below presents a visual summary of the appraisal findings for each of the strategic locations / sites for employment.

Table 7.3: *Summary of appraisal findings for the strategic locations for employment growth*

Strategic Location	<i>Economy</i>	Housing	Health and wellbeing	Transport	Soil and Land	Historic Environment	Landscape and Townscape	Biodiversity and Geodiversity	Climate Resilience	Natural Resources	Resource efficiency
A: Hesley Wood	✓✓✓?	-	-	✓	✓✓	-	x	xx?	x?	-	x?
B: East of Smithywood	✓✓✓	-	✓	-	x	-	xx	x	x	x	x?
C: Norton	✓	x?	✓✓	✓	✓	-	✓	x?	-	-	x?
D. Handsworth	✓✓✓	x?	✓	✓	x	-	x	-	x	-	-?
E. Warren Lane	✓✓✓?	-	✓	✓	x	-	xx	x	x?	x	x?
F. Beighton	✓✓	x?	✓✓	✓	x	-	x	-	x	x	-?
G. Owlthorpe	✓	x?	✓✓	✓	x	-	x	x	x?	-	-?
H. Ecclesfield	✓✓	x?	-	✓	x	-	xx	x	x	x	-?

- 7.3.15 The eight locations perform fairly differently against individual sustainability topics and across the board.
- 7.3.16 The Hesley Wood, East of Smithy Wood, Warren Lane and Handsworth sites are identified as potentially performing most positively with regards to economy as they all have good links to the strategic road network, are close to a rail station (or potential new station) and are close to existing employment uses. However, the Handsworth Hall Farm site could also be suitable for housing, so there is a minor negative impact in relation to the housing aim.
- 7.3.17 Whilst the Hesley Wood site is surrounded by important ecological features, an employment use is considered less disruptive to habitats than housing. With a smaller developable area, the effects on biodiversity would be significantly reduced (compared to the larger promoted area). However, nonetheless there is likely to be disturbance related to noise and light, and some clearance of trees / vegetation is likely to be necessary to gain access to the site. The Handsworth site has fewer sensitivities in this respect but would result in the loss of agricultural land (compared to the Hesley Wood site that could lead to remediation of contaminated land).
- 7.3.18 The East of Smithywood site is also relatively well located in terms of existing employment land, strategic road networks and access to a rail station (though not as close as site locations A and D). For this reason, neutral effects are predicted for transport. This location is also highlighted as being sensitive in terms of landscape given that parts would be visible from long distances. With a smaller developable area, the effects on biodiversity would be significantly reduced (compared to the larger promoted area, which includes ancient woodland).
- 7.3.19 The Norton site performs positively with regards to health and wellbeing and transport, as it has good public transport links and would be close to communities experiencing deprivation. However, there are potential negative effects with regards to housing, as this site could potentially be suitable for housing development also. A mixed-use site would be appropriate in this respect. There are potential sensitivities in relation to biodiversity, on this site too, but this is dependent upon the layout, type of uses and other factors.
- 7.3.20 The Handsworth site is positive with respect to economy and transport objectives, with only minor negative effects identified for specific environmental objectives (soil and land, landscape and townscape, climate change resilience). In this respect, it is favourable in terms of the options for employment growth. However, the site could also be suitable for housing, and so in this respect, a minor negative effect is identified. A mixed-use site could help to address such issues. Depending on the scale of growth, there could be negative effects in terms of congestion on the local road network and connections to the M1 (hence only minor positive effects being recorded with regards to the Transport SA Topic)
- 7.3.21 Beighton performs relatively well as an employment site as it has good access to the strategic road network, is close to existing retail and employment uses and could promote active commuting to jobs from communities experiencing deprivation. The site is not significantly constrained from an environmental perspective, with only potential minor negative effects identified.

- 7.3.22 However, there may be a need to implement mitigation measures to manage congestion on the local road network (hence only minor positive effects being recorded in relation to the transport SA Topic).
- 7.3.23 This location could potentially be suitable for housing in the longer term, so minor negative effects are predicted in this respect. Promoting a mixed used site would resolve this issue to an extent (and the site is large enough to accommodate this), but there would be a need to ensure that amenity did not become problematic.
- 7.3.24 Ecclesfield falls to the west of a large business and industrial park and benefits from close access to Junction 35 of the M1. In this respect, there are likely to be moderate positive effects in terms of economic objectives. The site is well located in terms of accessibility, but development could increase congestion on the local road network, which might require mitigation (hence only minor positive effects on the Transport SA Topic). The site is sensitive in terms of landscape and could lead to coalescence. There is also potential for negative effect on amenity and minor negative effects on other environmental aspects. The site could be suitable for housing in the longer term, so minor negative effects are predicted in this respect.
- 7.3.25 Warren Lane is relatively well located in terms of access to the strategic road networks and is predicted to have positive effects in terms of transport, health and economy. The main environmental constraint relates to landscape, as the site is sensitive to change and large scale employment uses could be difficult to fully mitigate. Only minor negative effects are predicted for biodiversity, climate change and resources, as the location is not sensitive in this respect, and the scale of growth is relatively small.
- 7.3.26 Owlthorpe is relatively unconstrained from an environmental perspective, with only minor negative effects identified for several SA topics such as biodiversity, landscape, soil and climate change resilience. The site has good accessibility by public transport and would likely benefit deprived communities in terms of health and wellbeing. However, the economic benefits would likely be minor given the scale of growth and its' relatively distant location in relation to the motorway. The site could be suitable for housing in the longer term, so minor negative effects are predicted in this respect.

7.4 Sensitivity testing

Exploring 'reasonableness' further

- 7.4.1 When identifying what constitutes a reasonable alternative, the Council considered it useful to understand the how the methodology for identifying strategic housing locations could be amended and how this would affect the outcome of 'what is considered reasonable'. This exercise was not undertaken for the employment locations, as the choice of locations is more limited.
- 7.4.2 In particular, the Council wanted to understand the implications of adjusting the parameters for what constitutes a significant constraint in terms of landscape and Green Belt. Table 7.4 below compares the parameters for determining a significant constraint under these two scenarios. Scenario A is the initial approach, and relates to the findings discussed in Chapter 5 and Appendix B.

Table 7.4: *Parameters for determining significant constraints*

Topic	Scenario A (Narrower parameters)	Scenario B (Wider parameters)
Biodiversity	>50% overlap with designated biodiversity sites	>50% overlap with designated biodiversity sites
Flood Risk	Over 50% of area is within zones 2, 3a or 3b	Over 50% of area is within zones 2, 3a or 3b
Landscape	No / very low capacity to accommodate change	Low capacity to accommodate change
Green Belt	Score of 5 for purposes 1 or 2	Score of 4 or 5 for purposes 1 or 2

- 7.4.3 Scenario A only classifies the most sensitive locations for landscape and Green Belt to be significantly constrained. However, for Scenario B, the parameters were widened; meaning that a greater number of locations were considered to be significantly constrained.
- 7.4.4 Figure 7.8 illustrates the parcels of land that are considered to be significantly constrained for landscape sensitivity under Scenario B. Figure 7.9 illustrates the parcels of land that are considered to be significant constrained for Green Belt (Purposes 1 and 2) under Scenario B. In both figures it is clear that Scenario B vastly increases the number of site parcels (and therefore strategic clusters) that are considered to be unreasonable alternatives.

- 7.4.5 Only two strategic locations / sites are not classified as being significantly constrained under Scenario B. These are:
- Strategic location 3 – South of Birley Estate
 - Strategic Location 6 - Norton
- 7.4.6 Two locations contain parcels of land that are not significantly constrained, but the remaining capacity for housing growth would be reduced if excluding the more constrained areas. This could make the benefits of strategic growth less likely to be achieved.
- Strategic Location 5 - Beighton
 - Strategic Location 7 - Dore
- 7.4.7 All other strategic locations would be classified as significantly constrained (and therefore be unreasonable alternatives) using the methodology under Scenario B.

Figure 7.8: Sites significantly constrained by landscape sensitivity (highest sensitivity sites only) (Scenario B)

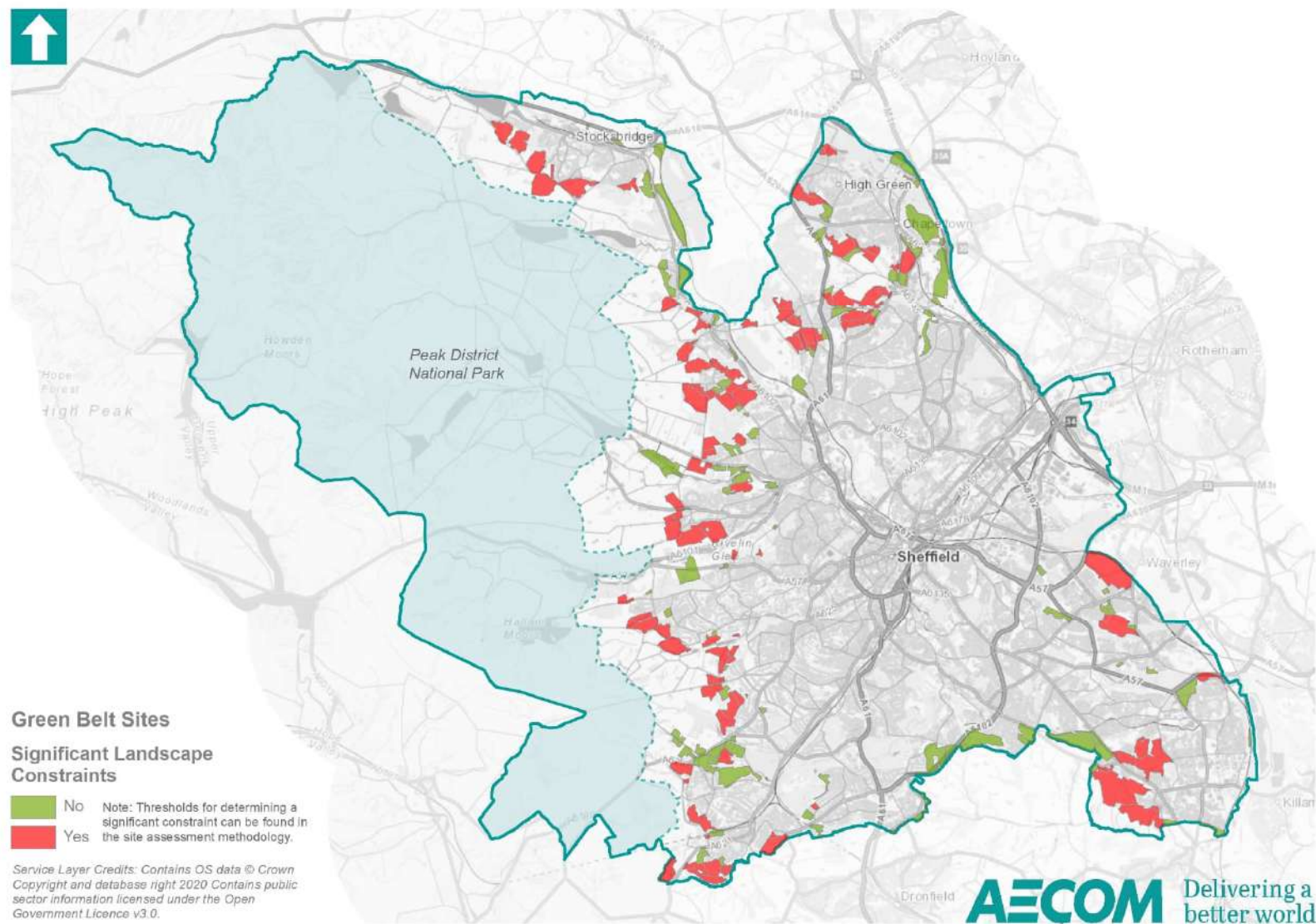


Figure 7.9: Sites significantly constrained by Green Belt Function (Scenario B)

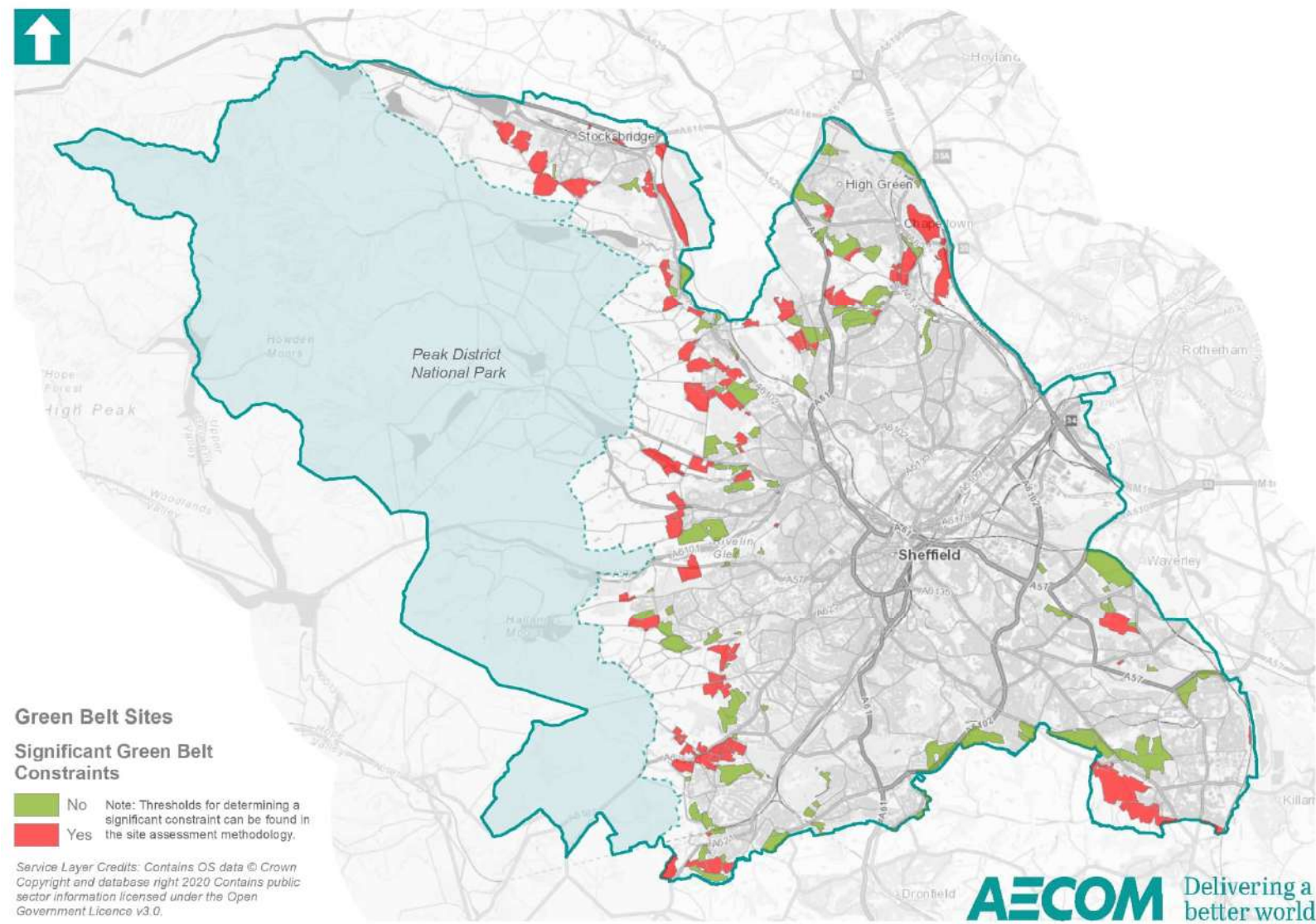
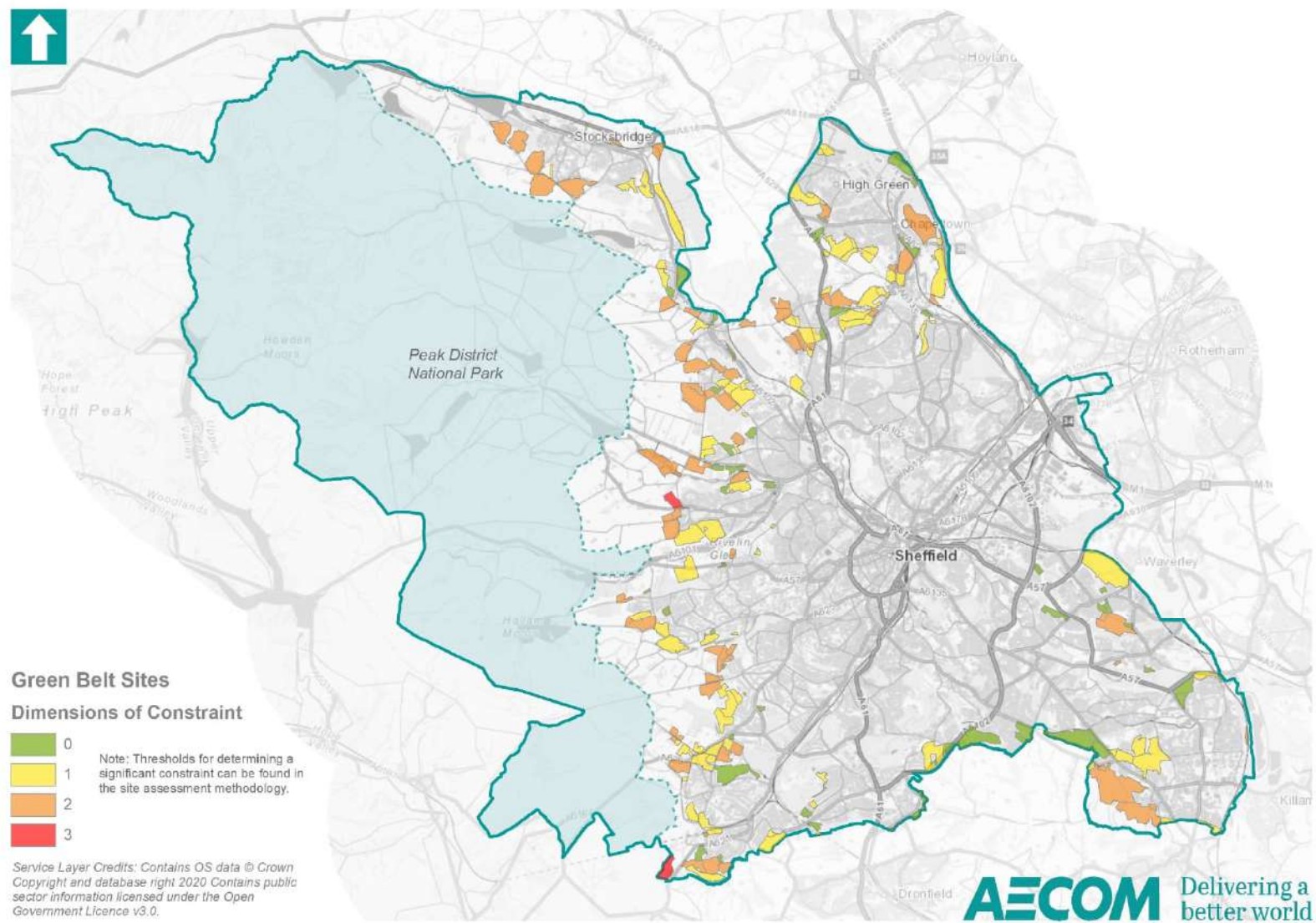


Figure 7.10: Multiple constraint analysis (Scenario B)



7.5 Adjusting the strategic locations

- 7.5.1 After appraising the shortlisted set of strategic locations (detailed in Appendix G), it was apparent that the potential for significant effects still existed at some of the locations for particular sustainability topics. Therefore, in addition to amending the parameters for what constitutes a significant constraint (i.e. comparing Scenario A and B), it was also considered useful to explore whether the boundaries of strategic locations could be tweaked (so as to avoid more sensitive parcels of land).
- 7.5.2 Appendix G contains a detailed consideration of each shortlisted strategic location for housing growth. Following the strategic appraisal which considers the strategic locations 'as a whole' (i.e. all sites in combination), the individual site parcels are explored separately. A table is included for each strategic location showing whether any of the individual parcels are 'significantly constrained' in relation to landscape, Green Belt, biodiversity and flood risk. For both Scenarios A and B, a judgement is made in relation to whether the growth cluster would remain strategic if all site / parcels were removed that are significantly constrained according to the parameters under each scenario.
- 7.5.3 Where there are significant effects identified for a particular topic, we have explored whether or not this effect could be reduced by removing certain sites / parcels from the strategic cluster. In some instances, this leads to options about what action to take, for which a recommendation is made falling into one of the following categories.
- No change required
 - Remove sites from the strategic location
 - Discount the strategic location altogether.
- 7.5.4 It is clear from Table 7.5 below that very few locations would remain should Scenario B parameters be applied. For Scenario A, changes can be made to the scale of growth at certain strategic clusters that will help to reduce the potential for negative effects. For the following locations, the potential to achieve strategic growth would still remain likely, despite removal of specific site parcels. Therefore, it is recommended that the strategic growth locations are made slightly smaller.
- 7.5.5 For other sites, the potential for strategic growth would decrease and it is recommended that the sites should therefore no longer be considered as reasonable alternatives in this respect.

Table 7.5: *The potential to deliver strategic housing growth at each location*

Very unlikely		Less likely		Uncertain		Likely		Very likely	
									
Less than 300 dwellings					1200 dwellings +				
Multiple sites involved, may be harder to coordinate					Large sites in single ownership				
Topographical / natural constraints					No major topographical or natural constraints				
Strategic Location / Sites		Any parcels with significant constraints (Scenario A)	Potential to deliver strategic growth if all parcels of land identified as 'significantly constrained' are avoided (Scenario A)	Potential to deliver strategic growth if all parcels of land identified as 'significantly constrained' are avoided (Scenario B)	Recommended changes to the strategic cluster boundaries / sites				
Strategic Location 1 (Handsworth)		No	Very likely	Very unlikely	No change to Scenario A				
Strategic Location 2 (West of Mosborough)		No	Very likely	Very unlikely	No change to Scenario A				
Strategic Location 3 (South of Birley Estate)		No	Very likely	Very likely	No change to Scenario A				
Strategic Location 4 (Owlthorpe/ Mosborough)		Yes	Very Likely	Very unlikely	Remove S2904 and S2910				
Strategic Location 5 (Beighton)		No	Likely	Unlikely	No change to Scenario A				
Strategic Location 6 (Norton/ Charnock)		No	Likely	Likely	No change to Scenario A				
Strategic Location 7 (Land between Dore/Whirlow)		Yes	Likely	Uncertain	Remove constrained sites				
Strategic Location 8 (South of Chapeltown)		Yes	Uncertain	Very unlikely	Remove S3050 and S3077				
Strategic Location 9 (Grenoside / Ecclesfield)		Yes	Likely	Very unlikely	Remove S02831				
Strategic Location 10 (Birley Edge)		Yes	Uncertain	Very unlikely	Discount				
Strategic Location 11 (Worrall/ Middlewood)		Yes	Unlikely	Very unlikely	Discount				
Strategic Location 12 (South of Deepcar)		Yes	Uncertain	Very unlikely	No change to Scenario A				
Strategic Location 13 (Oughtibridge / Wharnccliffe Side)		No	Unlikely	Unlikely	Discount				

Conclusions

Housing

- 7.5.6 This section of the IIA Report has explored in detail a range of Green Belt locations that could potentially be reasonable for more detailed investigation for housing development should the need arise in Sheffield. The Council considers it to be appropriate to narrow the choice of strategic locations as it is important that any Green Belt release is in the most appropriate locations.
- 7.5.7 The Council recognises that opportunities for enhancement are part of the equation when identifying sustainable locations for growth. However, where there is ample choice of locations, it is reasonable to firstly avoid areas that are most sensitive and / or apply a sequential approach (as per the NPPF). The sites that are allocated in the plan also need to be available (i.e. there needs to be a willing landowner) and this would also ultimately affect the choice of allocations.
- 7.5.8 In determining what constitutes a reasonable alternative, Scenario A is most flexible. This leaves a sufficient range of reasonable locations to explore should Green Belt release be necessary (whilst sifting out the most sensitive locations at the outset of the SA process).
- 7.5.9 Scenario B is more restrictive and would leave very few reasonable alternatives for further consideration. This is largely because the majority of sites are considered to be moderately or highly sensitive with regards to landscape and Green Belt function. Taking this approach would therefore make it difficult to factor in benefits that could be achieved through strategic growth (thereby tipping the planning balance in favour of certain locations without further exploration of opportunities).
- 7.5.10 It was suggested that small tweaks were made to several strategic clusters so that significant negative effects could be avoided. In some instances, this would not affect the potential to achieve strategic growth. Where it does, it is suggested that these strategic locations could be considered unreasonable. With the above in mind, the list of reasonable alternatives for housing (as necessary) is set out in table 7.6 below.
- 7.5.11 Should the more restrictive approach (Scenario B) be applied, the list would only leave two strategic locations - Strategic Location 3 (South of Birley Estate) and Strategic Location 6 (Norton/ Charnock).

Table 7.6 *Reasonable alternatives for strategic housing growth*

Strategic Location	Proposed changes
Strategic Location 1 (Handsworth)	
Strategic Location 2 (West of Mosborough)	
Strategic Location 3 (South of Birley Estate)	
Strategic Location 4 (Owlthorpe/ Mosborough)	Remove S2904 and S2910
Strategic Location 5 (Beighton)	
Strategic Location 6 (Norton/ Charnock)	

Strategic Location 7 (Land at Dore/Whirlow)	Remove significantly constrained sites
Strategic Location 8 (South of Chapeltown)	Remove S3050 and S3077
Strategic Location 9 (Grenoside / Ecclesfield)	Remove S02831
Strategic Location 12 (South of Deepcar)	

The reasonable locations identified above have all been appraised individually through the IA. These locations have also been used to understand where development would most likely be located under the spatial strategy options that involve strategic growth in the Green Belt. In determining the strategy,

Employment

- 7.5.12 The reasonable alternatives listed in Table 7.7 below have been identified in relation to economic land. Given the relatively limited number of options identified, it was deemed unnecessary to apply constraints and sensitivity testing of scenarios to narrow down the range of alternatives.
- 7.5.13 At Regulation 19 stage, four strategic locations were identified as reasonable locations for employment land (A, B, C and D in table 7.7 below). These sites were identified as being potentially suitable given their location in relation to the motorway and characteristics that would support strategic growth. Sites to the west of the Sheffield urban area were excluded for a variety of reasons, including poorer access to motorway junctions, topography and landscape constraints.
- 7.5.14 A further four locations (that had been assessed for housing growth) (E, F, G, H) were identified following Submission of the Plan for completeness, and an assessment of these has also been undertaken as part of the IIA Report updates. These four sites are also located to the east of Sheffield in locations with strong access to the strategic road network and suitable topography. The other broad locations for housing are not considered to be reasonable alternatives for employment uses.

Table 7.7 *Reasonable alternatives for strategic employment growth*

Strategic Locations for Employment
Strategic Location A (Hesley Wood)
Strategic Location B (East of Smithywood)
Strategic Location C (Norton)
Strategic Location D (Handsworth)
Strategic Location E (Warren Lane)
Strategic Location F (Beighton)
Strategic Location G (Owlthorpe)
Strategic Location H (South of Chapeltown)

- 7.5.15 The strategic locations in table 7.7 have been appraised on an individual basis in the IIA to understand their broad constraints and opportunities. The locations have also been used to understand the likely location of employment land release under different broad strategies for employment growth (as discussed in Section 8.2 of this report).
- 7.5.16 At Reg19 stage, the Council concluded that it was unnecessary to release Green Belt land to deliver identified employment land needs, and therefore none of these strategic locations were identified for allocation for employment land.

8. Developing the Plan (Reg 19) and considering reasonable alternatives

8.1 Strategy for delivering housing

- 8.1.1 At Issues and Options stage, the Council concluded that Sheffield's housing need was approximately 40,000 homes over the period 2020-2038. However, following consultation in 2020, there were some key events that warranted a reconsideration of the growth target and spatial strategy:
- In December 2020, the Government revised the standard methodology for calculating housing need. This primarily included applying a 35% increase in housing need figures for the largest urban centres in England (which includes Sheffield). This equates to approximately 51,610 additional homes⁴ over the period 2022-2039 (a gross need of 52,475 homes).
 - Following the change of Council administration in May 2021, time was needed to brief the new administration on options for accommodating future growth.
- 8.1.2 Before finalising the draft Local Plan for consultation (under Regulation 19) the Council reconsidered a range of growth options and explored these through the IIA.
- 8.1.3 The options appraisal at this stage sought to build upon previous iterations of the IIA process (rather than starting from scratch). It had already been established that brownfield land in the urban areas should be maximised, followed by consideration of greenfield sites in the wider urban area to meet higher levels of housing need. The extent of Green Belt release is reflected in higher growth options, with assumed growth locations being linked to the detailed appraisal of strategic locations in the Green Belt.
- 8.1.4 Following Submission of the draft Plan, through the examination, three further spatial options were identified in addition to the five spatial options that were considered in the Reg19 IIA Report. All eight options are described below and appraised on a consistent basis to ensure that comparisons can be drawn between the initial five spatial options and the additional three spatial options.
- 8.1.5 The spatial options for housing growth are summarised below, with table 8.1 outlining the supply elements for each approach. A number of assumptions are made to guide the appraisal process.
- 8.1.6 All of the options are predicated on the Local Housing Need calculated using the Standard Method as the starting point (i.e. 2,236 dpa). The key differences are as follows in relation to the scale of growth:
- 8.1.7 Options 1 – 3 are urban capacity led (though options 2 and 3 include greenfield land and option 3 further includes suitable brownfield land in the Green Belt).

⁴ As calculated using the affordability ratios published in April 2024.

- 8.1.8 Options 4, 5 and 6 broadly reflect local housing need in light of the Inspectors Preliminary findings (without the urban centres uplift applied).
- 8.1.9 Options 7 and 8 broadly reflect LHN with the 35% urban centres uplift applied.
- 8.1.10 Option 1 - Under this option the housing requirement would be limited to the number of homes that could be accommodated on suitable brownfield sites in the urban area.
- 8.1.11 Option 2 - Involves additional growth (compared to Option 1) by including previously undeveloped land within existing urban areas which is not designated as Green Belt (and is sustainably located).
- 8.1.12 Option 3 - This represents the submitted draft Sheffield Plan. It would involve further growth by including sustainably located large brownfield locations within the Green Belt. Though there are a range of other, mostly small, brownfield sites in the open countryside, the Council consider these as unreasonable strategic approaches given that they would lead to unsustainable patterns of growth. To achieve this option, it would be necessary to first exhaust opportunities in the urban area and then release Green Belt land.
- 8.1.13 Option 4 – This is based on the Inspectors’ preliminary conclusions. It would accommodate higher levels of growth than the submitted Plan (following the release of brownfield sites in the Green Belt); this option would allow for the release of sustainably located Green Belt sites on land that has not been previously developed, where it would be possible to demonstrate site-specific exceptional circumstances. As with Option 3, it would be necessary to first exhaust opportunities in the urban area, before releasing Green Belt land. The focus would be on strategic locations within the Green Belt, identified within Section 7 of this report.
- 8.1.14 Option 5 - Similar to Option 4, this would allow for the release of sustainably located Green Belt sites on land that has not been previously developed, where it is possible to demonstrate site-specific exceptional circumstances. This option would involve a dispersed release of smaller sites (rather than a focus on strategic locations as per Option 4)⁵.
- 8.1.15 Option 6 - This option involves the same amount of growth as per Options 4 and 5, but the approach to Green Belt release is a combination of strategic locations and wider dispersal of smaller sites.
- 8.1.16 Option 7 - Would seek to accommodate the full housing need taking into account the 35% uplift. Again, to achieve this, it would be necessary to exhaust opportunities in the urban area and then release a substantially higher level of Green Belt land. The focus would be on the reasonable strategic locations identified within Section 7 of this report.

⁵ The Council had previously deemed that a dispersed approach to Green Belt release was unreasonable (Prior to preparing the IA Report). However, several stakeholders suggested (through Reg 19 Consultation) that a dispersed approach to Green Belt release should be tested in the IA. Following discussions through the first block of hearing sessions, the Inspectors requested that the Council undertake further appraisal work to capture the potential for dispersal in the Green Belt (should that be deemed necessary). The subsequent post hearing statement suggests that consideration of smaller sites in the Green Belt would be reasonable.

- 8.1.17 Option 8 - Would seek to accommodate the full housing need considering the 35% uplift. It would be difficult to deliver this amount of Green Belt land in a wholly dispersed manner without necessitating the use of sites in more sensitive locations and / or those that constitute strategic locations. Therefore, this approach would involve a mixture sustainably located dispersed smaller sites and strategic locations.

Table 8.1 *Makeup of the strategic growth options for housing growth (revised during Examination)*

Supply component	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8
Constants								
At December 2024, there is a calculated total supply of 27,147 dwellings from the following sources which would be constant to all of the spatial strategy options for the period 2022-2039). (This excludes undeveloped land in the urban area identified separately below)								
Completions in 2022/23 and 2023/24 from all sources - 4,096 (of which 624 units on undeveloped land in the urban area) Planning permissions - 769 Proposed site allocation - under construction – 4,968 Proposed site allocation with permission – 2,808 Proposed site allocation without permission – 12,256 Small windfall sites allowance – 3,000 Estimated losses - 750								
Variables								
Broad locations for growth / Large site windfall allowance	4,675	4,675	4,675	4,675	4,675	4,675	4,675	4,675
Undeveloped greenfield land in urban area without permission		2,381	2,381	2,381	2,381	2,381	2,381	2,381
Brownfield sites in Green Belt			270	270	270	270	270	270
Other Green Belt Release (Strategic)				3,539		1,720	15,000	7,500
Other Green Belt locations (Dispersed)					3,539	1,719		7,500
Total 17 yr period (Net)	31,822	34,203	34,473	38,012	38,012	38,012	49,473	49,473
DPA 17 yr period (net)	1,872	2,012	2,028	2,236	2,236	2,236	2,910	2,910

- 8.1.18 Table 8.1 above illustrates that each option consists of different components of land supply. Those elements that are 'constant' are those that would be expected to form part of any strategy. For example, sites with planning permission form part of the 'baseline position', whilst deliverable, suitable brownfield sites in the urban area ought to be maximised to comply with national and local planning objectives and policy.
- 8.1.19 The variable elements are additional components and vary between the options. In accordance with the NPPF, a sequential approach to growth should be taken whereby Green Belt release is only considered once sustainable urban brownfield and greenfield land sources have been maximised.
- 8.1.20 Therefore, as the level of growth increases, each of the options involves the same supply components as previous options, but additional growth in Green Belt locations.

Assumptions

- 8.1.21 To establish the effects associated with the draft Local Plan (and reasonable alternatives), it is necessary to understand broadly how much and where additional growth will be focused.

Large site windfalls

- 8.1.22 Large site windfalls are expected to be concentrated in identified Broad Locations for Growth but additional housing growth could take place in any policy zones that allow for residential development. Flexible Use Zones are particularly relevant in this respect, which are focused solely in the existing urban areas.

Undeveloped land in the urban areas

- 8.1.23 Drawing upon previous stage options appraisals and site option assessments, the Council has identified a range of sites that are considered suitable for development (especially where this avoids the release of Green Belt land).

Green Belt release at strategic locations

- 8.1.24 When considering Green Belt release for the spatial options, consideration is given to the interim IIA work that focused upon the likely effects of development in strategic growth locations in the Green Belt. An assumption is made that the locations considered to be unreasonable options, would not come forward under the growth options that require Green Belt release.
- 8.1.25 The sequence of Green Belt release would be firstly to consider sustainably located brownfield sites (only 270 dwellings have been identified at Norton as suitable in this regard), followed by greenfield sites that are in locations that are well-served by public transport (or can readily be made so). At the highest scale of growth, it is presumed that some 'less sustainable locations' may need to be involved.

Dispersed Green Belt release

- 8.1.26 In response to the Inspectors' request, during the Sheffield Plan examination, for further IIA work, dispersed approaches involving the release of relatively smaller Green Belt sites have been included in the updated IIA Report. There is a large number of sites in the Green Belt (with a substantial total capacity), which would allow for many different combinations of site allocations in dispersed patterns. To help guide the assessments, an assumption is made that in the first instance, sites that do not possess any critical constraints and are 'sustainably located' would be the first port of call. Therefore, it is assumed that those sites that are closer to public transport hubs (railway stations, tram stops and the core bus network) and other existing infrastructure, and which are relatively unconstrained, would be involved in a dispersed approach rather than those that are not well-connected to the existing urban areas and / or contain a significant constraint. However, the availability of sites would also be a factor in determining which are ultimately allocated.

Mixed Green Belt release

- 8.1.27 For the approaches that involve a mix of dispersed 'smaller' sites and larger sites / strategic locations, an assumption has been made that there would be a 50:50 split between these typologies. This figure is purely to aid in the assessment process to understand the implications of a mixed approach to Green Belt release.

Plan policies

- 8.1.28 The draft Plan policies have been taken into account in determining the nature and significance of effects. However, site specific mitigation measures are not taken into consideration unless the Plan stipulates these are a requirement.

8.2 Employment land strategies

Introduction to the reasonable alternatives

- 8.2.1 To identify an appropriate strategy for the delivery of employment land, it is important to understand employment needs and sources of supply. It is also important to reflect upon economic aspirations and factors that influence job creation.
- 8.2.2 At the Issues and Options (Regulation 18) stage (discussed in Section 6), a key piece of evidence was the Sheffield Employment Land Review (2020). This concluded that an appropriate range for the employment land requirement was 141 – 248 ha over the period 2018 and 2036. Within this range, there was greater support for a figure of 200ha gross (equating to 11.1ha per year). Incidentally, this broadly corresponded with the figure proposed in the 2015 Citywide Options for Growth consultation of 10ha per year.
- 8.2.3 The Integrated Appraisal included four high level options for growth at the Issues and Options stage, ranging from 8ha per year through to 29 ha per year (a continuation of the 2009 Core Strategy approach).
- 8.2.4 The Council concluded at that stage that the methodology for assessing the need for land was appropriate, and initial estimates of land supply suggested that a target of approximately 11ha per year should be the basis of the emerging strategy.
- 8.2.5 Following the Issues and Options stage, an update to the Sheffield Employment Land Review was prepared (2021). This concluded that an appropriate range of needs would be between 176ha to 242ha between 2018-2038). Greater support was given to a figure of around 230ha gross, which equates to a figure of approximately 11.5 ha per year. This figure is broadly aligned with that identified at the Issues and Options stage.
- 8.2.6 Through further examination of the supply position (including consideration of windfall supply arising from the 'churn' of sites in existing employment areas), the Council considered that there would be sufficient land to meet the employment land requirement without necessitating Green Belt release. Site assessments were undertaken to support site allocations in the urban area, and it was deemed unnecessary to identify further alternatives in relation to employment growth and distribution to meet 'local' needs.
- 8.2.7 In addition to local employment needs, Sheffield plays an important role in the provision of strategic land for large scale warehouses. The issue of large-scale strategic warehousing was explored within the Sheffield Logistics Study (December, 2022) which concluded that there is a need for Sheffield to Plan for 62.6ha of land for this type of development.
- 8.2.8 An assessment of current supply suggested that between 22.3ha and 84.2ha is available for logistics in Sheffield, depending on future utilisation of sites for this or other activities. However, given the aspirations and expectations of advanced manufacturing in the Innovation District, the Council determined that the lower end of this range would be more appropriate.

- 8.2.9 Therefore, if the needs identified are 62.6 ha and the proposed supply is approximately 22.3 ha then it was concluded that Sheffield may not be providing enough land to meet its large logistics requirements (though regional factors demonstrate that needs may well be exceeded by excess supply in Bassetlaw).
- 8.2.10 At this stage, the Council considered that outstanding needs for large-scale logistics would be most appropriately addressed at a sub-regional level, working alongside authorities in the functional market area. Despite this, the Council identified four potential strategic sites that could be suitable for large scale logistics and warehouses to understand the implications of providing a greater proportion of supply in Sheffield through this Local Plan.
- 8.2.11 Given the lack of alternative supply in the urban area (due partly to the desire to maintain the focus of supply on advanced manufacturing and other uses providing higher skilled jobs in the Innovation District), the Council concluded that a higher level of provision for large-scale logistics/ warehousing supply could only be achieved by releasing sites in the Green Belt. Consequently, four strategic sites were identified that possessed the characteristics that make them potentially suitable for this type of development. These four⁶ sites were appraised on an individual basis through the IIA (see section 7).
- 8.2.12 The Council's preferred approach (as set out in the draft Plan) was to plan for 1.3ha per annum to make a contribution towards meeting the needs for large scale strategic warehousing (as derived from the Sheffield Logistics Study). Given the supply of land for logistics uses elsewhere in the sub-region and the 'footloose' nature of such uses, the Council deemed that it was unnecessary to plan for a higher level of need. Consequently, they did not seek to allocate any further land (in the Green Belt) for large scale logistics / warehousing.

Reflecting on the employment strategy and reasonable alternatives

- 8.2.13 Following consultation on the Reg19 version of the Plan (and through subsequent hearing sessions at the Examination in Public), there has been criticism that the IIA has not fully considered or explained the approach taken in relation to the reasonable alternatives for both the scale and location of employment land provision.
- 8.2.14 The Council acknowledges that the rationale for selecting its preferred approach for employment land should be made clearer in the IIA. It also notes that, whilst there has been an appraisal of employment growth and distribution options in the IIA (as discussed above), the IIA should have considered other higher growth options and alternative locations). Therefore, it was considered useful to prepare an update to the SA Report to address the following factors:
- a) Reasonable alternatives for employment strategy are re-considered in the context of the most up to date evidence available to the Council, having regard to the evidence in both the ELRU and SLS.
 - (b) Reasonable alternatives relating to both the scale and the location of employment provision are fully assessed.

⁶ An additional four sites were identified following Reg19 stage, meaning a total of eight sites are discussed in Section 7.4.

Scale of growth options

- 8.2.15 The Council has identified six scales of growth based on different methods of calculating need for both general/local employment land and for large scale logistics. These figures are derived from the Employment Land Review Update (2021) and the Sheffield Logistics Study (2022). Option 4 is based on the Inspectors preliminary conclusions on employment land needs following completion of the Stage 1 and 2 hearings. The Inspectors preliminary conclusions are that the employment land figure should be 237.2 hectares (see EXAM123, paragraph 48). This represents 13.95 hectares per annum, and comprises 11.5 hectares for general employment (195.5 hectares total) and 2.45 hectares per annum for large scale logistics (41.7 hectares total).

Table 8.2 Employment growth scenarios

Option	Type	Per annum (ha)	Total per annum (ha)	Total Local Plan Figure (ha)
1.Short-term take up rates	General Logistics	7.84 1.42	9.26	157.42
2.Long-term take up rates	General Logistics	10.66 1.42	12.08	205.36
3.Recommendations from SLS and ELRU (Submitted Plan)	General Logistics	11.5 1.3	12.8	217.6
4. Inspectors' preliminary conclusions on identified need	General Logistics	11.5 2.45	13.95	237.2
5.Conclusions on identified need from SLS and ELRU	General Logistics	11.72 4.6	16.32	277.44
6.Maximum identified need from SLS and ELRU	General Logistics	12.32 5.11	17.43	296.31

Distribution options

- 8.2.16 To understand the implications of economic growth it is important to have an appreciation of where employment land would be located.
- 8.2.17 There are elements of supply that are considered to be 'constants' as they form a part of the baseline position (i.e. committed development) or they ought to be prioritised in line with the policy context (for example, deliverable and suitable brownfield land in the urban area).
- 8.2.18 The variable elements of supply are what differentiates the options. In this instance, this includes potential site allocations within the urban area on

brownfield or greenfield land, and (more so for the higher growth options) a range of strategic sites in the Green Belt.

- 8.2.19 The scale of growth options have been appraised in the context of the different approaches to distribution and the sources of supply likely to be involved.
- 8.2.20 Different approaches to the distribution of growth are identified in Table 8.3, which represent a combination of different spatial strategies and scales of growth.
- 8.2.21 The Inspectors' preliminary conclusions provide an additional perspective on the distribution of employment growth, clarifying that when determining the most appropriate distribution of sites and locations, and in order to meet the employment requirement, analysis should:
- (a) acknowledge that there is a sufficient supply of land for large-scale logistics uses, but that there is an identified shortfall in land for general employment; and
 - (b) consider the scope for the intensification / re-use of existing employment sites, and also consider options for delivering employment sites outside the urban area through Green Belt release.
- 8.2.22 The strategy in the Submitted Plan included an assumption that urban windfall sites would make up the shortfall in employment land against the Plan requirement. However, in addition to increasing the employment land requirement, the Inspectors have questioned the evidence on windfalls. Whilst further work has demonstrated that there will be windfalls, this is not sufficient to meet the full employment land need. Therefore, any scale of employment land required above the confirmed supply of 184.4 ha will require an element of Green Belt release.
- 8.2.23 These additional perspectives have been factored into the context and approach set out in Table 8.3 and also factored into the analysis set out in Appendix K.
- 8.2.24 A key difference in distribution also relates to whether or not development in the Innovation District should continue to be restricted to targeted sectors. The alternative would be to take a more relaxed approach, allowing strategic uses such as logistics and warehousing to be delivered alongside advanced manufacturing and innovation-based uses.
- 8.2.25 The Innovation District initiative has been developed to build on South Yorkshire's unique innovation assets and competitive advantages, creating a unique centre of innovation excellence.
- 8.2.26 The area extends across the city boundary into Rotherham and includes four 'hubs' or campuses where there is a critical mass of world class innovation facilities and clusters of innovation-driven businesses which gives the Innovation District a competitive advantage over other places nationally and internationally. The next phase of growth seeks to build and expand upon the strengths of the Innovation District and collaborative capabilities.

8.2.27 Supporting more start-ups and small manufacturing business to take advantage of opportunities in existing, growing and emerging sectors is also important.

8.2.28 In this respect, one could argue that a more relaxed approach to development types in the Innovation District would be unreasonable and contrary to the Local Plan vision and objectives. However, the Council recognises that there is also a growing market in logistics and warehousing, and some land within or near to the Innovation District could be suited for such uses. Therefore, each growth scenario has been considered in two different distribution contexts.

1. Innovation District supported through restricted uses.
2. Innovation District opened up to other uses.

Table 8.3: Employment distribution approaches

Distribution	Indicative locations	Notes
Urban area focused, with intensive use of sites. Innovation District supported through restricted uses. No Green Belt release for employment use.	Urban Central Sheffield, Urban Innovation District, Other Urban Locations outside the Central Area and the Innovation District (incl. Stocksbridge/ Deepcar and Chapeltown/ High Green)	This would maximise supply within the urban area. However, it may be difficult to achieve the higher growth scenarios.
Urban area focused, with intensive use of sites. Innovation District supported through restricted uses. Limited Green Belt release at sustainable locations.	This would involve urban locations but with additional growth at sustainable locations for employment land in the Green Belt.	This would still aim to maximise supply within the urban area, but a more restrictive approach within the Innovation District may require the selective release of Green Belt to meet the higher growth scenarios.
Urban area focused, with intensive use of sites. Innovation District opened up to other uses. Limited Green Belt release at sustainable locations.		
Urban area, Innovation District supported through restricted uses. More extensive Green Belt release at sustainable locations	This would involve urban locations, but with a wider range of locations in the Green Belt (i.e. locations previously appraised as potentially suitable for strategic housing release in the Green Belt).	The emphasis remains on maximising supply in the urban area, but with a greater amount of Green Belt land release to meet the higher growth scenarios
Urban area, Innovation District opened-up to other uses. More extensive Green Belt release at sustainable locations.		

Summary of appraisal findings

- 8.2.29 The two tables below set out a summary of the appraisal findings for the strategic employment options. Table 8.4 sets out the effects when assuming that employment uses within the Innovation District would continue to be managed. Table 8.5 sets out the effects for the same growth options, but with the assumption that the Innovation District could be opened up to alternative uses (i.e. strategic logistics and warehousing).
- 8.2.30 The shading and symbols in the tables below relate to the nature and significance of effects. Full appraisal findings with more detailed commentary on effects are presented with **Appendix K**

Major negative	Moderate negative	Minor negative	Neutral	Minor positive	Moderate positive	Major positive
×××	×	×	-	✓	✓✓	✓✓✓

Table 8.4: Summary of effects - Restricted uses in the Innovation District

	Short term take-up rates	Long term take-up rates	Recommendations in the ELR and SLS (The draft Plan)	Inspectors' preliminary conclusions on need		Conclusions on identified need in the ELR & SLS	Maximum identified need in the ELR & SLS
Economy	×?	✓	✓✓	✓✓✓?		✓✓✓	✓✓✓
Housing	-	-	-	-		×	×
Health and wellbeing	×	-	✓	×?	✓✓?	×	✓✓
Transport and accessibility	-	-	-	×?		×	××?
Soil and land	✓?	-	-	×?		×	××
Historic environment	-	-	-	-		-	-
Landscape and townscape	✓	-	×?	×		××	×××
Biodiversity and geodiversity	✓	✓	✓	×?		×××?	×××?
Climate change resilience	×	×	×	×		××?	××?
Natural resources and pollution	-	-	-	×?		×	××
Climate change mitigation	-	×	×	×		××	××

- 8.2.31 A growth strategy based on short term take up rates is likely to be detrimental to the economy, with knock on negative effects in relation to health and wellbeing. In this regard, this strategy would not meet the Plan objectives. It would also likely lead to higher amounts of commuting and secondary effects on neighbouring authorities.
- 8.2.32 The main benefit of taking this approach would be the minor positive effects predicted for environmental factors. However, this is on the presumption that additional land is not released through speculative development.
- 8.2.33 The next scale of growth represents long term take-up rates and is more likely to reflect the baseline position. The potential for positive effects increases with regards to the economy, and negative effects on health and wellbeing are less likely compared to the lowest growth scenario. However, this approach would still fall short in terms of supporting the Plan vision with regards to economic growth and social betterment. There is potential for some moderate negative effects on landscape and townscape as a result of additional development.
- 8.2.34 For growth scenario 3, the significance of positive effects is predicted to be greater than lower growth scenarios in terms of economics and health benefits. This would be possible to achieve without increasing negative effects on environmental factors, as the scale of growth and development sites involved could be selected so as to avoid sensitive locations and limit cumulative impacts.
- 8.2.35 For growth scenario 4, the significance of positive effects increases to potentially major for the economy topic, and positive effects on health are likely to increase in significance to moderate. This higher scale of growth does bring with it some minor negative effects though that do not arise under growth scenario 3. This includes transport and accessibility, biodiversity, natural resources and pollution, and soil and land. For all other topics, the effects are likely to remain similar to those identified under scenario 3.
- 8.2.36 At a higher scale of growth still, the economy is likely to experience major positive effects, and this will have increased benefits in the long term on health and wellbeing and on reducing inequalities. However, this could be at the expense of negative effects against a range of other sustainability factors. In particular, there would be a need for more Green Belt release, which will have negative effects on soil and land, landscape, biodiversity, climate change and natural resources. The cumulative increase in employment land and its location at the urban periphery is also likely to have implications in terms of increased traffic and amenity concerns. Ultimately, the significance of effects would be dependent upon the development sites involved, and proposed mitigation / enhancement. However, there are constraints and sensitivities that cannot be ignored, and these have been reflected in the strategic assessment of the highest two growth scenarios.

Table 8.5 Summary of effects – Innovation District opened up to other uses

	Short term take-up rates	Long term take-up rates	Recommendations in the ELR and SLS	Inspectors' preliminary conclusions on need		Conclusions on identified need in the ELR and SLS	Maximum identified need in the ELR and SLS
Economy	x?	-	✓	✓✓		✓✓	✓✓
Housing	-	-	-	-		x	x
Health and wellbeing	x	-	✓	x?	✓✓?	x	✓✓
Transport and accessibility	-	-	-	xx?		xx?	xxx?
Soil and land	✓?	-	-	x?		x	xx
Historic environment	-	-	-	-		-	-
Landscape and townscape	✓	-	-	x?		xx?	xxx
Biodiversity and geodiversity	✓	✓	✓	=?		xx?	xx?
Climate change resilience	x	x	x	x		xx?	xx?
Natural resources and pollution	-	-	-	x		xx	xxx?
Climate change mitigation	-	x	x	x		xx	xx

- 8.2.37 For some sustainability themes (housing / soil and land / climate change), opening the Innovation District to strategic employment is unlikely to lead to significantly different effects when compared to a more restrictive approach. This is more so the case for the lower growth scenarios where the demand for land is less pressing.
- 8.2.38 The key differences between the strategic growth scenarios when opening the Innovation District relate to 'Economy', Transport and Accessibility', 'health and wellbeing', 'Natural Resources and Pollution' and 'Biodiversity'.
- 8.2.39 With regards to the economy, there would be significant implications in achieving the objectives for the Innovation District, and this would limit the benefits on the economy for all of the growth scenarios.
- 8.2.40 Though an increased amount of logistics / strategic warehousing would provide economic benefits for the higher growth scenarios, the displacement of opportunity sites in the Innovation District would dilute the positive effects that could otherwise be achieved.
- 8.2.41 It is acknowledged that displaced employment from the Innovation District could be delivered on Green Belt locations at the urban periphery, but this would not encourage agglomeration and associated benefits. Furthermore, bringing strategic warehousing / logistics into the Innovation District could potentially lead to more HGV traffic in the urban areas close to deprived locations with negative effects on natural resources and human health.
- 8.2.42 The main benefit of allowing more logistics growth within the Innovation District would be decreased pressure for intrusive employment uses in the Green Belt on land that is generally more sensitive in terms of landscape character and biodiversity. Nevertheless, there would still be an impact on these factors as a result of local employment opportunities being delivered.

Rationale for selecting the preferred approaches and discounting the alternatives.

- 8.2.43 The Council's preferred approach established at Pre-Submission stage aligned with growth scenario 3, which takes the recommendations in the ELRU and SLS to inform the employment land strategy in the Local Plan. Given the availability of land for logistics uses in the wider market area and the fact that logistics uses do not necessarily have to locate in Sheffield, the Council was of the opinion that exceptional circumstances did not exist to justify Green Belt release (as reflected in the Submission Plan). However, this was a judgement based on the need to protect the environment

Examination

- 8.2.44 Following the 2024 examination hearings, the Inspectors have written to the Council with their initial views (February 2024). Their preliminary conclusions in relation to employment land provision are that the Plan requirement for large scale logistics uses should be increased from 22.1 hectares to 41.7 hectares (2.45 hectares per annum), to reflect the latest supply evidence.
- 8.2.45 The Inspectors also concluded that there is a shortfall in the identified supply of approximately 52.8 hectares. After exploring opportunities to increase supply in the urban area, the Council accepts that there are exceptional circumstances to release Green Belt land for employment uses.
- 8.2.46 The Integrated Appraisal has assessed a strategic alternative that reflects the Inspectors recommendations alongside a range of other reasonable alternatives for employment growth. The IA also includes consideration of specific opportunity sites for employment use that could help to meet needs.
- 8.2.47 Several of the options that have been appraised have the potential to deliver a greater quantum of supply than the shortfall identified by the Inspectors. This has additional positive impacts for the economy, with only residual minor negative impacts on the environment at the level of growth recommended by the Inspectors (providing there are adequate mitigation measures in place).
- 8.2.48 Following consultation on the proposed changes to the Plan, there will be further opportunity for discussion before the Inspectors propose any Modifications that are needed to make the Plan sound.

9. Appraisal of individual sites

9.1 Introduction

- 9.1.1 In order to identify which sites should be allocated to support the spatial strategy, the Council has undertaken a site appraisal and selection process.
- 9.1.2 The sites have been identified through a Site Selection Methodology. A total of 483 sites in the urban area have been considered through this process. A further 350 sites in the Green Belt have also been appraised (see Section 9.2 below).
- 9.1.3 The site assessment and selection methodology is outlined in detail in a separate document⁷. In summary, there are 5 stages to site assessment in the methodology. These are outlined in the table below (Table 9.1).
- 9.1.4 The site appraisal methodology includes a 'suitability assessment' which incorporates sustainability assessment indicators that link to the IIA framework. This means that an integrated approach is taken and it is unnecessary to duplicate site assessments in the IIA.
- 9.1.5 Appendix I replicates the outputs for the site assessment method for each of the sites considered throughout the process.

Table 9.1: Summary of the *site appraisal methodology*

Stage 1: Identification of sites – A full list of sites was pulled together from a range of sources including existing allocations, sites identified through the HELAA and through a call for sites.
Stage 2: Initial checks – All sites identified were checked against a set of criteria to rule out any that would be unsuitable for allocation because they were too small or have already been developed / are not available.
Stage 3: Suitability Assessment – At this stage, potential uses for each site were identified as well as each site being assessed against a range of sustainability criteria. These criteria were identified by linking to the IIA framework sustainability aims. The general suitability assessment resulted in a list of sites being judged unsuitable. All other sites were taken forward to Stage 3b (the identification of site boundaries and conditions on development). For all sites judged potentially suitable for development, and where two or more potential uses had been considered, a decision was made as to which use would be the most appropriate before the further stages of assessment. For the sites deemed suitable for development, it was necessary to establish site boundaries and developable areas.

⁷ Site Selection Methodology Background Paper, Sheffield City Council (2022).

Any site-specific conditions on development that would be required in order to suitably mitigate any adverse impacts of development were also identified.

Stage 4 Availability Assessment - Stage 4 involved assessing the availability of all the sites deemed potentially suitable for development, that is, to ensure that land proposed for allocation can be made available for development within the Plan period. Sites that were not considered to be likely of becoming available in the plan period were ruled out.

Stage 5: Achievability Assessment - All sites that were still considered suitable for allocation at this stage were input into a Whole Plan Viability Assessment (WPVA). The WPVA concluded that all the typologies tested were viable to some extent. It was therefore concluded that all sites should be considered to be achievable over the entirety of the plan period

- 9.1.6 Following consideration of the steps set out in the above methodology, a list of sites was produced that were considered suitable, available, and achievable for allocation within the Sheffield Plan.

9.2 Appraisal of Green Belt Site Options

- 9.2.1 At Regulation 19 Stage, the Council considered that Green Belt release was not necessary (beyond a specific brownfield regeneration opportunity at Norton). It was also determined that a dispersed approach to Green Belt release was an unreasonable alternative as a strategy (see section 7.1.10). As a result, it was deemed unnecessary to undertake an appraisal of all Green Belt sites on an individual basis.

- 9.2.2 During the Local Plan Examination in Public process, the Inspectors requested that the Council should produce and consult on an IIA addendum considering sustainably located smaller Green Belt sites on edge of urban area as a further reasonable alternative. The 'smaller' sites would be well below the 1,000 homes threshold used to define strategic sites – so, typically with capacity for less than 500 new homes. In effect, this represents a dispersed approach to Green Belt release as a broad strategy. To help understand the potential locations for growth and the broad characteristics of the sites that could be involved under such an approach, SA of small sites in the Green Belt has been undertaken for:

- Sites that were put forward to the Council through Call for Sites/ Local Plan consultation prior to Regulation 19 consultation.
- Sites put forward as part of Regulation 19 consultation or since, if not previously appraised, and large enough to allocate.
- All other Green Belt parcels included within the Green Belt Review, Green Belt Review Addendum (2022) and Green Belt Review Appraisal of sites (2024)

The appraisal methods mirror those undertaken for sites in the urban areas as described above in Section 8.1. However, there are some important changes that have been made to the SA indicators to enable assessment of the additional sites within the required time frame. The changes are set out below.

Impact on rural landscape character

- 9.2.3 Scoring for the indicator remains the same. However, not all sites identified within the Green Belt Review Addendum were assessed within the Sheffield Landscape Character Assessment Addendum.
- 9.2.4 Where a landscape character assessment was not available, indicative scores were instead used based on an officer assessment of the landscape character typologies and scores of nearby sites that had been fully assessed.
- 9.2.5 LCA information was not available for sites: S02366, S026725, S02436, S02492, S02495, S02496, S02499, S03088, S03228, S03236, S03237, S04262.

Impact on ecology/local nature recovery networks

- 9.2.6 Sites were assessed for their ecological impact by the council's Ecology Service. This considered a sites potential impact on designated ecological areas (e.g. Sites of Specific Scientific Interest, Local Nature Reserves, Local Wildlife Sites) but not upon the emerging Local Nature Recovery Strategy and combined natural capital opportunity maps.
- 9.2.7 Scoring for the indicator remains the same.

Flood risk

- 9.2.8 Sites were previously assessed within the Level 1 Strategic Flood risk Assessment. Sites were assessed by officers using the same methodology as was used within the Level 1 SFRA. Scoring for the indicator remains the same.

Suitability for employment

- 9.2.9 Sites were previously assessed within the Employment Land Review. An additional (neutral) indicator was added to the scoring to show where a site had been promoted for employment uses.

Uses assessed	Significant positive impact (YY)	Minor positive impact (Y)	Neutral Impact (-)	Minor negative impact (N)	Significant negative impact (NN)
all Employment uses	-	Recommended for allocation for employment uses	Site promoted for employment use	Not recommended or not assessed for allocation for employment uses	-

- 9.2.10 A summary of the findings for the Green Belt site assessment is presented in **Appendix J**

Proposed site allocations (Reg19)

- 9.2.11 At this stage, no Green Belt sites were identified for allocation, as the Council considered that Green Belt release for housing delivery was not necessary.

Proposed sites (Examination)

- 9.2.12 In response to the Inspectors' recommendations relating to housing needs and supply, the Council has identified a suite of potential additional sites for allocation. The proposed sites and selection rationale is set out in the document 'Sheffield Plan: Proposed Additional Site Allocations'.

9.3 Gypsies, Travellers and Travelling Showpeople

Introduction

- 9.3.1 Following discussions at the Sheffield Plan examination hearings, the Council has revisited potential sites for delivery of Gypsy, Traveller and Travelling Showpeople provision. The main reason was to consider smaller sites within the urban area and sites within the Green Belt which had been excluded from the site selection methodology.

Gypsy and Traveller sites

- 9.3.2 The scope of the exercise comprises two main elements. The first focusses on consideration of small pieces of privately owned and Council land within the existing built-up area. The second element considers Council owned land within the Green Belt, in addition to other sites promoted for Traveller use.
- 9.3.3 The Council applied a range of criteria to identify 18 reasonable alternatives within the urban area and, which were appraised against the SA Framework. The findings are summarised in a matrix within **Appendix N**.
- 9.3.4 None of the sites within the Green Belt were considered to constitute reasonable alternatives and therefore have not been appraised against the SA Framework.
- 9.3.5 For the 18 reasonable site options, further consideration was given to topography, site access, neighbouring uses, ecology and the historic environment.
- 9.3.6 Following the assessments, the Council has concluded that no sites are suitable for allocation for Gypsy and Traveller sites. The detailed rationale for each site is set out in the Gypsy and Traveller Search Note ([Exam Document 113](#)).

Travelling showpeople alternatives

- 9.3.7 Two sites have been identified as options for travelling showpeople provision.
- S04639 - Hesley Wood
 - S04632 – Eckington Way
- 9.3.8 Both sites have been appraised against a site appraisal framework, with the findings presented in **Appendix N**.
- 9.3.9 The Hesley Wood site lies within the Green Belt and is not considered to be previously developed; therefore, not falling within the scope of the spatial strategy for the Plan.
- 9.3.10 Given that the Sheffield Plan proposes allocation of the site at Eckington Way (SES03) for a Travelling Showpeople and Employment site (which is consistent with the spatial strategy) the land at Hesley Wood is not required as an alternative location for that use.
- 9.3.11 As Hesley Wood is not available for Gypsy and Traveller site use, it is not a reasonable alternative location for that use either.

10. Appraisal of the Submitted Plan and reasonable alternatives

10.1 Introduction

- 10.1.1 This section presents an appraisal of the Submitted Plan (Sept 2023) considered 'as a whole' (i.e. the proposed strategy including the site allocations and all of the supporting policies that will shape future development). The full list of Plan policies can be found in table 10.1.
- 10.1.2 As described in Section 8 previously, five reasonable alternatives were identified in the Reg19 IIA Report, all of which focused on the key strategic matters of housing growth and distribution. An additional three housing strategic options have been identified following Submission of the Plan. This section has therefore been updated to report on the findings of the assessment of the additional options. The methods of appraisal and assumptions are consistent for each of the options.
- 10.1.3 It is considered unnecessary to develop alternatives for all other Plan policies as many are not strategic in nature and would be applied regardless of the overall approach to housing growth. Therefore, each reasonable alternative at this stage can be treated as a 'different version of the Proposed Plan'.
- 10.1.4 Strategic options for the level of employment were also considered at the Reg 19 Stage, and as described in the previous sections, those options have also been broadened to cover other reasonable alternatives for the quantum of development and its spatial distribution.
- 10.1.5 For each SA topic, the appraisal first considers the potential effects associated with the level and distribution of growth proposed in the draft Plan (i.e. the cumulative effects of proposed site allocations). Next, consideration is given to all the supporting policies. This provides a more meaningful appraisal of the Plan, as the strategy / site allocations will be influenced by policy requirements.
- 10.1.6 Each of the reasonable alternatives are treated in the same way with regards to supporting policies, as this allows a more realistic understanding of effects.
- 10.1.7 The effects of the proposed Plan are presented first, followed by an appraisal of each of the alternatives (to ascertain whether a change in strategic approach would lead to different overall effects).
- 10.1.8 The appraisals have been undertaken by qualified professionals in impact assessment and plan-making, employing the following methods:
- Drawing upon information within the Scoping Report in relation to baseline data, trends, sensitive environmental receptors and key sustainability issues.
 - Utilising Geographical Information Systems (GIS) to identify spatial features, environmentally sensitive areas and relationships between development locations and likely effects.

- Cross referencing information from supporting pieces of evidence such as landscape character studies and transport modelling.

Determining significance

- 10.1.9 In any appraisal, every effort is made to predict effects accurately, however it is recognised that this is inherently challenging.
- 10.1.10 To determine the significance of effects, account is taken of a range of factors including magnitude, duration, frequency, likelihood, permanence, and timescale. The potential for cumulative and synergistic effects is also considered by taking account of how the different proposals within the Plan interact. Consideration is also given to the interaction of the Plan with other plans, policies and programmes that affect the baseline position.
- 10.1.11 Each Plan policy has been considered in the appraisal, but the findings have been discussed on a 'whole plan' basis (rather than commenting on every policy individually in the plan appraisal narrative set out in this section). This is important as policies should be read in the context of the whole Plan and not in isolation. Policies can interact with one another to create cumulative effects, synergistic effects and to help mitigate potential negative effects. Where this is the case, such factors are discussed in the appraisal findings, including reference to individual policies as relevant.
- 10.1.12 To aid in interpretation, of the overall findings, **Appendix L** sets out a matrix that concludes on the broad implications of each policy (i.e. whether it is broadly positive, negative or neutral). As outlined above, it is not necessary to determine the significance of individual policies, but this 'policy screening' exercise allows for a focus on policies that are likely to be more relevant for the different SA topics.
- 10.1.13 Secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects have been considered for each topic as part of the assessment process. These are drawn out in the appraisal text as relevant. As discussed above, it is not necessary to comment on the characteristics of effects for every element of the Plan individually. It can be assumed that where effects have not been identified within the appraisal text for certain policies, that these were not important factors in determining overall significance.
- 10.1.14 The following symbols and colours are used to depict the significance of effects throughout this section, and are summarised in table 10.1, which compares each of the reasonable alternatives.

Level of significance				
Major positive	✓✓✓	Neutral	***	Major negative
Moderate positive	✓✓		**	Moderate negative
Minor positive	✓		*	Minor negative

- 10.1.15 A list of Plan policies is provided below for reference purposes.

Policy reference and title

Part 1: Vision, Spatial Strategy, Sub-Area Policies and Site Allocations

Growth Plan and Spatial Strategy

SP1: Overall Growth Plan

SP2: Spatial Strategy

SP3: Hierarchy of Centres

Sheffield Sub-Area Strategy

SA1: Central Sub-Area

CA1: Kelham Island, Neepsend, Philadelphia, Woodside

CA1A: Priority Location in Neepsend

CA1B: Catalyst Site Between Penistone Road, the River Don, and Rutland Road

CA2: Castlegate, West Bar, The Wicker, Victoria

CA2A: Priority Location in Castlegate

CA2B: Priority Location in Wicker Riverside

CA3: St Vincent's, Cathedral, St George's, University of Sheffield

CA3A: Priority Location in Furnace Hill

CA3B: Catalyst Site at the Gateway between Scotland Street, Smithfield, and Snow Lane

CA4: City Arrival, Cultural Industries Quarter, Sheaf Valley

CA4A: Part of Priority Location and Catalyst Site at Moorfoot - Land between Eyre Street, St Mary's Road, and Jessop Street

CA5: Heart of the City, Division Street, Springfield, Milton Street, The Moor, and Hanover Street

CA5A: Priority Location in Moorfoot

CA5B: Catalyst Site at the Junction between St Mary's Gateway, The Moor Street, and London Road

CA6: London Road and Queen's Road

SA2: Northwest Sheffield Sub-Area

SA3: Northeast Sheffield Sub-Area

SA4: East Sheffield Sub-Area

SA5: Southeast Sheffield Sub-Area

SA6: South Sheffield Sub-Area

SA7: Southwest Sheffield Sub Area

SA8: Stocksbridge/Deepcar Sub-Area

SA9: Chapeltown/High Green Sub-Area

Policy reference and title

Topic Policies

H1: Scale and Supply of New Housing

T1: Enabling Sustainable Travel

BG1: Blue & Green Infrastructure

D1: Design Principles and Priorities

IN1: Infrastructure Provision

Part 2: Development Management Policies and Implementation

The Policy Zones, Allocated Sites and Other Designations

AS1: Development on Allocated Sites

An Environmentally Sustainable City - responding to the Climate Emergency

ES1: Measures Required to Achieve Net Zero Carbon Emissions in New Development

ES2: Renewable Energy Generation

ES3: Renewable Energy Networks and Shared Energy Schemes

ES4: Other Requirements for the Sustainable Design of Buildings

ES5: Managing Air Quality

ES6: Contaminated and Unstable Land

ES7: Safeguarding of Mineral Resources and the Exploration, Appraisal and Production of Fossil Fuels

ES8: Use and Production of Secondary and Recycled Aggregates

Thriving Neighbourhoods and Communities

NC1: Principles Guiding the Development of Strategic Housing Sites

NC2: Development in the Residential Zones

NC3: Provision of Affordable Housing

NC4: Housing for Independent and Supported Living

NC5: Creating Mixed Communities

NC6: Purpose-Built Student Accommodation

NC7: Criteria for Assessing New Gypsy and Traveller and Travelling Showpeople Sites

NC8: Housing Space Standards

NC9: Housing Density

NC10: Development in District and Local Centres

NC11: Access to Key Local Services and Community Facilities in New Residential Developments

NC12: Hot Food Takeaways

NC13: Safeguarding Local Services and Community Facilities

Policy reference and title

NC14: Safeguarding Sensitive Uses from Noise, Odours and other Nuisance

NC15: Creating Open Space in Residential Developments

NC16: Development in Flexible Use Zones

NC17: Development in the Hospital Zones

A Strong and Growing Economy

EC1: Development in the Advanced Manufacturing Innovation District (AMID)

EC2: Development in the City Centre Office Zones

EC3: Development in General Employment Zones

EC4: Development in Industrial Zones

EC5: Assessment of Proposals for Commercial, Business and Service Uses, Retail Warehouse Clubs and Leisure Development outside Centres

EC6: Economic Development and Sensitive Uses

EC7: Promoting Local Employment in Development

EC8: Development in University/College Zones

A Vibrant City Centre

VC1: Commercial, Business and Service Uses and Leisure Developments in the City Centre Primary Shopping Area

VC2: Development in the Cultural Zones

VC3: Development in the Central Area Flexible Use Zones

A Connected City

CO1: Development and Trip Generation

CO2: Parking Provision in New Development

CO3: Broadband and Telecommunications

A Green City - Responding to the Biodiversity Emergency

GS1: Development in Urban Green Space Zones

GS2: Development in the Green Belt

GS3: Landscape Character

GS4: Safeguarding the Best and Most Versatile Agricultural Land

GS5: Development and Biodiversity

GS6: Biodiversity Net Gain

GS7: Trees, Woodland and Hedgerows

GS8: Safeguarding Geodiversity

GS9: Managing Flood Risk

GS10: Protection and Enhancement of Water Resources

Policy reference and title

GS11: Sustainable Drainage Systems

A Well-Designed City - Planning for Beautiful Places

DE1: Local Context and Development Character

DE2: Design and Alteration of Buildings

DE3: Public Realm and Landscape Design

DE4: Design of Streets, Roads and Parking

DE5: Design of Shop Fronts

DE6: Design of Tall Buildings and Protection of Views in the City Centre

DE7: Advertisements

DE8: Public Art

DE9: Development and Heritage Assets

Developer Contributions

DC1: The Community Infrastructure Levy (CIL) and other Developer Contributions

10.2 Economy

SA1: A vibrant and competitive economy with good job opportunities available to the whole community

SA2: Education and training opportunities

10.2.1 The 'Economy' SA theme incorporates two SA objectives which both contribute towards the achievement of a strong economy and ensure that residents can access job opportunities through improved education. This section presents an assessment of the whole Plan in relation to this theme, concluding on the significance of effects when considering all policies in combination. The assessment is presented as a narrative discussion, highlighting policies that contribute notably to the achievement of the two SA Objectives covered by this theme.

Spatial Strategy and Site Allocations

10.2.2 The Submitted Plan sought to deliver 12.8 hectares of employment land per year comprising 2.9 hectares of office and 9.9 hectares for industrial and distribution development. This includes 4.23 hectares per year needed to replace employment land lost to other uses (mainly housing). The substantial growth proposed is likely to have positive effects as it will help address employment needs in the city and the split of employment land types should help meet the requirements to facilitate a growing diverse economy.

10.2.3 The spatial strategy sets out a series of development zones across the city. These zones safeguard existing City Centre office clusters (Policy EC2), shopping and leisure (VC1), employment (EC3) and industrial (EC4) areas by defining and protecting areas with existing employment uses from development which could impede the employment use. This should help safeguard existing employment land and uses which in some areas may be less viable to alternative uses such as housing, helping to preserve a vibrant and diverse economy. Similarly, Policy EC8 protects university and college campuses which should help safeguard and support the continued growth of higher education and training opportunities. These policies and their requirements have been informed by studies on employment land (office/industrial/distribution), logistics and retail/leisure.

10.2.4 In the City Centre, the Plan sets out policy zones and site allocations to support the retention and expansion of some existing office clusters which should support economic growth, particularly through the regeneration of West Bar, Heart of the City, Victoria Quays, Castlegate and in the Sheaf Valley area through supporting the short to medium term expansion of knowledge-intensive and technology-based businesses. The Plan also sets out some mixed-use allocations, although at some locations the effects are likely to be insignificant as sites are committed or underway.

10.2.5 At some locations, housing growth is proposed on existing employment land which would result in the loss of floorspace for employment uses, but this is proposed on sites where these uses are less viable and thus adverse effects are not likely to be significant.

- 10.2.6 Whilst the spatial strategy encourages a mix of growth including office use in the City Centre, the Plan does not identify sufficient new office districts or sites to support the long-term delivery of new office floorspace (particularly larger floorplates) to accommodate future employment needs. This could undermine the quantity and types of office floorspace in the City Centre required to support a growing economy in the long term, although effects are uncertain as it is unclear what implications changes in future working patterns would have on long term office floorspace needs.
- 10.2.7 The allocations and policy areas are sufficient to support the needs identified in the short term in the employment land review and update.
- 10.2.8 The Plan also promotes substantial high density housing growth in the City Centre. Increasing the City Centre population and the regeneration of vacant or underutilised land should improve the vitality of the City Centre and improve viability particularly for new retail and leisure uses. The Plan further promotes substantial housing growth mostly on previously developed land within urban areas with potential for regeneration.
- 10.2.9 The spatial strategy and Policy EC1 support the growth of innovation-focused economic development in the Lower Don Valley, Tinsley and Darnall areas by defining an Innovation District to facilitate the continued expansion of existing advanced manufacturing, advanced health and wellbeing and energy research clusters. This will support the creation of good quality skilled jobs at a suitable location for these industries and in accessible reach to nearby deprived communities. The EqIA undertaken by the Council also identifies the potential benefits of the spatial strategy through the creation of jobs and homes in the urban areas of Sheffield, which bring particular benefits for BAME communities.
- 10.2.10 Resistance in Policy EC1 to development which does not support Innovation District objectives in this large spatial area could undermine other economic uses such as leisure, commercial and light industry/warehousing. However, these uses are supported elsewhere in the Lower Don Valley through site allocations at more accessible locations near the M1 and elsewhere in the city.
- 10.2.11 Policy IN1 (Infrastructure Provision) should ensure that the proposed growth can be accommodated by existing infrastructure or facilitate improvements according to a hierarchy. Of particular importance will be the need to ensure good access to employment opportunities, and this should be achieved through the expansion of mass transit, urban intensification, and enhancements to sustainable transport infrastructure. Area based policies mention the need for development to be supported by education facilities across the district, and there is support for the continued role of the University of Sheffield and Sheffield Hallam University
- 10.2.12 Overall, the spatial strategy is likely to derive **moderate positive effects**, as a substantial amount of employment land is proposed at key locations in the city which should help address future employment needs and deliver economic growth in key sectors.

- 10.2.13 The certainty of these effects is increased by requirements in Policy AS1 for site allocations (particularly strategic sites) to predominantly deliver the proposed use which should reduce the likelihood of designated employment land being lost to other uses.
- 10.2.14 However, housing-led economic growth and investment would be below identified needs for Sheffield, which raises some uncertainty about whether the effects would be major positives (hence concluding moderate positives).

General Development

- 10.2.15 The Plan further sets out policies which should contribute towards a vibrant and competitive economy, education and training opportunities. This includes boosting productivity and supporting data intensive employment by requiring all new development to be able to support gigabit-capable full fibre connections (Policy CO3).
- 10.2.16 Policy EC6 seeks to ensure new housing development does not impede the expansion of existing employment nearby by requiring development proposals to mitigate potential impact of existing and potential future noise levels on amenity from the expansion of nearby industrial and employment uses.
- 10.2.17 This should particularly support the growth of existing small-scale businesses within or nearby residential areas.
- 10.2.18 Policy EC7 requires major employment-generating development (including commercial and residential developments) to provide local employment and training opportunities during construction and where practical, during the occupation phase. When considered in the context of the spatial strategy, this policy should improve access to employment and training in areas with higher levels of deprivation, higher levels of unemployment and lower educational attainment.
- 10.2.19 Area specific policies for the wider district (SA1- SA9) seek to ensure that employment land is retained in several locations including the Upper Don Valley, Blackburn Valley, Ecclesfield Common, Dore House Industrial Estate, Holbrook Industrial Estate, the Sheaf Valley, and Thorncliffe Industrial Areas. In addition, sustainable transport links are proposed to improve linkages within the district, which will have benefits for the wider economy.

Overall effects

- 10.2.20 The Plan is predicted to have **major positive effects** on the economy objective, as it promotes substantial employment and housing growth through a combination of zoning to influence speculative development and site allocations focused towards urban areas. This is supported by a series of policy provisions that aim to encourage economic growth, particularly in the City Centre and the AMID, and provide important infrastructure to meet the changing needs of business. The Plan further seeks to support the growth of existing businesses, provide new education provision and maximise opportunities to deliver training opportunities through new development. This should equip local people with the skills and training to support a growing and evolving economy.

10.2.21 The positive effects will occur across a range of timeframes including the short term (through a boost in construction and jobs, which are temporary effects), medium term and long term (through greater inward investment and provision of permanent jobs).

10.2.22 The effects would be direct (e.g. through increased job creation and business rates), and indirect (e.g. through increased footfall and activity in centres). Synergies would be expected with plans and programmes that are aimed at improving the skills and experience of Sheffield residents (for example 'Opportunity Sheffield', and the Sheffield City Region Infrastructure Fund).

Reasonable alternatives		
Option	Total homes	Predicted effects
1. Urban capacity, brownfield only	31,822	Minor positive effects
2. Addition of previously undeveloped land	34,203	Moderate positive effects
3. The proposed Plan approach	34,473	Moderate positive effects
4. Additional Green Belt release (Strategic focus)	38,012	Major positive effects
5. Additional Green Belt release (Dispersed focus)	38,012	Major positive effects
6. Additional Green Belt release (Mixed approach)	38,012	Major positive effects
7. Meeting full housing need with 35% uplift (Strategic locations focus)	49,473	Major positive effects?
8. Meeting full housing need with 35% uplift (Mixed approach)	49,473	Major positive effects?

10.2.23 For Option 1, a lower amount of housing would be provided, which would be less positive in terms of supporting accommodation for workers. There would also be lower levels of economic activity relating to new development. In addition, several greenfield sites would not be made available for employment or mixed-use allocations, which could reduce opportunities for growth in some sectors and particular locations across the district. Though there would still be positive effects associated with regeneration-led growth, the significance would be much reduced, and so only **minor positive effects** are predicted.

10.2.24 Option 2 introduces previously undeveloped land in addition to brownfield capacity, which substantially increases the amount of housing land provision and several employment land allocations. However, the amount of land provided would be less than the minimum identified needs for Sheffield. As such, **moderate positive effects** are predicted, as there would be less housing-driven economic growth.

- 10.2.25 Compared to Option 2, Option 3 involves additional housing on a large brownfield site within the Green Belt. With regards to employment land provision, this is unlikely to have any effects. There are benefits with regards to the provision of a wider range of housing types and locations to support the workforce, but the magnitude of effects are small. **Major positive effects** are predicted.
- 10.2.26 Option 4 would involve further Green Belt release, and this is likely to bring about additional positive effects with regards to economic activity and provision of accommodation that could be attractive to a wider range of communities and professionals. These are **major positive effects**.
- 10.2.27 Option 5 would involve growth on smaller Green Belt sites in a more dispersed manner. This would enable allocations to be chosen close to existing employment opportunities or areas with better existing connectivity to them. It would also direct housing away from large sites, which (in some instances) could otherwise be attractive for strategic employment growth. Conversely, the opportunities to introduce enhancements to transport infrastructure provision and community facilities in peripheral locations would be reduced. Providing a larger number of housing sites could enable homes to be delivered more quickly. Overall, **major positive effects** are predicted.
- 10.2.28 Option 6 would offer an approach which would make use of both strategic locations and dispersed Green Belt sites. Some benefits would be expected to be seen, mirroring those seen under Options 4 and 5. The greater flexibility of which sites could be allocated would permit better targeting to focus on accessibility to employment opportunities as well as offering the regeneration benefits that strategic growth locations could provide. As with Option 5, providing a wider range of sites could speed up overall rates of delivery. **Major positive effects** are predicted.
- 10.2.29 Option 7 would lead to further growth in the Green Belt, with positive effects in terms of economic activity. However, at these levels of growth, efforts to drive regeneration in the urban areas could be stunted, particularly if demand for that level of housing growth (which is well above household growth projections) does not materialise. This could limit positive effects for deprived communities, and might not be as supportive of efforts to promote City Centre revitalisation. Although having more sites could generally speed up delivery, this is only likely to occur if there is demand for the homes that are built and this could be questionable if there is not corresponding economic growth to attract people to come and live in the city. Therefore, whilst **major positive effects** are predicted, there is a greater element of uncertainty involved.
- 10.2.30 Option 8 would maximise growth in the Green Belt on both strategic sites as well as on smaller sites in a more dispersed manner. This would combine those sites explored under Options 5 and 6; as such, the associated economic and employment benefits of housing delivery would be likely to be seen under this approach. The larger number of allocations might mean that allocating sites based on their merit would become more difficult, and as such, some growth might come forward on sites considered to be less accessible, offering poorer access to employment, skills and training opportunities. As noted under Option 7, there could be questions about whether there would be demand for this level of growth. However, this is still considered to be likely and so overall the effects would still be **major positive**.

10.3 Housing

SA3: Decent and appropriate housing available to everyone

- 10.3.1 The 'Housing' SA theme incorporates SA objective 3 which is concerned with the delivery of appropriate housing for Sheffield. This section presents an assessment of the whole Plan in relation to this theme, concluding on the significance of effects when considering all policies in combination. The assessment is presented as a narrative discussion, highlighting policies that contribute notably to the achievement of this SA theme. 'Overall effects' are concluded at the end of this section, setting out the likely significance and nature of effects.

Spatial Strategy and Site Allocations

- 10.3.2 The submitted Plan sought to deliver a minimum of 34,680 additional homes and at least 12 yards for travelling showpeople communities over the period 2022 to 2039. The substantial growth proposed would likely to have significant positive effects for the housing objective, as it will help address the identified housing needs in the city and the scale / distribution of growth should provide for a mix of housing types, sizes and affordable housing needs (across a wide range of sites) to help meet requirements for all communities. Some of the growth proposed involves sites with existing planning permission, which would derive positive effects by ensuring these sites are developed for housing but with housing development being committed, the effects are not predicted to be significant.
- 10.3.3 The housing site allocations broadly fall within or immediately adjacent to residential areas, and with much of the growth proposed on underutilised employment sites in the City Centre near residential uses, and some existing communities in the urban areas. This should support sustainable housing markets in existing neighbourhoods through regeneration of derelict sites and urban renewal. These areas also benefit from reasonable access to community infrastructure and a better developed road network and public transport access compared to some other parts of the city, such as the south west.
- 10.3.4 In the City Centre, much of the growth is clustered to form new or extend existing urban neighbourhoods, this should help create sustainable communities by allowing for the provision of new local community services and facilities.
- 10.3.5 With regards to equality and health impacts, a large number of homes in the central urban areas are likely to be high density and may have limited parking, which could be less suitable for disabled people (who could rely upon a car). The Plan includes policies to address such issues though, so this is unlikely to be a significant issue.
- 10.3.6 Though the strategy provides for a wide range of homes that should be accessible to all members of the community, it is worth noting that people with lower incomes (which includes younger people) may still find it difficult to afford a home.

- 10.3.7 The release of a wider range of greenfield / green belt sites would further address affordability matters, but as noted in the Council's EqIA these matters are balanced against the need to promote sustainable patterns of growth and protect environmental assets.
- 10.3.8 The site allocations in the City Centre broadly avoid areas with the concentration of leisure and other evening uses which could adversely affect the amenity of future residents or undermine the deliverability of such sites.
- 10.3.9 Clustering housing site allocations to create neighbourhoods or extending existing housing areas within the City Centre should further help establish quieter areas within the City Centre, which should support the amenity of all residents particularly those most vulnerable to noise such as older people and people with disabilities.
- 10.3.10 Overall, the spatial strategy is likely to derive **moderate positive effects**, as a substantial amount of housing land is proposed in the City Centre and across the city with potential to facilitate a choice of housing types, sizes and tenures to meet needs of different communities including vulnerable and disadvantaged communities. The certainty of these effects are increased by requirements in Policy AS1 for site allocations (particularly strategic sites) to predominantly deliver the proposed use which should reduce the likelihood of designated housing land being lost to other uses. Furthermore, the zonal policies are relatively flexible with regards to residential uses and consider residential development to be an appropriate use in many locations.
- 10.3.11 A large amount of growth is proposed in central locations, and this is likely to be higher density development of a particular type (for example flats / townhouses). This could limit choice of housing to an extent, though it should be noted that the allocations are also supported by a range of 'suburban' sites, which could provide larger family homes. As the centre of a wider City Region, Sheffield City Centre is an appropriate location for additional apartments, and it would be likely that the surrounding authorities would deliver a higher proportion of larger family homes.
- 10.3.12 It is worth noting from an equalities perspective that some groups with protected characteristics are likely to benefit more as a result of the spatial approach to housing (for example, BAME communities).

General Development

- 10.3.13 In accordance with the NPPF, the Plan requires development of 10 or more dwellings to contribute towards affordable housing. However, the Plan goes a step further with Policy NC3 requiring smaller housing developments to make an affordable housing contribution requirements in combination with any adjacent allocated site or vacant land. This should potentially increase affordable housing delivery by increasing the number of developments that are affordable housing eligible.
- 10.3.14 Potential viability issues which could undermine the deliverability of small sites should also be avoided, as the policy includes flexibility to allow affordable housing requirements to be waived where it can be demonstrated with evidence that it would make development unviable.

- 10.3.15 The Plan supports a mix of housing types, sizes and tenures to meet housing needs throughout the city for all communities, including vulnerable communities and disadvantaged groups. For strategic housing sites, Policy NC1 requires a masterplan to provide a range of housing types, tenures, sizes and densities.
- 10.3.16 Policy NC5 seeks to diversify the housing mix in the City Centre by supporting a higher proportion of larger housing units for families as well as a mix of housing types elsewhere in the city. Policy H1 supports the provision of custom and self-build homes, which will provide choice and meet specific needs.
- 10.3.17 Policy NC3 sets out a tenure mix for affordable housing which should help provide affordable housing choice to better meet the needs of low income and other disadvantaged groups. However, the policy does not provide flexibility to accommodate for changing local needs and thus could undermine choice in the long term. Requirements for affordable housing units to be of the same specification as market housing and suitably integrated into developments (Policy NC3) should further benefit people on low incomes and other disadvantaged groups by supporting higher quality affordable housing.
- 10.3.18 For older people and those differently abled, the Plan requires student accommodation (Policy NC6) and all other housing types (NC4) to provide for accessible and adaptable units and for larger schemes to include wheelchair accessible or adaptable provision. Policy NC4 further supports the provision of specialist housing for these groups and promotes them in areas near to public transport and health facilities with capacity, which should help meet wider needs for older and disabled people. Policy NC1 also requires strategic housing sites to be designed as 'lifetime neighbourhoods' that are accessible and dementia friendly, which should support older people to live longer within community settings.
- 10.3.19 For gypsy and traveller and travelling showpeople, Policy NC7 seeks to safeguard existing provision which should help ensure sites for this group are not lost to other uses which may be more viable. The needs of travelling showpeople are further met by requiring new provision to be placed where ancillary plots for business use are appropriate, which should help ensure travelling showpeople are able to utilise such sites for housing by addressing their wider needs to store their employment equipment.
- 10.3.20 The Plan also seeks to tackle localised imbalances in the mix of housing size and types by setting out policy provisions to encourage choice in developments. In existing inner-city areas with a high proportion of shared housing, Policy NC5 supports existing measures including an Article 4 Direction to limit new HMO, hostels and shared housing. Such measures should support the creation of mixed communities and provide greater housing options to all communities. Similarly, Policy NC3 encourages on-site affordable housing provision and requires developers to provide a specified percentage of the gross internal floor area to a registered provider. This will support mixed communities and help tackle socio-economic spatial disparities.

- 10.3.21 Whilst the NPPF supports limited infill in villages, Policy GS2 provides important clarity on the villages and locations where such infill development may be appropriate which should help facilitate small scale speculative housing growth to meet housing needs in rural communities.
- 10.3.22 Policy SP2 encourages the use of upper floors of buildings for housing in city, district and local centres. This should support speculative housing growth and in district and local centres support the diversification of housing types.
- 10.3.23 The Plan supports the creation of long term sustainable housing markets by ensuring new development meets appropriate space standards and are designed to be adaptable (Policy NC8). Similarly, Policy NC6 requires the design of student accommodation to be convertible to other types of residential accommodation. This should help ensure new housing is designed to meet the current and changing needs of occupants and help sustain the vitality of neighbourhoods.

Overall effects

- 10.3.24 The Plan is predicted to have **moderate positive effects** on the housing objective, as it promotes a substantial amount of housing growth within urban areas which will meet identified housing needs and support the regeneration and creation of sustainable housing markets in existing neighbourhoods. Furthermore, a mix of housing types, sizes and tenures is facilitated by the policies which should provide more choice thus helping meet the different needs of the community, including special needs of vulnerable and disadvantaged groups.
- 10.3.25 The effects will be permanent and will arise across a range of timeframes in accordance with build-out rates. Positive synergies are likely to arise as a result of other plans and projects that seek to deliver housing across the city such as the Housing Improvement Project, and funding from Homes England to kick-start development opportunities.
- 10.3.26 It is worth noting that the Council's EqIA acknowledges the benefits that greater release of greenfield land could have with regards to affordable homes. However, the Council consider that a 35% uplift would deliver substantially more homes than are needed to meet the city's jobs growth aspirations. It implies a level of in-migration to Sheffield from elsewhere in the UK or from abroad that is significantly above past trends. Therefore, the Sheffield Plan is not planning to meet the 35% uplift in housing need arising from the Government's standards methodology. There is therefore a degree of uncertainty attached to the positive effects (acknowledging that there is a difference between government estimates of housing need and locally assessed needs).

Reasonable alternatives

Option	Total homes	Predicted effects
1. Urban capacity, brownfield only	31,822	Minor positive effects
2. Addition of previously undeveloped land	34,203	Moderate positive effects?
3. The proposed Plan approach	34,473	Moderate positive effects?
4. Additional Green Belt release (Strategic focus)	38,012	Major positive effects
5. Additional Green Belt release (Dispersed focus)	38,012	Major positive effects
6. Additional Green Belt release (Mixed approach)	38,012	Major positive effects
7. Meeting full housing need with 35% uplift (Strategic locations focus)	49,473	Major positive effects?
8. Meeting full housing need with 35% uplift (Mixed approach)	49,473	Major positive effects?

10.3.27 For Option 1, both the amount and distribution of new housing development would be more limited and confined to brownfield urban capacity. As a result, the choice of locations, types of housing being delivered and amount of market and affordable housing would likely be insufficient to meet identified housing needs. Therefore, only **minor positive effects** are predicted.

10.3.28 Option 2 provides a higher amount of homes compared to Option 1, allowing for a wider range of locations in the urban area to provide new homes. This will increase both the amount of homes, choice of locations and choice in types of homes. As such, uncertain / potential **moderate positive effects** are predicted.

10.3.29 As described above, the proposed Plan approach (Option 3) is predicted to have **moderate positive effects**, but there is an element of uncertainty. The addition of one Green Belt location improves the performance of this option compared to Option 2, but only marginally.

10.3.30 Though the total amount of housing is not significantly greater, it allows for a strategic location to be included in peripheral parts of the District, which widens the geographic spread of housing and the types of development.

10.3.31 The addition of further Green Belt land under Options 4, 5 and 6 would mean that the choice of housing would increase in terms of locations, types of homes, and the overall amount of housing provided.

- 10.3.32 It is worth noting that planning for this level of housing would meet the minimum identified need using the standard methodology 2024. This would increase the certainty of **major positive effects** arising compared to the proposed approach.
- 10.3.33 Option 6, which involves a mix of strategic growth and smaller sites in suitably located locations would be most preferable in terms of providing a wider number of sites of differing scales (which ought to help deliver housing simultaneously in the earlier parts of the plan period).
- 10.3.34 Options 7 and 8 would provide the greatest amount and range of housing, planning to accommodate a 35% uplift on local needs. As such, **major positive effects** are predicted for both options.
- 10.3.35 With substantial Green Belt release under options 7 and 8, it is possible (given that overall supply might exceed demand at least in the short term) that housing in the City Centre would not come forward as readily, which raises some uncertainties about the benefits in these locations. Nevertheless, these are still **major positive effects** as many other locations would see housing delivery. Option 8 would provide a greater mix of sites and locations compared to option 7, which would be likely to boost delivery in the short to medium term.

10.4 Health and Wellbeing

SA4: Health services provided for the health needs of the whole population and which tackle health inequalities

SA5: Open space and cultural, leisure and recreational facilities available for all

SA2: Education and training opportunities

- 10.4.1 The 'Health and Wellbeing' SA theme incorporates three SA objectives which all contribute directly towards improved health and wellbeing outcomes. This section presents an assessment of the whole Plan in relation to this theme, concluding on the significance of effects when considering all policies in combination. The assessment is presented as a narrative discussion, highlighting policies that contribute notably to the achievement of the three objectives covered by this theme. 'Overall effects' are concluded at the end of this section, setting out the likely significance and nature of effects.

Spatial Strategy and Site Allocations

- 10.4.2 The proposed spatial strategy's allocation of growth to existing main urban settlements helps ensure that new residential developments benefit from the existing social infrastructure including healthcare, education and recreation facilities within these locations. Additionally, the scale of growth proposed in the Plan may facilitate increased capacity and new facilities where needed. Whilst the Plan's approach of utilising brownfield / previously developed land is positive in that it helps conserve greenfield including open / green space, the intensification approach may lead to some loss of amenity green / open space with potentially adverse effects on wellbeing. However, the Plan seeks to ensure that new open recreational space will be provided to support a growing population, which minimises such negative effects.
- 10.4.3 The focus of employment and economic growth within the East Sheffield sub-area, which contains the Innovation District, is anticipated to have particularly positive effects on addressing inequality and deprivation as this area contains some of the most deprived neighbourhoods in Sheffield (within the 10% and 20% most deprived areas in the country).
- 10.4.4 With regards to groups with protected characteristics, key development locations also overlap with concentrations of BAME communities. Therefore, as noted in the EqIA, such groups are likely to be disproportionately affected by housing and employment growth. The effects are likely to be positive as they bring opportunities for new housing, jobs and infrastructure enhancements. It is acknowledged that growth could bring pressures on services and facilities that these groups rely upon, but the Plan seeks to ensure that communities are appropriately serviced.
- 10.4.5 A large proportion of the housing that is proposed in the Central Area is likely to be apartments and much of that is likely to have limited or no off-street parking. This would potentially disadvantage disabled people who require a car for their mobility.

- 10.4.6 This could, however, be mitigated by ensuring that new developments comply with the Parking Guidelines ensuring that appropriate parking provision is provided for disabled people. The strategy helps improve access to higher value jobs and training opportunities.
- 10.4.7 Further positive effects are anticipated through the strategy's allocation of 2,945 new homes in the East sub-area which will serve to improve the quality and choice of housing including affordable homes and help address the housing needs of those in the greatest need.
- 10.4.8 Several plan policies seek to ensure adequate provision for social infrastructure and green and recreational open space, which will benefit a range of communities. These include:
- SA2 seeks to deliver an Urban Country Park at Parkwood Springs.
 - SA3 supports the provision of Health and Wellbeing District Hub at Parsons Cross Park to improve the leisure and recreation offer. It also includes new open space provision at Woodside, and improved connections to recreation, leisure, and play facilities at Parkwood Springs, Nottingham Cliff Park, and Denholm Close.
 - SA4 seeks to improve education and healthcare provision in Attercliffe.
 - CA1, CA2B CA3A require development to contribute to education and healthcare infrastructure provision/ improvement.
 - CA1A proposes a new waterside park (Bacon Island Park) along the northern edge of the River Don, helping to create a network of green spaces and connections with the Ponderosa and Parkwood.
 - CA2B proposes a new pocket park at Spital Gardens
 - CA3A proposes Furnace Hill Park ("Park on the Hill") at, or close to, the junction of Scotland Street and Smithfield. This will be complemented by a series of other pocket parks across the Priority Location
 - CA5 proposes a new pocket park will also be created on the site of the Furnival Gate roundabout.
- 10.4.9 The provision of green space in the urban areas is a positive measure that will address the generally poorer access to open space that existing communities experience in these areas.

General Development

- 10.4.10 The Plan contains several policies expected to have positive effects on health and wellbeing including:
- Policy NC11 seeks to ensure that new developments have good levels of access to shops and community facilities including healthcare and schooling. This is further reinforced with Policy NC13 which seeks to prevent loss of services and community facilities. This benefits those with 'age' as a protected characteristic.

- Policy NC1 seeks attractive distinctive neighbourhoods by requiring a masterplan approach to development on strategic sites. This includes the requirement for walkable neighbourhoods with sustainable travel connections, 'lifetime neighbourhoods' and dementia friendly design. The policy also requires an appropriate mix of housing (types, sizes and tenures) which serves to provide a varied choice of housing to suit the needs of the community. Importantly the policy seeks to ensure timely provision of essential infrastructure and services (e.g. green spaces, health, schools, leisure and shops).
- Policy NC3 is particularly relevant as it seeks to provide affordable housing (AH) on sites of 10 or more dwellings with a mix of affordable rents and affordable ownership tenures.
- Policy NC4 seeks to ensure that new homes are accessible and adaptable requiring 100% provision on sites smaller than 50 units and 98% on larger development, where the remaining 2% of homes must be wheelchair adaptable. The policy also promotes specialist housing for older and disabled people (both of which are protected characteristics).
- Policy NC15 seeks to provide at least 10% open space within developments of 100 or more dwellings. Offsite provision would be acceptable on smaller developments, but these are required to include on-site amenity greenspace / landscaping.
- Policy EC8 is also likely to produce beneficial effects as it encourages local sustainable employment and training through major employment generating developments during construction and occupation phase.
- Policy GS1 – safeguards recreational open space in Urban Greenspace Zones
- Policies T1 and CO1 promote active travel, which is positive for health and wellbeing.

10.4.11 The EqIA concludes that there will be no disproportionate impacts on the following groups.

- Sexual Orientation
- Gender reassignment
- Religion/Belief
- Pregnancy /Maternity
- Sex

Overall effects

10.4.12 Generally positive effects are anticipated from the spatial strategy as growth is located in existing main urban areas benefitting from existing provision of services and community facilities. There are few exceptions within the site allocations where current provision may be inadequate, but this is addressed in Plan policies seeking to ensure that essential services, shops and community facilities are provided within reasonably accessible distances from new developments. Provided that services are maintained, good access to services will be permanent (at least in terms of proximity).

10.4.13 In terms of equality and health outcomes, the plan is unlikely to bring about discrimination on any groups and will have positive impacts overall. Groups with protected characteristics that are most likely to see benefits (and a reduction in inequality) are 'age', 'race' and 'poverty'. These conclusions echo those reached in the Council's EqIA.

10.4.14 Further positive effects are generated by the focus of housing and employment growth in some of the most deprived locations in the City and policies seeking provision of affordable housing, green space and health and wellbeing facilities. These effects are more likely to arise in the longer term as conditions improve and communities experience the benefits of development.

10.4.15 Though there could be some loss of open space in the urban areas, the Plan seeks to ensure that losses are compensated for and that the quality of provision improves. Therefore, **moderate positive effects** are predicted overall.

Reasonable alternatives

Housing Strategy Option	Total homes	Predicted effects
1. Urban capacity, brownfield only	31,822	Minor positive effects
2. Addition of previously undeveloped land	34,203	Moderate positive effects
3. The proposed Plan approach	34,473	Moderate positive effects
4. Additional Green Belt release (Strategic focus)	38,012	Major positive effects? Minor negative effects
5. Additional Green Belt release (Dispersed focus)	38,012	Moderate positive effects Minor negative effects
6. Additional Green Belt release (Mixed approach)	38,012	Major positive effects? Minor negative effects
7. Meeting full housing need with 35% uplift (Strategic locations focus)	49,473	Major positive effects Moderate negative effects?
8. Meeting full housing need with 35% uplift (Mixed approach)	49,473	Major positive effects Minor negative effects

10.4.16 For Option 1, there are likely to be positive effects on health as there will be an increase in housing in central areas and an associated improvement in social infrastructure (schools, healthcare, open space, public transport etc). This could also benefit some of the most deprived communities that are located in these areas.

10.4.17 There would also be limited loss of open space in the urban areas under this approach. However, the positive effects in terms of new housing and enhancements to public services would be limited in other parts of the district. There would also likely be a shortage in housing supply overall, which could offset the positive effects discussed above to a significant degree.

- 10.4.18 The range of Plan policies would still provide some flexibility to support changes of use to residential. It would also seek to guide development towards sustainable locations, which would allow additional homes to come forward. Overall, **minor positive effects** are predicted.
- 10.4.19 The addition of previously undeveloped land under Option 2 widens the range of locations that would benefit from housing development and improvements to social infrastructure. The overall amount of housing would also increase, helping to better meet identified needs. Though there would be some loss of open / green space which could be perceived as negative, the Plan policies should ensure that this is compensated for and that, overall, an improvement in provision occurs. As such, **moderate positive effects** are predicted.
- 10.4.20 As discussed above, the proposed approach (Option 3) is predicted to have **moderate positive effects**. Though additional housing will be delivered, this would not lead to a significant change in the effects.
- 10.4.21 For Option 4, further housing provision in the Green Belt would likely bring about major positive effects in terms of health and wellbeing. The benefits associated with urban regeneration should still be realised, but there would also be greater support for growth at the periphery of settlement areas. This could help improve services in such locations, as well as tackling rural affordable housing issues. The scale of growth involved would also be likely to support improvements in infrastructure, which would benefit new and existing communities. As a result, overall **major positive effects** are predicted. Alongside these positive effects, there could be some **minor negative effects** associated with a greater loss of greenfield land (for example amenity effects), and some additional growth could be in locations that are not ideally located in relation to health care facilities and active transport.
- 10.4.22 Option 5 would involve similar levels of Green Belt release as that seen under Option 4, though the growth would be on smaller, more dispersed sites across the Plan area. This might offset the more positive effects of social infrastructure delivery associated with larger, strategic growth. Whilst a reduction in the focused delivery of social infrastructure would be seen when compared to Option 4, some delivery would still be expected, especially beneficial where sites are larger (though under 300 dwellings) and nearby to areas with insufficient social infrastructure that can be contributed towards.
- 10.4.23 The locations involved should permit growth on sites with good access to local green space and site options should mostly enable an avoidance of those sites which could lead to the loss of green space. Losses of greenfield land and associated negative effects described under Option 4 would be seen, though, the smaller, more incremental nature of the loss might reduce the magnitude of these in any one location. **Moderate positive** and **minor negative effects** are predicted.
- 10.4.24 Option 6 would deliver Green Belt growth in a mixed approach, making use of larger strategic sites / locations as well as smaller, more dispersed sites. The nature of effects outlined under Options 4 and 5 would be expected to be echoed, however with some ability to select better performing sites in order to minimise negative effects associated with greenfield loss and pressure on social infrastructure. Through a mix of strategic and dispersed sites, it is likely that **major positive effects** will arise alongside **minor negative effects**.

- 10.4.25 With further Green Belt release under Option 7, the likelihood of major positive effects arising is more certain (compared to Options 4 and 6). However, there would be further negative effects in terms of amenity and some new development being located in less accessible areas (thus leading to some developments that are less likely to make best use of infrastructure and active modes of travel). As such, potential **moderate negative effects** are also recorded alongside **major positive effects**.
- 10.4.26 Option 8 would maximise Green Belt sites on both strategic and smaller, dispersed sites. The effects outlined under Option 7 would be likely to be mimicked, though potentially with fewer less accessible sites and an ability to omit sites in less favourable locations. The smaller sites element of this approach would reduce the certainty of new social infrastructure delivery in targeted locations.
- 10.4.27 However, these sites would be able, for the most part, to be allocated in more accessible locations, or nearer to strategic growth, allowing them to use newly delivered infrastructures (there would also be potential to contribute to existing infrastructure provision in a dispersed manner). Overall, **minor negative effects** are predicted.

10.5 Transport and Accessibility

SA6: Significant development focused in locations that reduce the need to travel and make fullest possible use of public transport, walking and cycling
SA7: An efficient network which maximises access and minimises impacts
SA2: Education and training opportunities

- 10.5.1 The 'Transport and Accessibility' SA theme incorporates three SA objectives which all contribute directly towards improved transport and accessibility outcomes. This section presents an assessment of the whole Plan in relation to this theme, concluding on the significance of effects when considering all policies in combination. The assessment is presented as a narrative discussion, highlighting policies that contribute notably to the achievement of the three objectives covered by this theme. 'Overall effects' are concluded at the end of this section, setting out the likely significance and nature of effects.

Spatial Strategy and Site Allocations

- 10.5.2 The Submitted Plan strategy of focussing growth within the existing urban settlements (particularly the central city area) is generally positive with respect to transport and accessibility as these locations already benefit from existing extensive transport infrastructure including highly sustainable forms of transport such the tram/ tram-train Supertram network that covers Sheffield and Rotherham. Growth is focussed on a hierarchy of centres with the scale of growth being commensurate with the levels of services and facilities available at each location.
- 10.5.3 There is an extensive bus network covering the majority of the urban settlements, radiating from the City Centre outwards towards the main urban/ suburban settlements. There are Supertram stops and bus stops servicing large parts of the city including the two universities (University of Sheffield and Hallam University). The main out-of-centre retail centre of Meadowhall and the District Centres at Hillsborough, Crystal Peaks and Gleadless Townend are also served by tram. All the other District Centres are served by buses.
- 10.5.4 A small number of the sites allocated for housing, are relatively remote from employment opportunities and some are less well served by public transport, these include:
- SD02 Former Steins Tip, a strategic housing site for up to 428 dwellings.
 - SS01-SS18 – Allocated for up to 765 homes within South Sheffield Sub-Area (Policy SA6).
 - NES01 – Strategic employment site (Policy SA3).
- 10.5.5 To further improve transport and accessibility there are several plan policies seeking to deliver sustainable transport improvements. Of particular relevance is policy T1 which promotes a sustainable, integrated, decarbonised network, with excellent connections to and from the city region. The policy sets out sustainable travel infrastructure improvements to support the Plan's housing and employment growth.

- 10.5.6 This includes strategic rail investment to facilitate HS2 and Northern Powerhouse Rail, an enhanced / expanded Supertram network, re-opening Barrow hill Railway Line and new train stations at Beighton and support for a further one at Waverley (Rotherham). The policy seeks multimodal transport improvements to the Innovation District and Rotherham.
- 10.5.7 At City level the policy identifies 7 Mass Transit Corridors linking the City Centre to Upper Don Valley, Chapeltown/ High Green, Meadowhead, North Orbital, the Innovation District, the Southeast and Southwest.
- 10.5.8 Overall, **moderate positive effects** are predicted with regards to the strategic approach. Whilst the Plan includes some allocations that are relatively more remote from employment opportunities and/ or less well served by public transport, the multimodal transport improvements sought throughout the Plan should help mitigate these issues.
- 10.5.9 Though accessibility is likely to be strong for new development, there is potential for increased growth in the city to contribute to a greater overall number of car usage/trips in these locations. This could contribute to congestion in the central areas. However, the majority of accommodation will have excellent access to services and public transport, and car parking spaces are likely to be controlled. The Plan clearly seeks to encourage growth in very accessible locations, and it is therefore considered that negative effects in this respect would likely be minor.
- 10.5.10 Employment growth in the Lower Don Valley may also lead to increased vehicle trips. However, this location is well served by public transport (high and medium frequency bus routes and tram stops, plus a network of cycle routes). It is also envisaged that new residential communities in the city would have excellent access to employment opportunities through sustainable modes.

General Development

- 10.5.11 In addition to the spatial approach there are several policies that have beneficial effects on transport and accessibility. These include:
- Policy NC11 seeks to improve access to key services and community facilities by requiring developments of 10 or more homes to be within walkable distance from various community facilities such as convenience shops, local services and sustainable transport such as a bus route or a tram stop or a railway station. The developments are also required to be within 2 miles of a health centre and within 3 miles from a secondary school.
 - Policy D1 seeks to improve accessibility for all sections of the community requiring that development enable all to gain access safely and conveniently, irrespective of age or disability through compact, inclusive and dementia friendly built environment and design.
 - Policy IN1 aims to improve access to community infrastructure by seeking to ensure that there will be sufficient health, educational, sports, leisure, cultural and community facilities to meet the additional demands generated by the proposed growth in the Plan.

- Policy NC1 encourages sustainable transport and active travel seeking walkable neighbourhoods well connected to a range of sustainable transport options and a highway network that incorporates key transport corridors and public transport, cycling and walking networks.

Overall effects

10.5.12 The majority of growth is located in sustainable locations within well connected (to transport) urban locations. Plan policies seeking improved transport infrastructure and accessible new development connected to a range of community facilities and sustainable transport options should help mitigate the potential for adverse effects associated with the few allocations that are relatively remote from employment opportunities. Overall, the Plan is predicted to have **moderate positive effects**.

10.5.13 The positive effects are likely to be most prominent in the longer term as transport infrastructure is secured through development, and this would be complimented by investment in transport infrastructure (for example Sheffield Supertram).

Reasonable alternatives

Option	Total homes	Predicted effects
1. Urban capacity, brownfield only	31,822	Moderate positive effects?
2. Addition of previously undeveloped land	34,203	Moderate positive effects
3. The proposed Plan approach	34,473	Moderate positive effects
4. Additional Green Belt release (Strategic focus)	38,012	Major positive effects? Minor negative effects
5. Additional Green Belt release (Dispersed focus)	38,012	Minor positive effects Minor negative effects
6. Additional Green Belt release (Mixed approach)	38,012	Moderate positive effects Minor negative effects
7. Meeting full housing need with 35% uplift (Strategic locations focus)	49,473	Major positive effects Moderate negative effects?
8. Meeting full housing need with 35% uplift (Mixed approach)	49,473	Major positive effects? Moderate negative effects?

10.5.14 Option 1 would involve a lower level of growth with the vast majority of new residential growth being focused in the City Centre area. As a result, new development is likely to have excellent access to services, public transport and employment opportunities. The investment in infrastructure upgrades (for example active travel improvements / junction improvements) across the wider urban area would likely be reduced compared to the higher growth scenarios, which brings some uncertainty to the significance of effects. **Moderate positive effects** are predicted overall.

- 10.5.15 Option 2 involves a similar pattern of growth to Option 3, but without the addition of growth in the Green Belt. The effects are broadly the same (i.e. **moderate positive**).
- 10.5.16 The effects for Option 3 are discussed above. Additional growth is proposed in the Green Belt for this option. The location at the former Norton Aerodrome has good accessibility to tram stops and a high frequency bus route.
- 10.5.17 This additional growth could result in some increased car usage but is not considered significant enough to detract from the positive effects of urban concentration.
- 10.5.18 For Option 4, a greater range of Green Belt locations would be proposed for development. To justify release, there would be a focus in the first instance on locations that are sustainably located or could be made so through infrastructure provision. The analysis of Green Belt locations demonstrates that there are several locations that have generally good access to services and with increased investment these could be enhanced (potentially benefiting existing and new communities). These are potential **major positive effects**. It is considered that with a greater amount of growth in peripheral locations (despite these being relatively well located), there will likely be an increase in car travel associated with development in the Green Belt. These are **minor negative effects**.
- 10.5.19 Option 5 would make use of smaller Green Belt sites in a dispersed manner across the area. Whilst these could mostly be delivered in locations which are considered to have good availability to local facilities, the sites are less well connected to the active travel network than more central site options and have mixed access to the public transport network. The smaller nature of these sites and their wider distribution means that transport interventions would be less strategic in nature. Development in the Green Belt would (as aligned with behavioural norms) be likely to lead to an increase in car dependency and use in locations that are more peripheral. Small transport infrastructure deliveries might lead to some **minor positive effects** for existing and future residents, but a potential increase in car trips alongside would likely bring **minor negative effects**.
- 10.5.20 Option 6 would deliver a mix of Options 4 and 5, releasing land on the Green Belt on strategic and smaller, more dispersed sites. The nature of effects would be likely to be aligned with these options, however to a lower magnitude. The smaller sites would be able to be allocated based on their accessibility credentials, reducing the potential for negative effects. Strategic growth would be likely to deliver some improved transport infrastructure and services and be selected to maximise accessibility, to the benefit of current and future residents. That said, the potential for targeted infrastructure improvements would not be delivered as widely compared to option 4, hence **moderate positive effects** are predicted alongside **minor negative effects**.
- 10.5.21 For Option 7, further Green Belt release is necessary, and would also necessitate growth in areas that are currently less accessible to services, public transport and employment. On one hand, this is likely to increase car trips and therefore potential **moderate negative effects** are predicted.

- 10.5.22 On the other hand, a large amount of growth will still be directed to central locations, which is positive in terms of accessibility. Furthermore, strategic growth in peripheral locations could potentially bring significant investment necessary to improve transport links and local services, which could have **major positive effects**.
- 10.5.23 Option 8 would focus the higher growth onto a mix of strategic sites and smaller, more distributed sites. Effects would be likely to align with Option 6, but with the larger amount of growth on sites in the Green Belt (with mixed strategic and dispersed growth), effects would be likely to be to a greater magnitude.
- 10.5.24 The scenario would see some infrastructure improvements in less accessible and peripheral locations. It would also be expected to lead to increased car dependencies, especially in less accessible growth locations and near smaller, more isolated sites. **Moderate negative effects** and potential **major positive effects** are likely.

10.6 Soil and Land

SA8: Use of land which supports regeneration of the urban area and protection of valuable soil and mineral resources

- 10.6.1 The 'Soil and Land' SA theme incorporates SA objective 8 which is concerned with the effective use of land, regeneration and the protection of soil and minerals. This section presents an assessment of the whole Plan in relation to this theme, concluding on the significance of effects when considering all policies in combination. The assessment is presented as a narrative discussion, highlighting policies that contribute notably to the achievement of this SA theme. 'Overall effects' are concluded at the end of this section, setting out the likely significance and nature of effects.

Spatial Strategy and Site Allocations

- 10.6.2 The spatial strategy directs growth into the urban areas as a priority, with a particular focus on the City Centre. As such, the vast majority of site allocations are on brownfield land. This encourages the reuse of land and buildings and limits pressures on agricultural land in the district (of which there is a limited amount). There are some exceptions, where greenfield sites are proposed and overlap with Grade 3 agricultural land.
- SES10: Land to the east of Moor Valley Road (Housing) (4ha)
 - SES03: Land to the east of Eckington Way (Employment) (4ha)
 - SES28: Woodhouse East, Land to the north of Beighton Road (Housing and open space) (6ha)
 - SES08: Land at Silkstone Road, Wickfield Road and Dyke Vale Road (10ha)
 - NWS13 - Wiggan Farm (Housing) (2.03ha)

- 10.6.3 In total, less than 30ha of land would be lost as a result of these site allocations. Whilst these are classified as Grade 3 land, it is evident that much of this land is not in agricultural use and would be unlikely to be viable as farmland.
- 10.6.4 Several other site allocations also fall within areas categorised as Grade 3 land, but actually on closer inspection are not likely to be of much value for agriculture given site characteristics (i.e. they are actually partially or fully developed).
- SES17: Former Joseph Glover Public House, Land at Station Road and Westfield Southway (Housing)
 - SES07: Land at New Street and Longacre Way (Industrial)
 - SES27: Former Club House, Mosborough Miners Welfare Ground, Station Road, Mosborough (Housing)
 - SS12: 298 Norton Lane (Housing)
- 10.6.5 To help further support the approach to urban intensification (and therefore avoid pressure on soil resources), there are several plan policies that will help to maximise development on brownfield land and seek to protect important soil resources across the district. In particular, Policy GS4 seeks to safeguard best and most versatile agricultural land, and would provide a framework for evaluating potential losses of agricultural land associated with additional growth.
- 10.6.6 With regards to minerals, the sites allocated are unlikely to contain workable mineral resources, as they are mostly within urban areas, or adjacent to residential areas. A focus on brownfield land and the reuse of buildings is also positive in terms of reducing demand for raw materials for development.
- 10.6.7 On balance, the spatial approach is predicted to have minor positive effects with regards to soil, land and minerals.
- 10.6.8 The approach will reduce pressure on the more sensitive locations in the district, whilst supporting effective use of brownfield land. A handful of sites are greenfield land and categorised as Grade 3 agricultural land, but the value of these locations for agricultural is not established, and the overall losses are not considered to be significant. Nevertheless, these are negative effects regarding soil and land, which tempers the positive effects somewhat. Overall, positive effects are predicted with regards to the strategic approach.

General Development

- 10.6.9 In addition to development associated with the spatial strategy, there are several policies in the Plan that will have a positive effect with regards to the protection and enhancement of soil resources. This applies to other forms of development and ad hoc growth that comes forward. The policies of particular note are listed below:
- Policy GS4 seeks to safeguard agricultural land from development of all kinds, requiring consideration of more suitable alternatives, as well as reinstating land where possible.

- Policy ES1 is likely to have indirect benefits in terms of the management of land as it encourages carbon storage within soils.
- Policy ES2 safeguards agricultural land from renewable energy generation schemes, which should help avoid sensitive locations. It also stipulates that appropriate decommissioning strategies must be applied for wind schemes, which could involve returning land to agricultural uses and / or protecting soils for other purposes. Other commercial schemes such as solar PV ought not to have permanent effects, but it would be useful to state that care should be taken to allow for resources to be protected during and after operation.
- Policy GS5 encourages the breaking up of sealed surfaces and to restore soil function.
- With regards to minerals, Policy ES7 supports non-fossil fuel mineral extraction, when it is appropriate, and mineral related uses are considered acceptable uses in industrial zones. This is positive in terms of ensuring a steady supply of materials.
- Policy ES8 supports use of secondary and recycled aggregates in construction and new handling, processing and distribution facilities. This will help to reduce the use of virgin materials, which is positive in terms of natural resources.
- Policy NC9 requires efficient use of land for housing development and sets out density ranges that will encourage more intensive use of brownfield opportunities. This should further reduce pressure for release of greenfield land, whilst also making best use of existing infrastructure such as roads and utilities networks. Whilst, in theory, even higher densities could be required, this must be balanced with the need to safeguard the character of the urban areas.
- Policy GS1 makes it clear that open greenspace should be protected, which has positive connotations with regards to soil resources.
- The flexibility of several policy zones in terms of residential development being 'acceptable' should also help to provide opportunities for windfall housing development.

Overall effects

- 10.6.10 Though the Plan will lead to some loss of greenfield land, this is relatively small in magnitude and is not of particular value with regards to agriculture or minerals. The strategy seeks to maximise urban intensification opportunities, and this ought to reduce pressure for the release of further greenfield land.
- 10.6.11 In the absence of this approach, the piecemeal release of greenfield / Green Belt land could occur, and so the Plan takes a proactive approach in this respect. The effects are likely to remain throughout the Plan period as pressure is taken away from greenfield sites.

10.6.12 Apart from allocated / planned growth, the Plan contains several policies that promote the protection of soil resources, whilst encouraging development in urban areas. There are also specific protections in relation to energy generation schemes.

10.6.13 Whilst positive, the effects are unlikely to be significant as they largely echo the existing policy framework. Nevertheless, they add to the positives associated with the spatial strategy.

10.6.14 In terms of minerals, the Plan seeks to allow for mineral release in appropriate locations (which would be a permanent effect) but is also clear that the use of virgin materials should be avoided if possible.

10.6.15 Overall, the Plan is predicted to have **moderate positive effects**.

Reasonable alternatives

Option	Total homes	Predicted effects
1. Urban capacity, brownfield only	31,822	Major positive effect?
2. Addition of previously undeveloped land	34,203	Moderate positive
3. The proposed Plan approach	34,473	Moderate positive
4. Additional Green Belt release (Strategic focus)	38,012	Neutral effect
5. Additional Green Belt release (Dispersed focus)	38,012	Neutral effect
6. Additional Green Belt release (Mixed approach)	38,012	Neutral effect
7. Meeting full housing need with 35% uplift (Strategic locations focus)	49,473	Minor negative effect
8. Meeting full housing need with 35% uplift (Mixed approach)	49,473	Minor negative effect

10.6.16 Option 1 would involve a lower amount of planned growth overall and would therefore avoid the use of greenfield land in the urban areas. As such, this could have major positive effects with regards to the protection of soil and mineral resources. There is uncertainty though, as limiting growth in the wider urban areas could mean that housing needs are not met in full, and more speculative development could arise as well as putting pressure on surrounding local authorities.

10.6.17 Option 2, like the proposed plan approach, also involves greenfield release throughout the urban area, and this limits the extent of positive effects to moderate positives. Although the overall scale of growth is higher for Option 3, the effects are the same with regards to land, as the additional growth is on brownfield land in the Green Belt and of a small scale.

- 10.6.18 Option 4 would involve further growth in the Green Belt, and this would be more likely to involve greenfield land. The sites that have been identified as more sustainable in broad terms, are mostly in areas that contain Grade 3 agricultural land.
- 10.6.19 At the scale of growth required, it is likely that several locations would be involved, and the total amount of land affected would likely be more than 110 hectares. Therefore, this offsets the positive effects associated with urban intensification, and the overall effect is considered to be **neutral**.
- 10.6.20 Option 5 would involve growth on mostly greenfield sites but looking at the pool of sites likely to be involved under such an approach, many fall within grade 4 agricultural land or are not classed as agricultural. Of those that do overlap with Grade 3 land, it is not clear what proportion would be best and most versatile. This option therefore is marginally preferable to Option 4, but still records **neutral effects**. Option 6 is predicted to have **neutral effects** for the same reasons.
- 10.6.21 Options 7 and 8 would involve substantial growth in the Green Belt (more than four times that involved for Options 4, 5 and 6), and this would likely intersect Grade 3 agricultural land in some locations.
- 10.6.22 Despite there still being a focus on urban regeneration and intensification, the loss of greenfield land in the wider urban areas and the Green Belt, push the balance into **minor negative effects** with regards to land. The effects are considered unlikely to be significantly negative, as Grade 2 land ought to be possible to avoid, and some of the Grade 3 land may be Grade 3b (which is not classed as best and most versatile). A mixed approach that uses smaller sites and strategic locations is likely to present better opportunities to target growth to the least sensitive locations with regards to soil, but only marginally.

10.7 Historic Environment

SA10: The historic environment protected and enhanced

- 10.7.1 The 'Historic Environment' SA theme incorporates SA objective 10 which is concerned with the protection and enhancement of the historic environment. This section presents an assessment of the whole Plan in relation to this theme, concluding on the significance of effects when considering all policies in combination. The assessment is presented as a narrative discussion, highlighting policies that contribute notably to the achievement of this SA theme. 'Overall effects' are concluded at the end of this section, setting out the likely significance and nature of effects.

Spatial Strategy and Site Allocations

- 10.7.2 Sheffield has a rich cultural history, with high concentrations of designated heritage assets in the City Centre. There are a range of buildings, features and townscapes that reflect Sheffield's industrial legacy, and it is important to preserve this heritage. Focusing a large amount of new development into the central areas is therefore likely to have implications on cultural heritage. The key issue is whether this growth helps to preserve and enhance the historic environment, rather than lead to negative effects. The likely effects for different locations within the district are discussed below.

Inner City Area

Cultural Industries Quarter Conservation Area

- 10.7.3 There is substantial development proposed in this area, but it mostly falls onto vacant land. Though there are some listed buildings nearby, their setting is likely to be enhanced by development rather than negatively affected (given that the current environment is relatively poor quality).
- 10.7.4 There are no listed buildings directly within allocated sites.
- 10.7.5 Policy CA4 seeks to conserve and enhance the areas industrial heritage by requiring high quality development.

Furnace Hill Conservation Area

- 10.7.6 Cementation furnace, Hoyle Street (Scheduled Monument) is within an area designated for new housing development. It is currently in a state of overgrowth and likely to fall into disrepair. Development that incorporates this into its design would therefore be an opportunity for enhancement. Policy CA3A seeks to utilise the furnace as a landmark feature, and several other policy measures seek to reinstate historical character throughout the area. CA3B states that building heights will need to respect current character across this location.
- 10.7.7 Housing site SU22 involves a Grade 2 listed building (Don Cutlery Works) that is currently in a poor state and at risk of falling further into disrepair. Development would therefore offer an opportunity to retain and enhance this asset.

- 10.7.8 Housing site HU11 contains a Chapel House Grade II building and makes a mixed contribution to the significance of heritage assets. With mitigation in place, it is likely that development would contribute an improvement to the built environment.
- 10.7.9 SU28 involves a Grade II listed building (117 and 119 west bar), which is likely to be retained through development. There are potential effects upon the significance of heritage assets within the site and the surrounding conservation area, but these are more likely to be positive than negative given that periods of clearance have damaged the character of the site.
- 10.7.10 SU06 is a site allocated for housing that is in mixed uses. Some parts of this site are in use for businesses, but a large amount of the area is derelict and the buildings are in a state of disrepair.
- 10.7.11 Scheduled Monument (Bower Spring Cementation Furnace) is within this area and part of a site allocation for housing. The monument itself is unlikely to be affected by development, though its setting will be. Currently, the monument is overgrown and covered in graffiti, and the surrounding area does not contribute positively towards its setting. Therefore, provided that the monument is retained and enhanced as part of new development, enhancement is likely.

Kellham Island Industrial Conservation Area

- 10.7.12 Several sites are proposed adjacent to Grade II or II* listed buildings. The quality of design in this location from recent developments appears to be high, and in keeping with the conservation area. It is presumed that further development would retain buildings and further the regeneration/enhancement of this location. Policy CA1A explicitly mentions the need to retain existing heritage buildings and to implement features that complement the historic environment such as a new public square and waterside park.

John Street Conservation Area

- 10.7.13 Kenilworth Works (Grade II) is proposed as a housing allocation. This is currently derelict and at risk of falling further into disrepair. There has already been a precedent of new development (mostly flats) adjacent to the site, which already alter the setting of the asset. Provided that development retains important elements of the building (facades etc), it is likely that enhancement would be achieved rather than negative effects. Policy CA6 requires development in this location to have regard to the Conservation Area, taking note of its industrial legacy.

Norfolk Road Conservation Area

- 10.7.14 SV21 is adjacent to Norfolk Road Conservation Area and Grade 2 Historic Park and Garden. Development could affect the setting of the listed Cholera Monument and its grounds.
- 10.7.15 It will be necessary to ensure that there is sufficient screening through the retention of existing trees, additional planting, and sensitive design, otherwise, negative effects are likely.

- 10.7.16 The Heritage Impact Assessment suggests that with appropriate mitigation in place, impacts on the significance of nearby heritage assets could be avoidable.

Well Meadow Conservation Area

- 10.7.17 There is relatively limited development proposed in this location that overlaps with listed buildings. The exception is SU54 which contains listed buildings, but these are currently in a state of disrepair.

Other City Centre areas not within a Conservation Area

- 10.7.18 HC19 is a listed building but will be brought into productive use as housing.
- 10.7.19 In the Spitalfields area, significant development is proposed in proximity to Aizlewoods Mill (Grade II) and New Testament Church of God and Boundary Wall (Grade II). The prominence of these buildings stands out in the current townscape, and this could be affected if tall buildings are proposed. However, development offers the chance for enhancements to the significance of these heritage assets, as well as the wider conservation area (particularly in relation to views from the ring road).

Summary

- 10.7.20 In addition to specific clauses within the Character Area policies, the plan proposes a range of measures that are likely to improve the public realm throughout the City Centre. In particular, the strategy seeks to restore historic street patterns and travel routes, create new public spaces and improve green infrastructure.
- 10.7.21 Several policies (of particular relevance are D1, SP1, DE9, DE6) also apply to all developments, which require development to be respectful of local character, industrial legacy and to protect and enhance heritage assets.
- 10.7.22 Taking these policies into account, it is considered that the Plan strategy will lead to a net positive effect with regards to the historic environment. Investment in the City Centre is likely to help protect and enhance listed buildings and features that would otherwise be at risk of decline. The wider public realm improvements should also make the City a more vibrant and attractive location, which ought to improve the setting of heritage assets. On balance, **moderate positive effects** are predicted.

Wider Urban Area

- 10.7.23 Park Hill (Grade 2*) is within a site boundary and will be refurbished as part of any development proposal. This should therefore bring potential for positive effects on the heritage asset by securing a productive use.
- 10.7.24 SWS08 (Tapton Court Nurses Home) contains a Grade 2 listed building. The allocation relates to the area with existing planning permission, which is likely to result in beneficial effects on significance.
- 10.7.25 SWS12 is within a Conservation Area but contains no important heritage assets and is well screened by trees and vegetation.

- 10.7.26 SWS04 (Fulwood House) is proposed for housing adjacent to Fulwood Conservation Area. The current building contains parts that are overbearing and dominant. Their redevelopment is unlikely to have negative effects on the conservation area given that there will be a need to incorporate high quality design.
- 10.7.27 NWS13 (Wiggan Farm) is adjacent to two listed properties. The setting of the buildings is unlikely to be significantly affected by development, provided that similar building materials are utilised, boundary walls retained where possible, and green infrastructure incorporated into the sites.
- 10.7.28 Several policies in the Plan provide a suitable framework to ensure that this is achieved. As such, neutral effects would be expected in this respect.
- 10.7.29 NWS10 (Land at Oughtibridge Lane and Platts Lane) is in a location with a fairly rural character, despite the site being partially brownfield. It is in close proximity to Oughtibridge Hall and outbuildings which are listed Grade 2 assets. Whilst these buildings would be unlikely to be directly affected, it is possible that their setting would be eroded slightly if development leads to a loss of trees and other features that create a rural character to this area. Plan policies look to retain trees and respect landscape character, and therefore it is considered that any effects would be minor. Annex A states that due consideration of heritage impacts need to be taken but does not set specific measures (presumably for flexibility). However, it is considered that retention of boundary walls is important, and could be specified in Annex A.
- 10.7.30 SES21 is a housing site allocation adjacent to Woodhouse Cemetery with several listed assets including a lodge and a chapel. With sympathetic development, it is probable that the setting of the cemetery and its listed assets would not be adversely affected in the long term (though in the short-term construction would lead to disruptions. Policies that require appropriate density, retention of vegetation, and enhancement of green infrastructure ought to ensure that neutral effects arise. Annex A states that due consideration of heritage impacts need to be taken but does not set specific measures (presumably for flexibility). However, enhancement could be guaranteed by explicitly requiring existing boundary walls to be retained and repaired in a sensitive fashion.
- 10.7.31 SS15 (The Orchards, Totley Hall Farm) contains a listed building (grade II) and is within the Totley Conservation Area. The site is surrounded by large residential properties that are constructed using similar materials and design. It is presumed that the listed building would be retained, and that similar residential buildings would be built to replace agricultural units. The small-scale nature of development is unlikely to have any significant effects, but a farm building without associated agricultural land/ buildings will lose some of what contributes to its setting.

Employment sites in the Don Valley

- 10.7.32 ES28 (Fitzalan Works) is allocated for employment, and a part of the site overlaps with Grade 2 listed building (Baltic Works).

10.7.33 The current site does not contribute positively to the historic characteristics within this area, and with development it is likely that enhancement would be achieved.

10.7.34 ES20 (Darnall Works) is a mixed-use site. Parts overlap the Former Sanderson's Darnall Steelworks and Don Valley Glassworks (Scheduled Monument). Parts of the site are vacant and overgrown, and several buildings are in a state of disrepair. Parts of the site are used for light industrial uses. The value of the site relates to Sheffield's industrial history. Development will alter this industrial setting somewhat by introducing more residential properties. However, the site is mixed, and so will still involve industrial uses. Annex A of the Plan reflects recommendations in the Heritage Impact Assessment to mitigate negative effects and result in net improvements.

10.7.35 ES01 (Land to the south of Meadowhall Way) is allocated for strategic employment. Currently, the land is vacant and does not contribute positively to townscape. Though there is a listed building adjacent (Sheffield Bus Museum and Sheaf Transport Garage), this building would not be lost to development, and its setting would unlikely be harmed.

Green Belt release

10.7.36 The Norton Aerodrome site allocation (SS17) is relatively unconstrained with regards to designated heritage assets. The strategic location does not fall within proximity or the likely setting of listed buildings or scheduled monuments. However, the eastern part of the location does fall within the Moss Valley Conservation Area. There is potential for development to have adverse effects on the character of the conservation area. There is also potential for the eastern part of the site to be of some archaeological significance. Annex A of the Plan reflects the findings of the Heritage Impact Assessment and requires an evaluation of potential effects on archaeology prior to the submission of an application. This is likely to help avoid more sensitive locations and record any important features.

General Development

10.7.37 In addition to the effects associated with the spatial strategy, the Plan policies set a framework for all other development with regards to the historic environment. The following policies are likely to have a beneficial effect:

- Policy SP1 sets out the overall spatial strategy, including reference to the need to protect heritage assets.
- Policy D1 sets out design standards for development, identifying some important features and characteristics within Sheffield.
- Policy DE1 requires all types of development to respect and enhance heritage assets, local building styles and character. It also requires the highest standards of design in Conservation Areas.
- Policy DE6 sets design requirements for tall buildings and views into the City Centre, seeking to conserve heritage assets and their settings, and to retain views of local landmarks.

- Policy DE9 is the key heritage policy and seeks to protect and enhance the City's heritage, including non-designated and locally important landscapes that contribute to the character of the City. There is a clear focus on securing sustainable futures for heritage assets, whilst only allowing development that causes harm in exceptional circumstances.
- Policy ES2 requires renewable energy schemes to take account of visual amenity, including consideration of townscape and heritage assets.
- Policy NC9 supports the use of appropriate densities in development if it reflects the character of a Conservation Area or protects a heritage asset.
- Policy GS8 protects geological features that contribute towards the City's industrial heritage or character.

Overall effects

10.7.38 The spatial strategy and supporting policies are predicted to have broadly positive effects with regards to the historic environment. Though a large amount of growth is proposed in areas with a strong industrial legacy and a range of heritage assets, development is likely to help revitalise the City Centre and make sustainable use of heritage assets. Several plan policies set out the framework for delivering a high-quality public realm, with specific features identified in key locations such as pocket parks, restoration of historical street patterns and active travel routes. These effects will arise throughout the plan period and are likely to persist in the long-term as they provide positive uses for land and buildings with heritage value.

10.7.39 Several site allocations are adjacent to or within Conservation Areas, with some also containing listed buildings and / or non-designated heritage features. In many cases, these sites are not currently contributing positively to the significance of heritage assets, and development offers opportunities to enhance the built environment. The Heritage Impact Assessment suggests that with mitigation and enhancement in place, positive effects are likely in these areas. Cumulatively, a potential **major positive effect** on the historic environment is predicted. The Plan policies and Annex A help to guide development to ensure that such positive effects arise, but there are no explicit requirements in relation to specific heritage features, which raises an element of uncertainty at this stage (that would need to be resolved through the planning application process).

10.7.40 There are a handful of sites where the potential for negative effects exists, including in the wider urban area, but likewise, with mitigation measures in place, these are only likely to be **minor negative effects** (although they could be permanent).

Reasonable alternatives

Option	Total homes	Predicted effects
1. Urban capacity, brownfield only	31,822	Major positive effects?
2. Addition of previously undeveloped land	34,203	Major positive effects? Minor negative effects
3. The proposed Plan approach	34,473	Major positive effects? Minor negative effects
4. Additional Green Belt release (Strategic focus)	38,012	Major positive effects? Minor negative effects
5. Additional Green Belt release (Dispersed focus)	38,012	Major positive effects? Minor negative effects
6. Additional Green Belt release (Mixed approach)	38,012	Major positive effects? Minor negative effects?
7. Meeting full housing need with 35% uplift (Strategic locations focus)	49,473	Major positive effects? Moderate negative effects?
8. Meeting full housing need with 35% uplift (Mixed approach)	49,473	Major positive effects? Moderate negative effects?

10.7.41 Option 1 would involve a lower amount of planned growth overall and would therefore avoid the use of greenfield land in the urban areas. The positive effects associated with urban regeneration would still be realised for this and all below options and so potential **major positive effects** are predicted. Minor negative effects associated with development in the wider urban area would be avoided under this approach though.

10.7.42 Option 2 would have almost the same effects as those identified for Option 3, with the only difference being the brownfield site in Green Belt. Overall, this does not constitute a significant difference between the two options.

10.7.43 The effects for option 3 are discussed above in the context of the proposed Plan.

10.7.44 Option 4 will also generate potential **major positive effects** due to the urban regeneration focus. However, it is more likely that heritage assets in urban fringe locations could be affected by development.

10.7.45 At this scale of growth, there is flexibility in the choice of Green Belt locations, such that it ought to be possible to avoid the most sensitive locations.

10.7.46 Nevertheless, it is likely that settlement character would be affected, and some **minor negative effects** could potentially arise. Overall, though this option is less favourable than the lower growth options, the negative effects are unlikely to be significantly different when taking into account the need to apply plan policies to mitigate negative effects.

- 10.7.47 Option 5 involves growth at the urban periphery, but also within the urban areas on parcels of green belt land. There are a range of sites that could be included in a dispersed approach that are not significantly constrained by heritage assets, but to deliver 3539 dwellings it is likely that some of the more constrained sites (with regards to heritage) would need to be released.
- 10.7.48 The negative effects are unlikely to be significant when taking into account mitigation through plan policies, and therefore only **minor negative effects** would be anticipated alongside the aforementioned potential **major positive effects**.
- 10.7.49 Option 6 would involve a lower number of smaller/dispersed sites, with a proportion of green belt release taken by strategic growth. It ought to be possible to avoid sensitive locations with this approach, and therefore there is uncertainty whether **minor negative effects** would arise. This option is more preferable than options 4 and 5 though in terms of heritage.
- 10.7.50 Options 7 and 8 would necessitate the use of a wider range of locations in the Green Belt, which would likely mean that some of the more sensitive areas in terms of heritage could be affected (whether these be strategic locations or dispersed sites). Though mitigation of effects is possible, the setting of heritage assets in some of these locations would likely be negatively affected regardless (both directly through changes in land use, and indirectly through traffic), and therefore the potential for **moderate negative effects** is recorded overall (alongside the major positive effects).

10.8 Landscape and Townscape

SA11: High quality natural landscapes protected and poor landscapes enhanced

SA9: An attractive, high quality built environment that works well and lasts

10.8.1 The 'Landscape and Townscape' SA theme incorporates two SA objectives which both contribute towards the protection and creation of high quality natural and built environments. This section presents an assessment of the whole Plan in relation to this theme, concluding on the significance of effects when considering all policies in combination. The assessment is presented as a narrative discussion, highlighting policies that contribute notably to the achievement of the two SA Objectives covered by this theme.

Spatial Strategy and Site Allocations

10.8.2 The majority of development is focused into the urban areas, and therefore effects upon the most sensitive landscapes will be avoided. In fact, development has the potential to lead to improvements to the built environment and townscape, especially in the central areas of Sheffield, where a significant amount of development is proposed.

10.8.3 A range of locations are involved that could currently be perceived as being 'run-down' and in need of redevelopment. There are many unused buildings and vacant land that has become overgrown across parts of the city, and redevelopment of these locations with high quality buildings and public realm ought to lead to improvements in townscape. However, the scale of growth involved will undoubtedly lead to a change in the density and character of urban areas, particularly to the edge of the City Centre where areas are currently characterised by light industrial areas and car parks / vacant land. These areas are likely to involve more tall buildings and denser development, which could be seen to expand the core of the City Centre area outward somewhat. In this respect, positive effects may be less prominent. However, Policy DE6 seeks to ensure that tall buildings are of exceptional quality, are limited to certain suitable locations and create positive effects on the City townscape.

10.8.4 With regards to employment land, the focus on intensification in the Don Valley is predominantly on existing industrial land / extensions to industrial areas in locations that do not have a strong landscape character or function. As such, neutral effects are anticipated in this respect.

10.8.5 There are some greenfield sites proposed for release on the urban fringes, some of which have been assessed for landscape sensitivity. These include the following sites, which have relatively good capacity to accommodate change:

- Former Norton Aerodrome (Housing and open space)
- Land to the east of Eckington Way (General employment and traveller site)
- Land to the east of Moor Valley Road (Housing)

- 10.8.6 Effects at these locations, whilst likely to be negative, given their current status as relatively open areas, are only likely to be minor, given that there is capacity for change. Several policies in the Plan should also help to ensure that negative effects on landscape are minimised.
- 10.8.7 For example, Policy NC1 guides development of strategic housing sites, seeking to provide multifunctional networks of green and blue infrastructure which help to address landscape impacts. Policy BG1 echoes this approach, seeking to protect, manage and enhance blue and green infrastructure.
- 10.8.8 Other policies seek to protect and enhance landscape character directly (for example GS3) or will have indirect benefits by supporting the provision of open space and high quality public realm.
- 10.8.9 Two sites to the south of Stocksbridge (SD04 / SD05) which have been assessed in terms of landscape sensitivity have a lower capacity for change, and therefore effects could be of greater significance. However, the relevant plan policies described above should also come into play, ensuring that the overall effects are not significant. One of these sites has outline planning permission and therefore, the principle of development is also established in this location.
- 10.8.10 There are several greenfield sites within the urban area that have not been assessed in terms of landscape sensitivity but could have some local value in terms of amenity. Development here could potentially have some minor negative effects, but these would be reduced through the provision of design measures (DE1), protection to trees and new planting (GS7) and public realm improvements (DE3).
- 10.8.11 Overall, the strategy is predicted to have **minor positive effects**. This relates primarily to a focus on the urban area, which will reduce pressure for development in the most sensitive landscape locations on the urban fringes and can also lead to some improvements in townscape where areas are currently of poor quality. However, the positive effects are tempered somewhat by the loss of several greenfield sites in wider urban area. Whilst these locations are not considered to be sensitive in terms of landscape character and settlement function, they have local amenity value and development is likely to be perceived negatively. The need for high quality design (DE3) and for development to take account of townscape and landscape features (DE1) ought to minimise the significance of effects.

General Development

- 10.8.12 In addition to strategically planned growth, there are a range of other policies that will have positive effects with regards to landscape and townscape when considering other types of development and windfall applications.
- 10.8.13 The policies that are relevant are discussed below. All other policies are unlikely to contribute to any direct or indirect effects regarding townscape and landscape.
- 10.8.14 Policy D1 sets out at a high level that respecting topography, rural setting and landscapes should be a key design principle. This is echoed in several other policies such as:

- Policy DE2 states that buildings should establish a positive relationship with the surrounding townscape.
- Policy DE3 sets out public realm and landscape design requirements that seek to protect and enhance the character of the city.
- Policy BG1 Blue and Green Infrastructure which specifically seeks to strengthen landscape character.
- Policy DE1 requires development to be informed by local character including townscape and landscape features. It also requires the highest standard of design in key city locations and gateway routes into the city.
- Policy GS7 seeks to protect trees and support new planting that respects existing green infrastructure and the street scene.
- Policy NC9 Housing Density, seeks to ensure that development takes account of rural landscape character areas.

10.8.15 Other Plan policies include the need to protect and / or enhance landscape and townscape as a criteria for assessing the suitability of development, including:

- Policy NC7 includes criteria for assessing new Gypsy and Traveller and Travelling Showpeople sites.
- Policy ES2: Safeguards sensitive landscape and townscape assets from renewable energy generation schemes.
- DE5 seeks to ensure that the character of the street scene is reflected in shop front design.
- DE7 sets out requirements for advertising to ensure that they respond positively to the street scene and do not harm townscape.

10.8.16 Together, the suite of policies discussed above ought to ensure that general development that comes forward is managed in terms of the potential for negative landscape and townscape effects. In the main, the policies reflect current practice and are unlikely to lead to significant improvements. However, there is a clear mandate to protect and enhance the townscapes and landscapes across the district, which amounts to **minor positive effects**.

Overall effects

10.8.17 When considering the strategy alongside the full range of Plan policies, the effects are mostly positive. Where there are some potential (permanent) negative effects such as through the loss of urban greenfield land / open space, specific plan policies should help to minimise the effects as there is a clear focus on the need to enhance green and blue infrastructure, the street scene, gateway locations and the wider character of townscapes and rural landscapes. It could be a challenge to implement significant levels of growth in the inner-city areas without altering its character. However, with the guidance of plan policies that seek exceptional design, negative effects should be kept to a minimum and positive effects achieved in the longer term. On balance, a **minor positive effect** is predicted overall.

Reasonable alternatives

Option	Total homes	Predicted effects
1. Urban capacity, brownfield only	31,822	Moderate positive effects?
2. Addition of previously undeveloped land	34,203	Minor positive effects
3. The proposed Plan approach	34,473	Minor positive effects
4. Additional Green Belt release (Strategic focus)	38,012	Neutral effects
5. Additional Green Belt release (Dispersed focus)	38,012	Neutral effects
6. Additional Green Belt release (Mixed approach)	38,012	Minor positive effects
7. Meeting full housing need with 35% uplift (Strategic locations focus)	49,473	Minor negative effects
8. Meeting full housing need with 35% uplift (Mixed approach)	49,473	Minor negative effects

10.8.18 Option 1 is predicted to have **moderate positive effects** overall. By planning for fewer homes, there would be no greenfield sites allocated in the wider urban areas. The positive effects associated with urban intensification would still be likely to arise though, and hence the positives would be more pronounced for this approach compared to the proposed Plan approach. However, given that the level of housing would be relatively low compared to identified needs, there may be potential for greater speculative development across the district. As such, there is a degree of uncertainty.

10.8.19 With the addition of greenfield sites within the urban area under Option 2, the positive effects are predicted to be less significant. This is because there would likely be some negative effects associated with a loss of open space in the urban areas. As such, **minor positive effects** are predicted overall.

10.8.20 Though the proposed approach (Option 3) involves additional growth compared to Option 1, this is proposed only on brownfield locations within the Green Belt. The location proposed is not highly sensitive with regards to landscape, and relatively small scale, and therefore overall, **minor positive effects** are still predicted at this scale of growth.

10.8.21 To support additional growth, further release of Green Belt land would be required. Looking at the broad locations that could be involved (see section 7), there are several areas that do not have high sensitivity that are relatively sustainable across a range of sustainability objectives. However, several locations would be necessary and the cumulative effects of growth are likely to be negative with regards to landscape and settlement character in selected locations. Overall, there would be a mix of effects for Option 4, with positives in the urban areas, but also minor negative effects associated with the loss of urban greenfield sites and some Green Belt locations. On balance, a **neutral effect** is predicted overall.

- 10.8.22 Option 5 presents a similar picture; there is a pool of sites that could deliver additional growth in a dispersed manner in the Green Belt without having significant effects on landscape. However, it might be necessary for some of the more sensitive sites to be released to deliver additional dwellings and the cumulative effects of multiple sites on greenfield land would be likely to alter the landscape in a cumulative manner. The magnitude of effects would be likely to align with Option 4; **neutral effects** are predicted overall.
- 10.8.23 Option 6 allows for the most sustainable dispersed sites to be selected, as well as well performing strategic locations. This is most likely to avoid significant negative effects in terms of landscape and spreads the impacts across the urban area and the periphery (rather than one or the other like options 4 and 5). Meeting higher growth needs on the least sensitive sites ought to lead to **minor positive effects** overall.
- 10.8.24 To meet the highest level of growth, it would be necessary to release a greater amount of Green Belt land. As well as more settlements / urban areas being affected, it is also possible that some of these locations would be more sensitive with regards to landscape character. Whilst it ought to still be possible to avoid the very most important landscape areas, the cumulative effects in terms of settlement character being affected would give rise to negative effects. Though there would still be some benefits in terms of townscape improvements, the negative effects in terms of rural landscapes would outweigh this and leave a residual **minor negative effect** overall for Option 7.
- 10.8.25 Option 8 would propose a mixed approach to meeting the identified housing requirement, this would require a mix of smaller and strategic sites in the Green Belt. The mix of sites would permit greater flexibility with regards to avoiding the more sensitive sites, when compared to Option 7. This would lead to a similar, but reduced magnitude of effects as set out under Option 7; though this would still be classed as likely **minor negative effects**.

10.9 Biodiversity and Geodiversity

SA12: Ecological and geological assets created, conserved, managed and enhanced

SA9: An attractive, high quality built environment that works well and lasts

- 10.9.1 The 'Biodiversity and Geodiversity' SA theme incorporates two SA objectives which both contribute towards the achievement geological and ecological protection and enhancement in both urban and rural locations. This section presents an assessment of the whole Plan in relation to this theme, concluding on the significance of effects when considering all policies in combination. The assessment is presented as a narrative discussion, highlighting policies that contribute notably to the achievement of the two SA Objectives covered by this theme.

Spatial Strategy and Site Allocations

- 10.9.2 There are several designated biodiversity sites within or close to the Plan area including: a Special Areas of Conservation (SAC), a Special Area of Protection (SPA), 13 Sites of Special Scientific Interest (SSSI) and numerous Local Nature Reserves (LNRs). The larger SSSIs, the SPA and SAC are associated with the Peak District National Park, along the north west to the south west boundary of the LP area. The remaining sites are interspersed through the Plan area. The district also contains UK priority habitats of blanket bog, upland heath and flush, and deciduous and ancient seminatural woodland.
- 10.9.3 The Plan's approach of focussing growth in existing urban areas, seeking to maximise the use of brownfield / previously developed land and promoting urban intensification particularly within the Central Sub area is generally positive as it avoids direct encroachment on the majority of the above mentioned biodiversity sites. However, the majority of the Plan area falls within the impact risk zones (IRZ) associated with the SSSI sites. Additionally, development in the vicinity of the main river corridors associated with the Rivers Don, Porter, Sheaf, Rivelin, Loxley, Rother and Blackburn Brook can potentially lead to pollution through surface water runoff.
- 10.9.4 The higher development densities sought in the Central Sub-Area are likely to lead to some loss of urban green spaces potentially leading to habitat loss and exacerbating habitat fragmentation in such locations. Furthermore, there are numerous local wildlife Sites (LWS) and Local Nature Reserves (LNR) within the central urban area which may be adversely affected by new development.
- 10.9.5 Whilst the focus on brownfield sites helps preserve greenfield areas including the Green Belt and sites of biodiversity importance, brownfield sites such as old industrial sites potentially contain unique habitats supporting rare, vulnerable species such as bats.
- 10.9.6 Whilst the majority of growth is located away from designated biodiversity sites, the following sites are in close proximity to SSSIs and could potentially have direct adverse effects through recreational pressures and disturbance:

- SD02 – Former Steins Tip is large site (17.3 ha) allocated for 428 dwellings within in proximity to Wharnccliffe Craggs SSSI - This site lies in extensive birch/ oak woodlands overlooking the River Don valley. It is the geological features displayed in the cliff face that are of special interest. The main threats to conservation of inland geological sites are developments and tree planting that conceals rock exposures.
- NWS29, NWS02 – The former Sheffield Ski Village strategic site (10.9 ha) allocated for leisure and recreation use and a 4 ha employment site (Land at Wallace Rd.).
- The allocations are adjacent to the Neepsend Brickworks SSSI and the Neepsend Railway Cutting SSSI. Both are of special geological importance and of considerable scientific interest. The main threats to the conservation are landfill and developments which obscure the geological features.

10.9.7 Overall, the spatial distribution of growth is anticipated to have some negative effects on biodiversity due to the scale of growth proposed and the location of some of the sites allocated for development. Whilst the majority of growth is directed away from sensitive biodiversity designations, there are several allocations (discussed above) that are in close proximity to SSSIs and LWS where the additional recreational and disturbance pressures generated by new development (particularly on larger sites) could possibly adversely impact biodiversity on these sites.

10.9.8 However, the Plan seeks to address impact on biodiversity through a range of policy measures. In relation to the sites discussed above, Annex A of the Plan sets out specific conditions for development including the need for further survey work, maintenance of existing ecological features, and securing net gain on site.

10.9.9 Of particular relevance to the urban sites are policies GS5 and GS6 which seek to first protect biodiversity, provide compensation, and then on top of this achieve a net gain in biodiversity. Where existing biodiversity value is very low (which is the case for many urban locations), it may be appropriate for a higher than 10% net gain in biodiversity to be sought, which should help to achieve significant improvements in the city. There is also a preference for on-site delivery of net gain if possible, and where this is not realistic, enhancements to the wider green infrastructure networks would be sought.

10.9.10 Other supporting policies such as GS7 promote street trees, which could help to improve habitat connectivity in the urban areas.

10.9.11 Despite a loss of some greenfield sites in the urban areas, the identification of urban green space zones under Policy GS1, will help to ensure that further effects are minimised and that urban greenspace networks are protected and enhanced.

10.9.12 With these factors in mind, it is considered that the spatial strategy is likely to have only minor negative effects on biodiversity across the district, whilst providing a framework for significant positive effects to be achieved.

10.9.13 The HRA concludes that with a range of mandatory mitigation measures and further recommendations, significant effects on European habitats are unlikely to arise.

General Development

10.9.14 In tandem with the spatial strategy, there are several policies in the Plan likely to have beneficial effects on biodiversity. These seek to protect and enhance biodiversity and geodiversity within the Plan area and include the following:

- Policy BG1 seeks to protect/ enhance green and blue infrastructure to increase biodiversity giving 'very significant weight' to the protection and enhancement of Sheffield's Local Nature Recovery networks and Green Network which include urban greenspace and countryside.
- The policy specifically identifies the main river corridors, major parks and Urban Green Space Zones and the Green Belt for protection.
- Policy GS5 seeks to prevent development causing significant harm to priority species/ habitats and designated biodiversity sites such as SSSIs and Local Wildlife Sites. The plan identifies Urban Greenspace Zones comprising a range of private/ public land which is deemed valuable for ecology and other functions.
- Policy GS1 seeks to prevent loss of the identified open/ green space and to protect the continuity of the city's network of blue and green infrastructure.
- Policy GS6 requires biodiversity net gain (BNG) of at least 10% for all developments (where the Biodiversity Metric/ Small sites metric applies). The policy also seeks higher gain in certain circumstances including where it fulfils a particular ecological need or as part of Local Nature Recovery Networks.
- Policy GS7 seeks to protect trees, woodlands and hedgerows by applying strict criteria to ensure their retention and protection where new development takes place. There is also a requirement for new developments to incorporate new trees, particularly street trees.
- Policy GS8 proffers protection to Local sites of importance to geodiversity (such as designated Local Geological Sites and the above mentioned SSSI sites). The policy requires rock outcrops and landscape features of geological significance be protected, features of significance recorded and maintained through appropriate conservation management.
- Policy GS10 states that development must not result in the deterioration of water bodies and should conserve and enhance the ecological value of the water environment, including watercourse corridors.
- Policy GS11 states that Sustainable Drainage Systems (SuDS) should be designed to maximise benefits for biodiversity.

- DE3 mentions the need for biodiversity enhancement as part of public realm and landscape design.

Overall effects

- 10.9.15 The Plan's approach of maximising brownfield utilisation and focussing growth in existing urban locations serves to reduce pressure on the major biodiversity designations within the Plan area particularly those within the Peak District. However, there are several allocations where development will be in close proximity to SSSI sites. That said, in the absence of Plan's proposed strategy, ad hoc release of greenfield land could occur which could result in greater adverse effects on sites of biodiversity importance.
- 10.9.16 The Plan includes several policies promoting the protection and enhancement of biodiversity and geodiversity sites and seeking biodiversity net gain, which are likely to have positive long-term effects.
- 10.9.17 The emphasis on maintaining and enhancing the integrity and connectivity of blue and green infrastructure within the Plan area is also likely to engender significant beneficial effects on biodiversity by helping to reduce fragmentation (particularly with urban areas, which ought to benefit from increased tree planting and other 'greening' measures). Some of these effects could be direct through the creation of habitat, whilst others could be indirect, by providing alternative recreational areas that reduce pressure on established biodiversity habitats.
- 10.9.18 Overall, on balance the Plan is predicted to have **moderate positive effects** as it provides a suitable strategy and policy framework for avoiding significant negative effects and protecting biodiversity, whilst supporting opportunities for biodiversity net gain. Positive synergies are likely as a result of the Local Plan when considered alongside the Local Nature Recovery Strategy that will need to be developed.
- 10.9.19 Alongside the positives there are likely to be some **minor negative effects** relating to disturbance and recreational pressure on local wildlife sites. Some disturbances would be temporary as a result of construction activities, whilst others such as recreational pressure would likely be long term / permanent. Mitigation measures such as the creation of new open space, and establishing buffer zones between developments and habitats would help to minimise these effects.

Reasonable alternatives

Option	Total homes	Predicted effects
1. Urban capacity, brownfield only	31,822	Minor positive
2. Addition of previously undeveloped land	34,203	Moderate positive Minor negative
3. The proposed Plan approach	34,473	Moderate positive Minor negative
4. Additional Green Belt release (Strategic focus)	38,012	Major positive ? Minor negative
5. Additional Green Belt release (Dispersed focus)	38,012	Moderate positive Minor negative
6. Additional Green Belt release (Mixed approach)	38,012	Major positive ? Minor negative
7. Meeting full housing need with 35% uplift (Strategic locations focus)	49,473	Major positive Moderate negative?
8. Meeting full housing need with 35% uplift (Mixed approach)	49,473	Major positive Moderate negative?

10.9.20 Option 1 would avoid development in the most sensitive locations outside of the urban areas. It would also avoid the release of greenfield land in the wider urban areas (some of which are intersected by or adjacent to local wildlife sites). However, the release of urban brownfield land would involve several sites that are adjacent to local wildlife sites.

10.9.21 Whilst there ought to be no direct effects in terms of loss of habitat, there could be some cumulative pressures in terms of pollution, disturbance and recreation. The Plan policies seek to minimise these impacts and to achieve net gain on site where possible. Therefore, it is considered unlikely that significant negative effects would arise. Development should present opportunities for enhancement rather than negative effects, but this could be difficult to achieve on small urban sites. Overall, a **minor positive effect** is predicted.

10.9.22 Option 2 involves further development in the urban areas on greenfield land. Several of the sites involved are adjacent to local wildlife sites, with a handful being intersected by wildlife sites / features. This additional growth will put greater pressure on urban habitats through disturbance and recreational pressure. These are temporary **minor negative effects**. However, it brings greater potential to deliver enhancements to habitats as a result of the requirement for net gain in new developments.

10.9.23 There will be a requirement to protect important features such as trees and hedges, as well as achieving improvements. Overall, though a greater amount of disturbance is likely to occur throughout urban greenfield sites, there is greater potential to achieve net gain through developments. Therefore, **moderate positive effects** are predicted in this respect.

- 10.9.24 The effects for Option 3 are discussed above. The additional development involved at Green Belt locations is likely to have mixed effects (but overall this is unlikely to affect the overall effects (given the small scale of growth involved and the low significance of effects)).
- 10.9.25 The strategic development at Norton includes areas of grassland with trees, shrubs and plants and large rewilded areas. The location further adjoins a local wildlife site and ancient woodland to the east. Avoidance and mitigation should be able to safeguard the adjacent designated areas and on-site areas of high ecological value. However, development will add increased recreational pressure and cause potential disturbance. Development could also result in the loss of areas which have potential to be of ecological importance and result in the loss of existing habitats. However, policies in the Plan will seek to ensure that important features are secured and that net gain is achieved. On a strategic development of this scale, it ought to be possible to achieve net gain on site (and this is stipulated as a requirement in Annex A of the Local Plan).
- 10.9.26 Overall, the additional growth at brownfield land in the Green Belt is unlikely to increase the significance of negative effects overall. There also ought to be good opportunity to achieve net gain.
- 10.9.27 Option 4 involves further Green Belt release. The analysis of reasonable strategic locations suggests that additional growth could be accommodated without encroaching upon sensitive locations, but **minor negative effects** could potentially arise given the presence of greenfield land and ecological features such as trees and hedgerows. The nature of these locations should mean that biodiversity net gain can be achieved on site, and therefore overall this could increase the significance of effects to **major positives**.
- 10.9.28 The potential for negative effects to increase (compared to lower growth options) is considered to be limited, given that there are no major constraints in the potential Green Belt locations. The HRA concludes that with mandatory mitigation measures in place, the effects upon European habitat sites would be unlikely to be significant. However, the range of measures required would be greater compared to Option 3.
- 10.9.29 Option 5 would involve a range of dispersed smaller sites. In the main, the pool of sites involved do not overlap with designated habitat sites, and most are more than 400m from European habitat sites, SSSI, ancient woodland and local wildlife sites. However, a proportion of the sites are overlapped with priority habitats and / or adjacent to wildlife sites. The scale of effects (loss / disturbance of habitats) in any one location would be fairly small, but there could be some minor cumulative effects in terms of wildlife corridors being severed. The potential to achieve net gain on site will depend on the sites involved, but their smaller nature means that strategic enhancements are less likely to present as opportunities (unless there is a coordinated / pooled approach). On balance, **minor negative effects** are predicted, similar to option 4. However, it is considered that opportunities for strategic onsite enhancements would be lower, and so only **moderate positive effects** are predicted.

- 10.9.30 Option 6 blends options 4 and 5 with regards to the release of greenfield land, and this should bring some opportunities for enhancement whilst helping to avoid the more sensitive sites whether they be dispersed or in a strategic location.
- 10.9.31 **Major positive effects** are predicted, but these are more uncertain than for Option 4 which involves more strategic growth (and the potential for on-site biodiversity net gain). **Minor negative effects** are also predicted for the reasons discussed above under options 4 and 5.
- 10.9.32 Options 7 and 8 involve greater greenbelt release and would likely involve some more sensitive locations. The potential for cumulative pressure on wildlife and the severance of wildlife corridors is also greater. This could raise the overall negative effects to potentially moderate.
- 10.9.33 Though the HRA concludes that significant effects should be possible to avoid, a higher scale of growth would require a more comprehensive application of mandatory mitigation measures. However, the increased scale of growth and widespread nature of development could also bring greater opportunities for net gain in the longer term, which are **major positive effects**.

10.10 Climate Change Resilience

SA14: Greenhouse gas emissions minimised and the impact of climate change effectively managed

10.10.1 The 'Climate Change Resilience' SA theme incorporates SA objective 14 which is concerned with minimising greenhouse gases and managing the impacts of climate change. This section presents an assessment of the whole Plan in relation to this theme, concluding on the significance of effects when considering all policies in combination. The assessment is presented as a narrative discussion, highlighting policies that contribute notably to the achievement of this SA theme. 'Overall effects' are concluded at the end of this section, setting out the likely significance and nature of effects.

Spatial Strategy and Site Allocations

10.10.2 In terms of greenhouse gas emissions, the spatial strategy's focus of growth within the main urban areas is likely to have positive effects on mitigating some of the emissions associated with growth as these locations generally benefit from good access to services, employment, social infrastructure and sustainable transport infrastructure. The intensification of growth within the central sub-area is likely to produce the economies of scale required to enable improved/ expanded sustainable transport infrastructure, low carbon technologies and district energy networks.

10.10.3 In terms of resilience to the effects of climate change, some of the site allocations and broad locations are more vulnerable to the effects of climate change as they overlap areas of higher flood risk (Flood Zones 2 and 3). These include the following:

- SD02 is partially within Flood Zone 2 along the River Don.
- SD09 is entirely within Flood Zone 2.
- NWS09 is partially within Flood Zone 2 and Zone 3.
- NES03 is entirely within Flood Zone 3,
- NES05 partially within Flood Zone 2
- NES06 site is entirely within Flood Zone 2 and partially in a Zone 3.
- Sites within Kelham/ Neepsend such as KN3-7, KN22-18, KN19, KN21, KN25, KN27, KN30 and KN36 are within Flood zones 2 and 3 including functional flood plain associated with the River Don.
- Sites at London Rd. and Queen's Rd. such as LR01-6 are within flood Zones 2 and 3 including a functional flood plain at Porter Brook.
- Sites in the Sheaf Valley area such as SV17, SV02-SV07, SV09-10, SV13, SV16, SV18, SV22 and SV25 are mostly within Flood Zone 2 with some flood zone overlap.
- Sites SWS02-3 and SWS05 are within Flood Zones 2 and partially within Flood Zone 3.

- Sites ES01-04 are within Flood Zone 2 with some Flood Zone 3 overlap.
- SE02 is entirely within Flood Zones 2 and 3.
- ES02-04, ES09 and ES38 are entirely within Flood Zone 2 with some areas of Flood Zone 3.
- Castlegate/ Wicker sites CW1-3, CW19, CW12-13 (flood zone 2), CW5, CW10, CW12, CW15-17 are CW20-23 are within Flood Zone 3.

10.10.4 Locating a substantial level of growth in Flood Zones 2 and 3 brings the potential for negative effects in terms of climate change resilience. Though these locations are already built up, they are / were predominantly in employment use, which tend to be less sensitive with regards to flooding. The change in uses is therefore likely to result in a greater amount of homes being in flood risk zones compared to the current situation (which are negative effects).

10.10.5 Several plan policies seek to address flood risk, and this should help to reduce the significance of negative effects; these are discussed below.

10.10.6 Policy GS9 seeks to manage flood risk by directing growth away from areas at greatest risk of flooding, managing flood risk and where development is in areas of flood risk, ensuring site level mitigation. In one respect, the spatial strategy is at odds with this policy, as it allocates a large amount of housing development in areas that are within Flood Zones 2 and 3. On the other hand, the policy will help to ensure that developments are flood-proofed, and that SUDs are in place.

10.10.7 Area based policies specifically mention the need to avoid and manage flood risk in sensitive locations (Policy CA1 and Policy CA6). There are also plans to de-culvert a range of watercourses in the City Centre, which should help to improve flows and lower flood risk.

10.10.8 Policy NC1 requires strategic housing sites to ensure flood water management and Sustainable Drainage Systems (SuDS) are provided. This is important, particularly as several of the allocated sites are within Flood Zones 2 and 3.

10.10.9 The level of growth within the Central sub-area also has the potential to exacerbate urban heat island effects as it likely to lead higher density development and in the wider urban area could involve the use of open space. This could be counteracted by policies that seek to improve green and blue infrastructure in urban areas.

10.10.10 Overall, the spatial strategy is likely to have mixed effects. On one hand, positive effects are likely, associated with the focus of growth within the existing urban settlements (this will help reduce carbon emissions). However, with regards to resilience, negative effects are likely given that there is a significant amount of new housing development in areas at risk of flooding. With policy measures in place, it is considered that effects will be minor/moderate.

General Development

- 10.10.11 With regards to further growth, there are a range of policies in the Plan that seek to ensure that windfall / ad hoc development contributes to climate change mitigation and resilience efforts.
- 10.10.12 Plan policies seeking to mitigate the impacts of climate change include ES4 which advocates the incorporation of passive and active ventilation measures within new development to avoid overheating and appropriate shading measures where needed. The policy also requires the incorporation of flood resistance / resilience measures making an allowance for climate change.
- 10.10.13 The policy also seeks green blue or brown roofs covering at least 80% of the total roof area (where viable/ compatible) on residential developments (single blocks of 10 or more dwellings) and non-residential developments (greater than 1,000 sq. m).
- 10.10.14 Policy IN1 seeks to address flood risk and drainage stating that Sheffield City Council and statutory providers will deliver planned risk management and resilience measures to reduce and mitigate the impacts of flooding with a focus on delivering development that does not increase flood risk across the city.
- 10.10.15 Policy GS9 requires that new development does not lead to increased flood risk and seeks reduced development footprints in functional floodplains, adding that, development for 'more vulnerable uses' (includes housing) should not be located in functional floodplain. Only water-compatible uses are to be allocated within areas with high probability of flooding and development should not adversely impact land safeguarded for flood storage. Development for more vulnerable uses within zones of high probability of flooding are required to be above ground level and be resilient to flood damage with adequate on and off-site flood protection measures. The policy also requires measures such as SuDS and the minimising of culverting over watercourses. This Policy should ensure that further development alongside allocated development is located in suitable locations and does not contribute to further flood risk issues.
- 10.10.16 GS11 requires all developments to incorporate on-site SUDs, which will help to manage surface water run-off. This will be important in the urban locations which have a greater coverage of impermeable surfaces.

Overall effects

- 10.10.17 With regards to climate change resilience, the Plan is predicted to have mixed effects. The Plan contains a range of policies that seek to ensure that development avoids areas of flooding and manage any risks arising from development. However, the strategy directs a substantial level of new housing to areas that are at risk of flooding in the City Centre. Much of this is residential development, and more sensitive to flood risk than current employment uses in these areas.

10.10.18 Whilst this development will be required to be 'flood-proofed', there will be residual moderate negative effects (the likelihood of effects is greater in the longer term as more extreme events could arise as a result of climate change / frequency of such events). The majority of additional growth within the wider urban area falls within Flood Zone 1 and so minimal effects are anticipated.

10.10.19 Though there are several thematic policies that seek to manage flooding, the negative effects could be reduced further with more explicit policy measures (for example, seeking a net decrease in the rates of surface water run-off on brownfield sites in the City Centre). It would also be useful to promote a hierarchy of SUDs, which prioritises natural 'soft' solutions.

Reasonable alternatives

Option	Total homes	Predicted effects
1. Urban capacity, brownfield only	31,822	Moderate negative?
2. Addition of previously undeveloped land	34,203	Moderate negative?
3. The proposed Plan approach	34,473	Moderate negative?
4. Additional Green Belt release (Strategic focus)	38,012	Moderate negative?
5. Additional Green Belt release (Dispersed focus)	38,012	Moderate negative?
6. Additional Green Belt release (Mixed approach)	38,012	Moderate negative?
7. Meeting full housing need with 35% uplift (Strategic locations focus)	49,473	Moderate negative?
8. Meeting full housing need with 35% uplift (Mixed approach)	49,473	Moderate negative?

10.10.20 Though Option 1 involves a lower amount of growth overall, it involves the same sites that are at risk of flooding that the proposed Plan approach (option 3) does. As a result, potential **moderate negative effects** are predicted.

10.10.21 Option 2 adds a range of additional sites throughout the urban area, but the majority are within flood zone 1. In this respect, no additional negative effects are anticipated. Development on these sites will involve an increase in development on greenfield land, but plan policies seek to ensure that new development includes SUDs and incorporate green infrastructure. As a result, uncertain **moderate negative effects** are predicted.

10.10.22 The effects for Option 3 are described above, with uncertain **moderate negative effects** concluded.

- 10.10.23 Though Option 4 would involve a greater amount of growth overall, there is sufficient choice in the strategic locations that are not at risk of flooding. There should also be good opportunities to incorporate natural SUDs in new development.
- 10.10.24 There would be a greater amount of urbanisation on the edges of the city, which could potentially contribute to uncreased urban heat island effects. However, the magnitude of effects is unlikely to be high. Therefore, the overall effects remain **moderately negative**.
- 10.10.25 The pool of sites involved for a dispersed approach to growth are almost exclusively in flood zone 1 and are not at significant risk of surface water flooding. In this respect, the effects are not likely to be significantly different in terms of development being in areas of flood risk. The loss of greenfield land across the urban area and at the periphery could potentially have some negative effects if the green infrastructure benefits are lost. Nevertheless, for Options 5 and 6, the overall effects remain **moderately negative**.
- 10.10.26 Options 7 and 8 involves further growth in the Green Belt at a scale of growth that would require multiple strategic locations or dispersed growth. It is still unlikely that areas at risk of flooding would need to be involved. The increased development would increase the potential for urban heat island effects, but it is considered unlikely this would lead to significant effects, given that plan policies seek to ensure that development is designed to be sustainable; incorporating features such as street trees, green and brown roofs and passive design. Overall, uncertain **moderate negative effects** are predicted.

10.11 Natural Resources and Pollution

SA15: Environmental pollution improved and impacts on air quality minimised or mitigated

SA13: Water resources protected and enhanced

10.11.1 The 'Natural Resources and Pollution' SA theme incorporates SA objective 13 and SA objective 15 which are both concerned with the protection of important aspects of environmental quality. This section presents an assessment of the whole Plan in relation to this theme, concluding on the significance of effects when considering all policies in combination. The assessment is presented as a narrative discussion, highlighting policies that contribute notably to the achievement of this SA theme. 'Overall effects' are concluded at the end of this section, setting out the likely significance and nature of effects.

Spatial Strategy and Site Allocations

10.11.2 The Submitted Local Plan spatial strategy allocates the majority of sites for housing and employment on land within the existing built-up area, with a key focus of development within the core of the city. Much of the housing and mixed-use developments are likely to come forward in the City Centre, with some substantial areas of employment land being allocated in the Lower Don Valley, to the north east of the City Centre. Outside of these areas, a greater number of allocations are focused in the Southeast Sub-Area and along/broadly nearby to existing tram routes. Elsewhere there are dispersed allocations, with the majority of these being small in size, aside from a number of larger housing allocations in the Northwest Sub-Area (at Oughtibridge) and in the Stocksbridge/Deeplecar Sub-Area.

10.11.3 In terms of the nature of the land allocated and its environmental traits in relation to natural resources and pollution, the vast majority of sites (88% of all sites allocated for a range of uses) are brownfield, or partially brownfield, with many of these being contaminated or potentially contaminated.

10.11.4 The plan area as a whole is designated as an Air Quality Management Area (AQMA), however there is likely to be varied levels of air pollution across Sheffield, with other differences relating to temporal factors. Service centres and the City Centre are likely to experience heightened levels of air pollution, with exacerbations likely to be seen at peak journey times and traffic pinch points.

10.11.5 Focusing on water resources, a number of the allocation sites are in close proximity to waterbodies, especially along areas of the Rivers Porter, Sheaf and Don. Of these, large areas of the River Don running from the east of the plan area to the north west of the City Centre are classified as being of poor quality according to the Water Framework Directive overall classes (2019).

10.11.6 The growth and development strategy for Sheffield is likely to help to remediate land which is contaminated, as well as reusing brownfield sites which may be perceived to be of a poor environmental quality to local residents.

- 10.11.7 Sixty seven percent of the site allocations within the Local Plan overlap with land which is potentially contaminated; whilst this might only be to a small degree, partial remediation may be seen. Considering the overall amount of land which is being allocated, substantial remediation across Sheffield is likely.
- 10.11.8 The high concentrations of growth in the City Centre would be expected to have two broad trajectories of effects. Firstly, the accessibility to sustainable transport access nodes, shops, employment and services in the areas of high growth (including some growth broadly nearby to the existing tram network in both the northwest and south east of the area) would be expected promote an overall increase in walking, cycling and public transport usage from new proposed developments. This would be likely to drive down the rate of car use in Sheffield, resulting in a degree of reduced potential for new developments and their associated transport movements to add to air quality issues. That said, dominant behavioural norms relating to travel by petrol and diesel powered vehicles is likely to mean that new development results in a significant increase in traffic volumes, and hence air quality issues (at least in the short term). These are likely to be in localised areas nearby to new growth, especially at traffic pinch points and at peak journey times.
- 10.11.9 Traffic modelling has been undertaken to identify pressure points on the network and mitigation measures have been identified in the Infrastructure Delivery Plan. Employment development in the Lower Don Valley is likely to lead to an increase in heavy goods vehicle journeys in that area, especially along routes connecting employment sites to the strategic road network, including the M1 motorway. This is likely to lead to deteriorating air quality issues in this area, especially around the Meadowhall area, which has existing junction capacity issues. However, the human-health related impacts of this in a less residential area are likely to be less severe than other areas, due to a lower rate of exposure.
- 10.11.10 Without mitigation, the Sheffield Local Plan's scale and distribution of proposed growth is likely to lead to some degree of increased pollution of watercourses especially during construction phases of development. This could be more pronounced from developments which are adjacent or in very close proximity to rivers or the canal. Considering all sites which are likely to be allocated, approximately 20% of them are within 50 metres of a Water Framework Directive watercourse, and several are within flood zones 2 and 3. The majority of these sites are proposed for housing, though four large employment sites are within this group of allocations (ES01, ES02, NES03 and NES04).
- 10.11.11 Beyond construction related effects, specific site uses are likely to determine the potential for more environmentally damaging water quality issues. In relation to Nutrient Neutrality, Sheffield is not currently identified as an authority which is required to prove nutrient-neutral developments.

General Development

- 10.11.12 The Sheffield Local Plan sets out a number of policies which set out to guide the nature of development, including through ensuring that provisions are made to provide sustainable transport options, land remediation and water processing and quality.

- 10.11.13 Policy NC1 sets out principles which guide the development of strategic housing sites; within this, sustainable transport is encouraged through an expectation that such developments will facilitate and encourage active travel and public transport use as viable alternatives to private car use. The policy also requires that air, water and ground quality are protected, leading to some positive effects relating to natural resources and pollution.
- 10.11.14 Multiple policies in the Sheffield Local Plan are likely to have impacts on the air quality across the area. Requirements for developments to ensure that there is a focus on providing improvements to sustainable transport options ought to help to alleviate air quality issues related to increased traffic volumes from new developments to some extent. Policies ES5, CO1, CO2, SP1, SP2, SA1-SA9, all CA Policies and T1 are all relevant in this respect.
- 10.11.15 New developments are likely to be required to ensure that electric vehicle charging infrastructures are provided, helping to increase support for vehicles which contribute less to air quality issues. New walking and cycling infrastructure should help to increase the rate of people travelling by active means and improved public transport infrastructure and services should help to reduce congestion and its associated air quality related issues.
- 10.11.16 Policies that support green infrastructure enhancements could help to maintain good air quality, prevent deterioration or lead to small improvements. For example, policy GS7, which seeks to maintain trees, woodlands and hedgerows and increase the amount of street trees.
- 10.11.17 Policy ES5 seeks to locate sensitive uses away from areas which have not achieved the goals of the clean air strategy, whilst also ensuring that an environmental buffer is provided around more sensitive uses. This should help to minimise exposure to poor air quality for those who are more vulnerable. The policy also requires larger developments to undertake an air quality impact assessment; ensuring appropriate mitigation is delivered where a deterioration is predicted.
- 10.11.18 Policy SP2 outlines the area's spatial strategy and SP3 focuses on the hierarchy of centres; both partly focus on the role which district and local centres can play in creating 20-minute neighbourhoods. This is likely to promote walking and cycling as a means of accessing local facilities, as such, potentially driving down private car related air pollution.
- 10.11.19 Policy SA1 focuses on development within the 'Central Sub-Area' and Policy SA1 ('h') seeks to adopt a clean air zone, which is likely to ensure a significant improvement in the air quality in this central area; though it could lead to some worsening of conditions in locations surrounding this zone, especially where strategic roads approach this area.
- 10.11.20 The 'CA' policies, which provide detailed requirements for development within distinct character areas of the Central sub-area, set out specific requirements for development within these areas. These are varied in nature but are likely to broadly lead to improved green infrastructure (helping to partly mitigate air quality and potential pollution from water infiltration into nearby watercourses).

- 10.11.21 They are also likely to provide a more attractive space to walk or cycle within), infrastructure and services to support active travel and public transport options as well as providing local shops, facilities and services which reduce the need to travel by more polluting means.
- 10.11.22 Policy ES6 seeks the safeguarding of surface water and ground water from land contamination. It also requires appropriate assessment for contaminated or instable land including the need for remediation. This ought to bring positive effects for the protection of water resources and remediation of contaminated land across the Plan area.
- 10.11.23 Policy GS10 specifically seeks to protect water resources and quality. This should support progress towards achieving 'good' status for ground and surface waterbodies and should not increase the risk of pollution entering water through run-off or discharge.
- 10.11.24 The appropriate management of surface water and reduction in the potential for water quality to be harmed will be assisted through the provisions set out under Policy GS11 which focuses on Sustainable Drainage Systems. Likewise, policies that support environmental enhancement and biodiversity net gain should have some indirect positive effects in terms of helping to manage air pollution.

Overall effects

- 10.11.25 Overall, whilst the site allocations might be expected to lead to some negative environmental effects relating to natural resources and pollution, the Plan's supporting policies are likely to provide suitable mitigation and in some instances benefits.
- 10.11.26 In terms of air quality, the development of both housing and employment uses across Sheffield, alongside car-use related behavioural norms are likely to lead to an increase in air pollution, especially at traffic pinch points and at peak journey times. That said, policies in the Plan support infrastructure and services which are likely to increase the rates of people travelling by active means and / or public transport, as well as using electric vehicles (a phenomenon which is likely to accelerate in the medium to long term). The future baseline position is also likely to see an increase in the provision of public transport services through private and public funding sources. Together with the policies in the plan this should have positive synergies and reduce the potential for air quality to further deteriorate. Overall, **minor negative effects** are predicted.
- 10.11.27 In terms of land resources, the plan's allocations and supporting policies are likely to deliver some significant levels of remediation of contaminated land across Sheffield.
- 10.11.28 **Major positive effects** are predicted in this respect, as otherwise it is likely these sites would remain undeveloped. There would also be secondary benefits in terms of reducing the threat of such pollutants escaping to water resources in the longer term.

10.11.29 Focusing on water quality and resources, whilst some development is in close proximity to watercourses, some of which do not currently have a positive water quality status (WFD, 2019), appropriate mitigation delivered through policy should reduce the likelihood for contamination during operational phases. That said, construction related pollution is likely to lead to some short-term deterioration in water quality, especially in the Lower Don Valley. Flood events may also lead to pollution entering watercourses as several of the site allocations sit within flood zones 2 and 3. **minor negative effects** are predicted, and these are likely to occur throughout the plan period.

10.11.30 Considering the above, overall effects in Sheffield relating to natural resources and pollution are expected to be mixed **minor negative** and **major positive**.

Reasonable alternatives

Option	Total homes	Predicted effects
1. Urban capacity, brownfield only	31,822	Minor negative? Major positive
2. Addition of previously undeveloped land	34,203	Minor negative Major positive
3. The proposed Plan approach	34,473	Minor negative Major positive
4. Additional Green Belt release (Strategic focus)	38,012	Moderate negative? Major positive
5. Additional Green Belt release (Dispersed focus)	38,012	Moderate negative? Major positive
6. Additional Green Belt release (Mixed approach)	38,012	Minor negative Major positive
7. Meeting full housing need with 35% uplift (Strategic locations focus)	49,473	Moderate negative? Major positive?
8. Meeting full housing need with 35% uplift (Mixed approach)	49,473	Moderate negative Major positive?

10.11.31 For Option 1, the major positive effects associated with remediation of brownfield land would still arise. In fact, with fewer sites identified outside of the brownfield capacity, there could arguably be greater attention on maximising and accelerating regeneration activities. This would be positive in respect of contaminated land and environmental quality / amenity in the urban areas. In terms of air quality, the vast majority of new development would be in accessible locations, and this would help to offset increases in traffic through the urban areas and employment sites.

10.11.32 There may also be fewer sites that are located within close proximity to watercourses. In this respect, the effects with regards to air quality are predicted to be minor negatives.

10.11.33 For Option 2, the effects are very similar to those predicted for the proposed plan (Option 3). Though there would be lower amount of growth overall, this would only relate to one brownfield location in the Green Belt.

- 10.11.34 Development at these locations would be unlikely to significantly reduce effects upon air quality and water quality compared to the proposed approach.
- 10.11.35 Likewise, the beneficial effects associated with urban regeneration would also be generated under this option. Therefore, overall **minor negative effects** and **major positive effects** are predicted.
- 10.11.36 For Option 4, the additional growth in the Green Belt would most likely be directed to locations that have good accessibility (or can be made accessible) in the first instance. There are sufficient locations to accommodate such growth, and several could potentially be linked to expansions of mass transit routes. Nevertheless, the overall increase in growth in peripheral locations would likely result in a greater overall amount of car trips and the focus of growth on larger sites may exacerbate air quality issues at peak journey times and at pinch points around the sites, which could contribute to **moderate negative effects**.
- 10.11.37 Though Green Belt release could detract from regeneration efforts to an extent, the positive effects relating to remediation and regeneration are still likely to arise, and therefore **major positive effects** are predicted.
- 10.11.38 Option 5 would focus growth on Green Belt sites in a more distributed manner on smaller sites. Effects would be expected to be aligned with those set out under Option 4. The less concentrated nature of growth might reduce the potential for infrastructure and service delivery to mitigate potential air quality concerns relating to car use, however the more dispersed nature of the growth would be likely to reduce air quality concerns associated with traffic pinch points nearby to new growth. **Moderate negative effects** and **major positive effects** are predicted.
- 10.11.39 Option 6 would deliver Green Belt growth on a mix of strategic and smaller, more distributed sites. This would allow a more sustainable approach to site selection, maximising better connected sites and those which would be less likely to lead to or exacerbate existing air quality issues. Aside from this, effects would be expected to align with Options 4 and 5. **Minor negative effects** and **major positive effects** are predicted.
- 10.11.40 For Option 7, additional growth in the Green Belt would further contribute to car trips, with knock on / cumulative effects for air quality. However, a consequence of higher Green Belt release could be slower uptake of regeneration schemes in the urban areas, particularly if demand for that level of housing growth (which is well above household growth projections) does not materialise. This could help in one respect in terms of a lower rate of growth occurring in urban areas (and thus less pressures on air quality in the short term), whilst on the other hand it would contribute to longer trips. On balance, **moderate negative effects** are predicted, but there is uncertainty. In terms of remediation, it is likely that positive effects would arise, but this could be at a slower rate, or to a lesser extent if Green Belt opportunities are favoured over urban regeneration. This raises uncertainty about whether the **major positive effects** would arise.

- 10.11.41 Option 8 would be expected to result in effects broadly aligned with Option 7. Whilst the ability to allocate better connected sites would potentially alleviate pressures on air quality to a small degree, effects would still be expected to be **moderate negative** and some uncertain **major positive**.

10.12 Climate Change Mitigation and Resource Efficiency

SA14: Greenhouse gas emissions minimised and the impact of climate change effectively managed

SA16: Energy consumption minimised and use of sustainable energy sources maximised

SA17: Minimal production of waste and the re-use, recycling and recovery of waste maximised

SA2: Education and training opportunities

- 10.12.1 The 'Climate Change Mitigation and Resource Efficiency' SA theme incorporates four SA objectives which all contribute towards the reduction of greenhouse gas emissions and an efficient use of natural resources (and ensuring that residents of Sheffield can benefit from associated training and employment opportunities). This section presents an assessment of the whole Plan in relation to this theme, concluding on the significance of effects when considering all policies in combination. The assessment is presented as a narrative discussion, highlighting policies that contribute notably to the achievement of this SA theme. 'Overall effects' are concluded at the end of this section, setting out the likely significance and nature of effects.

Spatial Strategy and Site Allocations

- 10.12.2 The scale of growth proposed in the Submission Plan will have some adverse effects on climate change mitigation due to the increased emissions associated with vehicular traffic and construction activities would lead to an increased carbon footprint and require the utilisation of significant natural resources. However, the Local Plan needs to be viewed in the context that development could still come forward in the absence of a new Plan. Therefore, it is worth focusing on the distribution and types of development proposed, along with any supporting policies that seek to address climate change concerns.

- 10.12.3 The levels and distribution of growth are set out in the following policies:

- SP1 proposes substantial housing growth of 35,700 dwellings and 12.8 ha of employment land of. This is to be primarily delivered on previously developed land (85% of total) within existing urban areas comprising: Sheffield Main Urban Area and Principal Towns of Stocksbridge/ Deepcar and Chapeltown/ High Green.

- SA1 allocates over half of the total housing growth (18,640) within the Central sub-area. The remaining growth is distributed across 8 further sub-areas within the Main Urban Area of Sheffield and the principal towns.

10.12.4 In the main, the locations proposed for growth benefit from existing transport infrastructure, services and facilities, which helps partly mitigate some of the increases in emissions, particularly transport related ones.

10.12.5 The approach of using brownfield sites and avoidance of large-scale Green Belt release is positive with respect to emissions as developing Green Belt sites would lead to higher carbon emissions due to increased need to travel, higher embodied carbon and potentially higher per capita emissions. Conversely, the intensification of growth in the urban locations, particularly within the Central sub-area is likely to exacerbate traffic congestion and place increased burdens on existing roads and transport infrastructure. Some of the effects will be mitigated through measures such as a Clean Air Zone within the Inner Ring Road and the City Centre (Policy SA1). Urban intensification should also help to improve the viability of public transport services due to higher potential patronage.

10.12.6 With regards to emissions from the built environment, the proposed strategy is likely to lead to forms of development that have lower per capita emissions. This is likely due to higher density development, smaller homes and the use of existing infrastructure, all of which result in lower emissions in terms of embodied energy, but also operationally. Higher density development could also bring with it opportunities to support the expansion of decentralised energy schemes, particularly in central areas where a mix of uses and anchor heat loads exist.

10.12.7 In terms of employment growth, the intensification approach in the Don Valley on existing / expanded industrial areas is positive as the location already benefits from good access to transport and services which is expected to mitigate some of the emissions associated with growth. However, it should be recognised that construction of new commercial and industrial units will involve embodied carbon and increased economic activity will also increase emissions and energy use.

10.12.8 On balance, the spatial approach is predicted to have **minor positive effects** with regards to climate change. Despite the growth in housing and employment development, the patterns and types of growth should help to minimise transport related emissions, reduce embodied carbon as a result of new infrastructure and buildings, and lead to new homes that are well designed and less likely to use energy inefficiently. The concentration and density of growth into central areas should also help to support the expansion of district heating schemes, which can further reduce emissions.

10.12.9 The positive effects are tempered somewhat by an increase in economic activity, and the location of some developments in less accessible locations. However, on balance, it is considered that the positive effects outweigh the negatives.

General Development

- 10.12.10 The Plan contains several policies which seek to reduce energy use and mitigate the effects of growth on climate change. For example, Policy CO1 requires development to support the delivery of net zero transport carbon emissions by prioritising public transport, cycling and walking and support Clean Air Zones. Policy CO2 seeks to discourage reliance on cars by requiring car-free development in the Central sub-area or the provision of just one parking space per dwelling where there is a demonstrable need for it. The policy also seeks provision of cycle parking and charging infrastructure for electric vehicles.
- 10.12.11 Policy ES1 Plan sets new standards that will ensure that new development in the city receiving planning permission from 2030 onwards is net-zero carbon. It proposes a gradual stepping up of standards in 2025 in line with Government proposals for the tightening of Building Regulations (when the Government has indicated it intends to introduce the 'Future Homes Standard' and 'Future Buildings Standard'). Developments that result in new dwellings or new non-residential buildings will be expected to reduce their regulated carbon emissions by at least 75% from 1 January 2025 and be net zero carbon (in terms of both operational carbon and embodied carbon) from 1 January 2030.
- 10.12.12 Policies ES1 and ES4 seek sustainable building design advocating the use of sustainable building materials, the reuse of existing buildings where possible, the creation/ restoration of habitats that absorb carbon (e.g. wetlands, woodland) and expecting all developments to incorporate features such as passive solar design and water efficiency measures (e.g. grey water recycling and rainwater harvesting). The policies also promote waste minimisation and the maximising of recycling during construction and operation.
- 10.12.13 Policy T1 promotes sustainable transport through an integrated decarbonised network with connections to and from the city region. This includes the enhancement/ expansion of the Supertram network, improved and new rail connections, enhanced connectivity to the Innovation District and Rotherham via multimodal transport and enhanced bus services. The policy also supports the Midland Mainline Electrification programme and transferring freight from road to rail and concentrating road freight to a Strategic Heavy Goods Vehicle Route Network.
- 10.12.14 Policy IN1 seeks to ensure that necessary infrastructure is provided to support new development. This includes sustainable travel, education, health, and renewable/ low carbon energy infrastructure. This facilitates 20 minute /walkable neighbourhoods and is therefore positive in terms of helping reduce emissions and encouraging modal shift.
- 10.12.15 Policy ES2 encourages renewable energy generation expecting new development to use low-carbon energy source avoiding onsite fossil fuels combustion where feasible. The policy supports renewable energy generation schemes and permits wind energy schemes in certain locations.

10.12.16 Policy ES3 promotes decentralised renewable energy networks. shared energy schemes such as District Energy and Combined Heat and Power Networks.

Overall effects

10.12.17 The Plan supports development and construction which will temporarily cause an increase in the demand for energy and resources (and emissions of greenhouse gases).

10.12.18 However, development would still arise in the absence of the Plan, and the new developments that are created will be of a higher standard in terms of efficiency.

10.12.19 Positive effects with respect to climate change mitigation are likely to result from the approach of focusing new development within existing urban settlements benefitting from good sustainable transport infrastructure and good access to community infrastructure, education and employment opportunities along with Plan policies seeking enhanced sustainable transport and clean air zones.

10.12.20 The utilisation of brownfield land offers up opportunities for re-use/ recycling of existing buildings and/ or materials, though this is partly offset by remediation costs required on some brownfield sites.

10.12.21 The intensification in the Central sub-area is likely to facilitate more energy efficient development and facilitate neighbourhood/ district energy networks providing the economies of scale required to facilitate low carbon technologies (though these may only arise in the medium to long term). Positive effects are also anticipated from policies advocating recycling and energy and water efficient developments. Therefore, **moderate positive effects** are anticipated in relation to climate change mitigation. An element of uncertainty exists as to the extent of positive effects being moderate.

Reasonable alternatives

Option	Total homes	Predicted effects
1. Urban capacity, brownfield only	31,822	Major positive
2. Addition of previously undeveloped land	34,203	Moderate positive
3. The proposed Plan approach	34,473	Moderate positive?
4. Additional Green Belt release (Strategic focus)	38,012	Minor positive
5. Additional Green Belt release (Dispersed focus)	38,012	Minor positive
6. Additional Green Belt release (Mixed approach)	38,012	Minor positive
7. Meeting full housing need with 35% uplift (Strategic locations focus)	49,473	Neutral

8. Meeting full housing need with 35% uplift (Mixed approach)	49,473	Minor negative?

10.12.22 For Option 1, limiting the growth to urban brownfield capacity is likely to support more sustainable forms of development that make best use of existing land and infrastructure. This should reduce embodied carbon in new developments, minimise additional transport related emissions and promote dense developments that have lower per capita emissions and could be serviced by district heating networks. Therefore, **major positive effects** are predicted.

10.12.23 For Option 2, the level of growth is higher, and several locations would be of a greenfield nature, and less concentrated. This offsets some of the positive effects of growth, and therefore only **moderate positive effects** are predicted.

10.12.24 The effects for Option 3 are discussed above in the main body of the Plan appraisal text. This option involves additional growth compared to Option 2, but given that it is on brownfield land, additional emissions from construction are not considered likely to be significant. The nature of development in this more peripheral location could offset the positive effects slightly (compared to option 2), but **moderate positive effects** are still considered likely (given that the scale of growth at Norton is relatively small).

10.12.25 Options 4, 5 and 6 and to a greater extent Options 7 and 8 result in a greater amount of housing overall, and it is also likely this would require a consequential increase in infrastructure provision and economic activity.

10.12.26 The location of development in the Green Belt would have some bearing on the effects. In the more peripheral locations, there may be greater need for construction of new highways and utilities infrastructure.

10.12.27 This would lead to increased energy use and carbon emissions through construction, could lead to a greater requirement for car usage, and would more likely involve larger homes that typically generate more waste and use more energy. These factors would offset the benefits associated with urban concentration to an extent.

10.12.28 The options which prioritise strategic growth would be more likely to enable the delivery of renewable energy and energy efficiency schemes, as well as carbon sequestration measures such as tree planting. However, this also depends on land values, and it is not possible to rule out opportunities on smaller sites.

10.12.29 Overall, Option 4 is predicted to generate **minor positive effects**. The benefits of urban regeneration would still remain, and there would be good potential to secure carbon mitigation and sequestration at strategic growth locations. However, it is likely that there would be some increased car dependency and embodied carbon associated with new infrastructure (which offset the positive effects to an extent).

- 10.12.30 Option 5's focus on smaller, less strategic growth would reduce the ability for low carbon energy generation and carbon sequestration at a strategic level. The degree of car usage would also be expected to increase. However, the need for new infrastructure would likely be lower, as use would be made of existing infrastructure (with enhancements rather than extensions). Therefore, overall **minor positive effects** are predicted.
- 10.12.31 The mixed approach of Option 6 would likely result in less embodied energy from construction of new infrastructure compared to Option 4. However, it would also slightly reduce opportunities for sequestration and low carbon generation on a strategic level.
- 10.12.32 Emissions from transport are likely to increase, but perhaps to a lesser extent compared to Option 5 (which disperses Green Belt growth entirely). Overall, this constitutes **minor positive effects**.
- 10.12.33 Whilst for Option 7, **neutral effects** are predicted (balancing the potential benefits of strategic growth with an increase in car dependencies and more energy intensive development on Green Belt sites).
- 10.12.34 Option 8 would deliver the same mix as Option 6, but with a higher amount of growth and associated magnitude of effects; therefore potential **minor negative effects** are predicted.

10.13 Summary of appraisal findings

10.13.1 Table 10.1 below presents a visual summary of the findings for each of the SA topics. A discussion of the proposed plan approach and the reasonable alternatives is provided following table 10.1

Table 10.1: *Appraisal of the draft Plan and reasonable alternatives*

I/A Topic	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8
Economy	✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓?	✓✓✓?
Housing	✓	✓✓?	✓✓?	✓✓✓	✓✓✓	✓✓✓	✓✓✓?	✓✓✓?
Health and wellbeing	✓	✓✓	✓✓	✗ ✓✓✓?	✗ ✓	✗ ✓✓	✗✗? ✓✓✓?	✗✗? ✓✓✓?
Transport and accessibility	✓✓?	✓✓	✓✓	✗ ✓✓✓	✗ ✓	✗ ✓✓	✗✗? ✓✓✓	✗✗? ✓✓✓
Soil and Land	✓✓✓	✓✓	✓✓	✗	✗	-	✗✗	✗✗
Historic Environment	✗? ✓✓✓?	✗ ✓✓✓?	✗ ✓✓✓?	✗ ✓✓✓?	✗ ✓✓✓?	✗? ✓✓✓?	✗✗? ✓✓✓?	✗✗? ✓✓✓?
Landscape and townscape	✓✓?	✓	✓	-	✗	✓	✗✗	✗✗?
Biodiversity and Geodiversity	✓	✗ ✓✓	✗ ✓✓	✗ ✓✓✓	✗ ✓✓	✗ ✓✓✓?	✗✗? ✓✓✓	✗✗? ✓✓✓
Climate change resilience	✗✗?	✗✗?	✗✗?	✗✗?	✗✗?	✗✗?	✗✗?	✗✗?
Natural resources and pollution	✗? ✓✓✓	✗ ✓✓✓	✗ ✓✓✓	✗✗? ✓✓✓	✗✗? ✓✓✓	✗ ✓✓✓	✗✗? ✓✓✓?	✗✗ ✓✓✓?
Climate change mitigation	✓✓✓	✓✓	✓✓?	✓	✓	✓	-	✗?

- 10.13.2 The proposed Plan approach at Reg 19 stage to housing growth (Option 3) is predicted to have significant positive effects for a range of SA topics. In particular, major positive effects are predicted with regards to the economy, as there will be support for growth in the Innovation District, and the Council's view is that this will be facilitated by sufficient housing in sustainable locations. The strong focus on regeneration is also likely to bring about moderate positive effects with regards to health and wellbeing, housing and accessibility but housing options 4-8 (described below) offer greater potential benefits in terms of the overall supply and mix of housing. With additional growth in the Green Belt the effects on health and wellbeing are also likely to increase, unless a wholly dispersed approach to development is taken.
- 10.13.3 The spatial strategy and supporting policies are predicted to be positive overall with regards to landscape, soil and land. Whilst there would be some loss of green space in the wider urban area, a range of supporting policies should help to ensure that effects upon landscape character are minimised.
- 10.13.4 The focus on regeneration is also likely to lead to improvements to the townscape, particularly in the City Centre; whilst protecting sensitive land in the Green Belt.
- 10.13.5 The Plan approach is predicted to be positive in terms of climate change and transport, as development is proposed in areas that are accessible to services and employment by sustainable modes of transport. Development is also likely to be denser and could support low carbon energy schemes. Overall, this is likely to lead to lower per capita carbon emissions.
- 10.13.6 The main negative effects associated with the Plan are due to the location of large amounts of development in areas at risk of flooding. Though there are Plan policies that seek to minimise and mitigate flood risk, residual negative effects are predicted.
- 10.13.7 There are likely to be mixed effects with regards to natural resources, pollution and biodiversity. In some respects, minor negative effects will arise as some development is adjacent to local wildlife sites, and / or contain features that may have ecological value. The increase in development in areas of poor air quality could also contribute towards more people being exposed to poor air quality. Conversely, the plan offers the opportunities to achieve net gain in biodiversity, and remediation of contaminated land.
- 10.13.8 With regards to the historic environment, there could be some minor negative effects in terms of effects on the setting of heritage assets. However, the effects are considered more likely to be positive as development will bring buildings into productive use that may otherwise deteriorate. There is also likely to be benefits with regards to improvements to the public realm.
- 10.13.9 Option 1, which proposes the lowest amount of growth, is the most positive option in terms of land and soil, landscape and climate change objectives. This is due to development being limited to only brownfield sites. However, the positive socio-economic effects in terms of housing, economy and health are likely to be of a lower significance compared to the proposed Plan. Only minor positive effects are predicted for these topics, reflecting that the amount and range of housing.

- 10.13.10 The effects for Option 2 are very similar to the proposed Plan approach, as the only difference is the release of brownfield land in the Green Belt (some of which already has planning permission). The effects of additional growth are positive in terms of housing and wellbeing but are not considered likely to lead to a significant difference in the effects for other SA topics.
- 10.13.11 Option 4 would see an increase in the significance of positive effects relating to housing, health and wellbeing, transport and biodiversity. This relates to increased investment in and wider urban areas, the effects in these locations would still be likely to arise. However, with an increase in Green Belt release, negative effects upon soil and land and landscape arise. There is also likely to be development in locations that are less accessible compared to the urban areas, and this reduces the positive effects in relation to climate change, whilst potentially leading to some minor negative effects on health and transport topics.
- 10.13.12 Option 5 is more favourable to Option 4 with regards to housing delivery, as a wider range of sites in different locations would be supported in the Green Belt. A dispersed approach would be likely to be no more negative than a strategic based focus for all of the SA topics. However, the opportunities to secure enhancements to infrastructure on a strategic level would be reduced, and so the positive effects related to transport, health and wellbeing and biodiversity are predicted to be of a lesser significance.
- 10.13.13 Option 6 performs similarly to Option 4, but there is greater scope to avoid negative effects on environmental factors such as air quality. There would be slightly less potential to achieve strategic improvements in relation to biodiversity, transport and community infrastructure compared to Option 4. However, this approach is more favourable from a housing delivery perspective as it provides both strategic and smaller sites in a range of locations in the Green Belt.
- 10.13.14 Option 7 involves further growth still in the Green Belt, at a level that could result in a greater amount of negative effects. With regards to socio-economic factors, significant growth in the Green Belt could detract from regeneration efforts. It would also be more likely to lead to negative effects on landscape, the loss of agricultural land, and place developments in locations that are less accessible to sustainable modes of transport (though strategic growth would be better placed to support infrastructure enhancements in some locations).
- 10.13.15 Option 8 performs very similarly to Option 7, with the same significance predicted against all SA topics except for climate change mitigation and resource use. For this topic, there is expected to be a greater increase in emissions from travel associated with dispersal, and the potential to secure carbon mitigation measures on a strategic level are lower than Option 7. The infrastructure benefits arising from strategic growth are still likely to be significant, despite there being an element of dispersal (but some uncertainty is introduced compared to Option 8).

10.14 Rationale for the proposed Plan approach (as submitted in September 2023)

- 10.14.1 This section provides outline reasons for the Council's proposed strategy (at Submission stage), and why the reasonable alternative approaches were discounted⁸.
- 10.14.2 The spatial options were the subject of lengthy discussions by the Climate Change, Economy and Development Transitional Committee. The Council subsequently decided that, having considered the evidence, Option 3 should be taken forward as the preferred spatial approach in the Publication Draft Sheffield Plan (Regulation 19). The strategy proposes that nearly all new development should be focused within the existing urban areas and that the release of Green Belt land for development should be limited to sustainably located brownfield sites. It was concluded that exceptional circumstances do not exist to justify the removal of greenfield sites from the Green Belt.
- 10.14.3 Although paragraph 11 of the NPPF states that strategic policies should, as a minimum, provide for objectively assessed needs for housing and other uses, it is acceptable to plan for lower levels of growth where it would conflict with policies in the Framework that relate to land designated as Green Belt. The Sheffield Green Belt Review⁹ shows that virtually all the land currently in the Green Belt continues to perform strongly against at least one of the purposes of Green Belt (as set out in the NPPF).
- 10.14.4 The spatial strategy results in a large proportion of future growth being concentrated in the Central Sub-Area, including over half the new homes that are proposed. This is viewed by the City Council as an important response to both the Climate and Biodiversity Emergencies; it represents a conscious decision to concentrate growth in the most accessible part of the city where active travel and use of public transport can be maximised. Further outward expansion of the built-up areas increases the need to travel and results in high dependency on the private car.
- 10.14.5 Importantly, analysis¹⁰ commissioned by the Council concluded that the number of homes needed to support the jobs growth target in the Sheffield City Region Strategic Economic Plan (SEP) is significantly less than the figure calculated by the Government's standard methodology (including the 35% uplift). The net housing requirement (2,040 homes per year) proposed in the Draft Sheffield Plan reflects the capacity of sites within the existing urban areas. It falls within the range (1,994 to 2,323 additional homes per year) that the demographic analysis concluded was necessary to support the SEP jobs growth target. The Council's view, therefore, is that sufficient housing is being planned for to meet needs and therefore no harm would be caused to economic and social sustainability objectives by not meeting the Government's housing need figure. There would also be significant benefits in terms of the environmental objectives.

⁸ The Council will need to reconsider the updates to Integrated Appraisal (particularly in relation to the additional spatial options) before confirming what the proposed approach will be following the Examination hearings. The intention is to set out this rationale within an IA Report addendum which sits alongside proposed modifications consultation.

⁹ Sheffield Green Belt Review, Sheffield City Council, 2020 and Addendum 2023.

¹⁰ Housing, Economic Growth and Demographic Modelling Report, Icen Projects 2021.

10.14.6 The alignment of the jobs and housing requirement figures also reinforces the Council's view that exceptional circumstances do not currently exist to alter the Green Belt boundary.

10.14.7 The demographic analysis commissioned by the Council implies that there would have to be significant levels of migration to Sheffield if the Government's housing need figure were to be correct. Those levels of migration are much higher than rates achieved in the past. If not achieved, it runs the risk that previously developed land would remain undeveloped as developers take up easier to develop greenfield sites or the edge of the city (assuming sufficient land was allocated to meet the Government housing need figure).

10.14.8 The other local authorities in Sheffield City Region have previously stated that they are unable to meet any of Sheffield's housing needs and this position is yet to change. However, the Council will continue to have dialogue with neighbouring districts with a view to reaching agreement on how the 35% uplift in housing need could be dealt with at either a South Yorkshire or City Region level.

What about the alternatives?

10.14.9 The other alternatives were rejected by the Council prior to Submission of the Plan. For Option 1, the Council recognises that many members of the public would prefer to see future development restricted to brownfield sites both to protect the city's green heritage and to promote more sustainable patterns of development. But equally, there is considerable public support for providing more affordable housing and a wider mix of housing than will be achievable with development on brownfield land only. Furthermore, whilst there is still a large stock of brownfield land available, it's unlikely that the city's future development needs to 2039 can be met entirely on such sites. Additionally, the ability to have flexibility around employment opportunities would be compromised in this scenario and economic viability remains a problem on many brownfield sites; meaning that the release of greenfield (previously undeveloped) sites (which are generally more economically viable), could help to increase the supply of affordable homes.

10.14.10 Option 2 was rejected because, whilst it would potentially provide enough housing land to support the planned jobs growth. it would not make use of sustainably located brownfield sites in the Green Belt. The implications of bringing forward such opportunities are in broad terms more positive than negative, and therefore, Option 3 is preferred to Option 2.

10.14.11 Option 4 was rejected because the Council believe that the city's housing needs (as per the Council's evidence) can be met without the need to develop greenfield land in the Green Belt. It would lead to a degree of urban sprawl, leading to increased travel and more reliance on the private car.

10.14.12 Option 5 (now referred to as Option 7 in this report) was rejected as the Council consider that it is not appropriate to meet the full housing need, including the 35% uplift proposed by the Government.

10.14.13 The Government's figure does not align with the jobs growth target set by the Sheffield City Region Strategic Economic Plan and there are significant risks of setting a housing requirement figure in the Sheffield Plan that cannot be delivered due to a lack of demand; in particular it risks undermining efforts to regenerate brownfield sites and could mean that the Council fails the Government's Housing Delivery Test, triggering further unplanned development on greenfield (previously undeveloped) sites. In addition, Option 5 is likely to cause significant harm to the environment and undermine Sheffield's reputation as the Outdoor City. Under Option 5, the urban sprawl would be even more pronounced. A number of the sites that would need to be allocated are not well served by public transport or local services and facilities.

10.15 Additional spatial options / reconsidering the strategy

10.14.14 Following the 2024 examination hearings, the Inspectors have written to the Council with their initial views (February 2025). Their preliminary conclusions in relation to housing need is that the standard methodology baseline housing need figure of 2,236 dpa represents a justified and reasonable housing requirement which should be reflected in the Plan. This is higher than the target proposed within the draft Plan.

10.14.15 The Council accept that [to ensure the Plan is sound] it will need to Plan for the higher level of housing need as recommended by the Inspectors. Having exhausted growth opportunities in the urban area, it is considered necessary to explore suitable locations for growth in the Green Belt to meet the supply shortfall.

10.14.16 The Integrated Appraisal update has tested several strategic options that involve Green Belt release, including a focus on strategic growth, smaller sites in a dispersed pattern of growth, and a combination of the two approaches.

10.14.17 The Council will identify a suite of proposed additional site allocations (that will be the subject of consultation) to meet the shortfall when working towards a target of 2,236 dpa. These site options will be in the Green Belt on a mix of smaller sites and strategic locations, which broadly corresponds with Option 6 in the IIA.

11. Mitigation and enhancement

Background

- 11.1.1 Given the iterative nature of plan-making, consideration of mitigation and enhancement measures has featured throughout the IA process. This section sets out a summary of how the IA addressed mitigation and enhancement at key stages in the plan-making process.

Issues and options stage

- 11.1.2 Potential mitigation measures were identified for each of the 3 main strategic options to reduce any negative impacts they may have on the sustainability aims. However, it was acknowledged that the degree to which these are achievable would depend on:

- the specific location of development;
- the inclusion of appropriate design policies in the local plan;
- the economic viability of the development taking place (i.e. the ability to fund appropriate mitigation measures)
- national planning policy (which could either provide levels of control or enable the market to operate with a high level of freedom);
- the availability Community Infrastructure Levy (CIL) funding or other public funding to support infrastructure or other social or environmental benefits;
- technical advancements (e.g. introduction of electric vehicles)

Strategic locations

- 11.1.3 The appraisal of strategic locations considers what mitigation measures might be needed to avoid negative effects and to enhance positive effects. For example:

- The need to implement landscape buffers.
- The need for layouts to avoid sensitive ecological features such as trees, hedges and watercourses.
- The need to deliver lower density housing or lower overall scales of growth to reduce negative effects on landscape.
- The need to incorporate green and blue infrastructure enhancements into developments.
- Protecting and enhancing public rights of way.

- 11.1.4 Sensitivity testing was undertaken to identify whether the removal of certain site parcels from strategic locations would allow for the more sensitive areas of land to be excluded from developable areas (thereby reducing the potential for negative effects on factors such as biodiversity, landscape character and higher quality agricultural land).

Draft Plan

- 11.1.5 The number of recommendations made through the IIA process was relatively limited at this stage. This reflects the fact that the Plan and supporting policies have been refined throughout its development, taking into account mitigation and enhancement suggestions. The IIA also considers the likelihood that mitigation measures will be successful and whether any residual negative effects would remain. Examples of mitigation throughout the Plan are as follows:

- Area policies have been included in the Plan to reflect the need to identify requirements that are specific to particular locations (i.e. to respect local character, infrastructure requirements and opportunities).
- The Council has responded to recommendations made in technical studies to influence site selection and policy wording (e.g. the SFRA, transport modelling, viability study, HRA etc.).
- Sites with open space and recreational value have been protected.
- To address traffic and congestion issues that could arise through a focus on urban intensification, the Plan seeks to ensure that sustainable transport options are boosted but specific highway improvements are also proposed in the Infrastructure Delivery Plan where junction capacities are forecast to be exceeded as a result of the Plan.
- The requirement to undertake further site-specific assessments for certain site allocations to address air quality, accessibility, flood risk and heritage.

- 11.1.6 The further recommendations in relation to the Submission version of the Plan are as follows:

Climate change resilience

- Include explicit policy measures seeking a net decrease in the rates of surface water run-off on brownfield sites in the City Centre.
- Introduce a hierarchy of SUDs, which prioritises natural 'soft' solutions wherever possible.

Historic environment

- Retention of boundary walls could be explicitly required for several sites (with such detail added to Annex A).

- Encourage reuse of buildings rather than demolition on sites with outline permission (as well as non-permitted sites)

Measures in the EglA

- Several plan policies were amended to address concerns made in representations from the Access Liaison Group. For example, Annex B Parking Guidelines were amended to clarify the requirement for disabled accessible parking in car free housing developments. Policy DE4 was also amended to remove reference to 'shared surfaces', which raised concerns for disabled groups.
- Policy DE3: Public Realm and Landscape design amended to cover safety 'for all' to ensure inclusivity.
- Some representations on the Plan identified the need for additional space for Muslim burials. However, the Council consider that no change is needed as the Sheffield Plan does not allocate land for new cemeteries.

12. Conclusions and next steps

Conclusions

- 12.1.1 Following the Inspectors post hearing feedback, the Council has taken the decision to consult upon proposed focused changes to the Plan (i.e. additional site allocations). These changes relate to the housing strategy and employment strategy. To inform these proposed changes, further work has been undertaken through the IIA to explore additional options for housing and employment delivery. The findings are presented in this report update / addendum.
- 12.1.2 The Council accepts the Inspectors conclusions in relation to housing need, and as a result is proposing a suite of additional site allocations on land released from the Green Belt. This approach broadly corresponds with Option 6, and is likely to alter the overall appraisal findings when considering the effects of the Plan considered as a whole. Though the Council has identified a suite of proposed additional site allocations, these are subject to consultation and consideration by the Inspectors. It is also likely that Plan policies will be amended or new policies written to account for these changes. In this respect, the final effects of an amended Plan cannot be determined at this stage. However, it is worth summarising how Option 3 (Reg19 plan) compares to Option 6 (Post hearing Plan) to aid in consultation.
- The release of Green Belt for housing is significantly more positive with regards to economic and housing objectives.
 - There will be more negative effects with regards to soil and land.
 - There is unlikely to be a significant difference in effects with regards to historic environment, landscape, climate change resilience, natural resources and pollution.
 - Some minor negative effects could arise in relation to health and wellbeing and transport.
- 12.1.3 An IIA addendum will need to be prepared to understand the overall effects of the final Plan (taking into account Modifications to both the housing and employment strategies / allocations considered together).

Consultation

- 12.1.4 The Reg19 IIA Report was sent to Natural England, the Environment Agency and Historic England (the 'statutory bodies') for consultation, as well as being made available for wider engagement through the Sheffield City Council website.

- 12.1.5 The original IIA report was submitted alongside the Local Plan and is one of the core documents for the Examination in Public (reference CD17).
- 12.1.6 This updated IIA Report is being made available for a further round of consultation as part of the Examination process and will supersede document CD17 in the Examination Library.

Monitoring

- 12.1.7 Table 12.1 below summarises the effects of the Pre-Submission Plan for each of the SA topics.
- 12.1.8 There is a requirement to outline the measures envisaged to monitor the predicted effects of the Plan. In particular, there is a need to focus on the significant effects that are identified.
- 12.1.9 It is important to track predicted effects to ensure that positive effects are actually realised and to identify any unforeseen negative effects that may occur.
- 12.1.10 Table 12.1 below sets out monitoring measures under each SA topic which are intended to be used to monitor any significant effects and to track the baseline position more generally.
- 12.1.11 At this stage the monitoring measures have not been finalised, as there is a need to confirm the feasibility of collecting information for the proposed measures. There will also be a need to update the whole plan appraisal to take account of Modifications, which is likely to change the findings in relation to several SA topics.
- 12.1.12 Wherever possible, measures have been drawn from the Local Plan monitoring framework to reduce duplication.
- 12.1.13 The monitoring measures will be finalised once the Plan is adopted, and will be set out in an SA Statement in accordance with the SEA Regulations.

Table 12.1: *Summary of Plan effects (Reg19 stage) and proposed monitoring measures*

SA Topic	Monitoring measures
Economy	
Major positive effects are predicted as the Plan will support economic growth in key sectors, City Centre vibrancy and new homes to support identified jobs growth.	• Employment land supply by type and location • Amount of new office and industrial floorspace completed (sqm)
Housing	
Moderate positive effects are predicted, as the Council is planning to meet a housing target matched with job growth. A range of housing locations and types are supported. There is some <u>uncertainty</u> given that the Council's target does not seek to accommodate the 35% uplift that Government methodology involves.	• Number of new homes completed • Number of years' supply of deliverable housing sites • Numbers of different house types completed (apartments, houses, bungalows, by number of bedrooms)
Health and wellbeing	
Moderate positive effects are predicted, primarily in relation to regeneration outcomes, improvements to social infrastructure and tackling inequalities.	• Net change in the total area of open space • Number of affordable homes completed by tenure • Completions of wheelchair adaptable and wheelchair accessible homes. • Amount of developer contributions paid through the Community Infrastructure Levy and other developer contributions
Transport and accessibility	
Moderate positive effects are predicted as the vast majority of new development is located in very accessible locations that support walking, cycling and public transport usage.	• Transport modal split • Number of people within 30 minutes travel by public transport to the City Centre/Sheffield Business Park/Advanced Manufacturing Park – annual
Soil and land	
Moderate positive effects are predicted as the strategy mostly avoids sensitive soil resources and heavily promotes the reuse of buildings and land.	• Number of new homes completed on previously developed (brownfield) land

	• Hectares of Best and Most Versatile Agricultural land lost to development
Historic Environment	
Overall, minor positive effects are predicted. There will be a change to the townscape, particularly in the City Centre, and this will change the setting and condition of heritage assets. In most cases though, improvements are considered likely, and this offsets any negative effects that could arise in specific locations.	• Change in the number of designated heritage assets (Scheduled Ancient Monuments, Listed Buildings, Registered Parks and Gardens, Conservation Areas). • Change in the heritage at risk list.
Landscape and townscape	
Minor positive effects are predicted overall. The Plan is likely to lead to an improved City Centre environment and avoids sensitive landscape in the countryside. However, the loss of some greenspace in the wider urban area offset the positives to an extent.	• Percentage of applications refused on design grounds.
Biodiversity and Geodiversity	
Moderate positive effects are predicted as the Plan sets out a framework for delivering a net gain in biodiversity at a strategic level. However, some minor negative effects are anticipated given the location of some sites close to important habitats.	• Hectares of designated wildlife sites lost as a result of development • Percentage of new developments achieving at least 10% net gain • Net change in the number of street trees.
Climate change resilience	
Moderate negative effects are predicted as a large amount of development is proposed in areas that overlap with flood zones 2/3. Policy measures should help to mitigate effects though, which raises some uncertainty as to the significance of negative effects.	• Number of permissions granted contrary to the advice of the Environment Agency on flood risk grounds. • Number of de-culverting schemes implemented. • Number of new properties located within Flood Zones 2 and 3.

Natural resources and pollution	
Minor negative effects are predicted as there could be water pollution associated with development. A concentration of growth into the City Centre could also exacerbate air quality issues in the short term. Major positive effects are predicted alongside the negatives, as the strategy should help to remediate land pollution.	• Mean nitrogen dioxide emissions and mean particulate (PM10) concentrations – annual Contaminated land remediation schemes delivered through new development.
Climate change mitigation and resource efficiency	
Moderate positive effects are predicted as the Plan promotes a pattern of growth that is likely to lead to lower per capita emissions of greenhouse gases. Several plan policies compliment the strategy by seeking high quality, sustainable design.	• Amount of renewable and low carbon energy generated • Per capita emissions of carbon emissions

Appendix A: Citywide Options for Growth (Employment)

Sustainability Aims	Economy	Education and Training	Housing	Health Services	Open Space, Culture & Leisure	Locations affecting Travel	Transport Network	Use of Land	Built Environment	Historic Environment	Landscapes	Ecology & Geology	Water	Climate Change	Pollution	Energy	Waste	Key - Likely impacts in relation to Sustainability Aim, using appraisal criteria to guide this assessment 0 Neutral impact or equal negative & positive impact Y Minor Positive YY Significant Positive N Minor Negative NN Significant Positive - No link with Aim ? Uncertain ?S if site assessment would provide more certainty ?P if policy assessment would provide more certainty ?C if cumulative impact of sites would provide more certainty
Discussion of significant effects (including need/ability to mitigate)																		
EMPLOYMENT OPTIONS																		
CURRENT CORE STRATEGY APPROACH. Pre-submission employment allocations	Y	-	-	-	-	O	?	Y	?	?	Y	O	?	?	O	?	?	It provides enough land for employment (in the short and medium term, but not for latter part of Local Plan period), to meet Sheffield's residents. It also does not sufficiently promote knowledge-based industries, due to a lack of a strategic approach towards the Advanced Manufacturing Park. It assumes that dominance of existing uses will be ensured, as per the Table H1 in the Pre-Submission City Policies and Sites Document. Locational policies encourage accessibility by public transport, therefore offering alternatives to car travel, however there are still likely to be air pollution increases in arterial routes from any additional development. Site assessment required as to whether climate change would be worsened or mitigated. Many other aspects are site specific. Most of the employment sites are on non-urban land and brownfield land (and therefore indirectly positively supporting high quality natural landscapes and efficient use of land), so there are likely to be no significant adverse impacts on ecology.
MAIN EMPLOYMENT LOCATION ALTERNATIVES																		
Core Strategy approach - Core Strategy Main Locations for Offices, Manufacturing, Distribution and Warehousing	Y	-	-	-	-	O	?	Y	?	?	Y	O	?	?	O	?	?	Locationally Chapelton/Ecclesfield, Stocksbridge/Deepcar, Sheaf Valley, Blackburn Valley, Holbrook and Orgreave don't meet the strategic employment needs for the city and would leave sites open to pressure for change away from employment use to uses, such as housing, which they wouldn't be sustainable or suitable locations for. There would be less choice in terms of employment supply, but there would still be a positive impact.
(A) City Centre, Upper Don Valley, Lower Don Valley and Outer South East as main locations for new offices and manufacturing, distribution and warehousing; Chapelton/Ecclesfield, Stocksbridge/Deepcar, Sheaf Valley, Blackburn Valley, Holbrook and Orgreave - for B-class uses providing employment opportunities close to new homes	Y	-	-	-	-	Y	?	Y	?	?	Y	O	?	?	O	?	?	City Centre, Lower Don Valley, Upper Don Valley and South East are the only areas needed for strategic employment; the others will still serve a local employment function, and reduce the need to travel. No new sites and little change in type of polluting uses.
ADVANCED MANUFACTURING ALTERNATIVES																		
(B) Manufacturing development focused around the Advanced Manufacturing Park and Sheffield Business Park	Y	-	-	-	?	O	O	?	?	?	?	O	?	?	O	?	?	This would support the development and expansion of clusters and networks of knowledge businesses and industries and take advantage of the economically attractive location. There are a number of uncertainties, without knowing site locations. The area is not particularly accessible by public transport and therefore without investment in infrastructure and public transport services, there could be an increase in journeys by private car resulting in air quality and congestion issues. The large-scale development proposed here is likely to increase demand to a level that investment in the necessary infrastructure is justified.

Sustainability Aims	Economy	Education and Training	Housing	Health Services	Open Space, Culture & Leisure	Locations affecting Travel	Transport Network	Use of Land	Built Environment	Historic Environment	Landscapes	Ecology & Geology	Water	Climate Change	Pollution	Energy	Waste	Key - Likely impacts in relation to Sustainability Aim, using appraisal criteria to guide this assessment 0 Neutral impact or equal negative & positive impact Y Minor Positive YY Significant Positive N Minor Negative NN Significant Positive - No link with Aim ? Uncertain ?S if site assessment would provide more certainty ?P if policy assessment would provide more certainty ?C if cumulative impact of sites would provide more certainty
Discussion of significant effects (including need/ability to mitigate)																		
EMPLOYMENT OPTIONS																		
PRIORITY OFFICE LOCATION ALTERNATIVES																		
Core Strategy approach - Majority of offices in City Centre	Y	-	-	-	-	Y	Y	Y	?	?	Y	O	?	?	O	?	?	This Employment Land Review would support a continuation of this approach, however the supply of office sites in the City Centre is limited. The city centre is the most accessible location in the city, and therefore this would allow opportunities to travel by public transport, take advantage of and benefit an efficient transport network. Some health services are also provided in city centre which workers can access, although additional services may be required.
(C) Higher densities of office development on sites within the Priority Office Areas in City Centre	Y	-	-	-	-	Y	Y	Y	?	?	Y	O	?	?	O	?	?	This would have a greater positive impact than the Core Strategy approach, because it would allow more high quality office space to be provided in a very accessible location. Less would need to be provided elsewhere in less accessible locations.
(D) Target for office development in Advanced Manufacturing Park/Sheffield Business Park	Y	-	-	-	-	N/O	N/O	?	?	?	?	?	?	?	O	?	?	The Advanced Manufacturing Park/Sheffield Business Park is the most attractive location for office development from an employers' viewpoint and this would support the knowledge based industries already there. There are a number of uncertainties, without knowing site locations. The area is not particularly accessible by public transport and therefore without investment in infrastructure and public transport services, there could be an increase in journeys by private car resulting in air quality and congestion issues. The large-scale development proposed here is likely to increase demand to a level that investment in the necessary infrastructure is justified.
(E) Limited amount of office development in other outlying areas of wellconnected locations e.g. Hillsborough, Crystal Peaks, Chapeltown, Stocksbridge	Y	-	-	-	-	Y	Y	Y	?	?	Y	O	?	?	O	?	?	Having limited office development in other wellconnected locations would reduce the need to travel and support sustainable housing growth in these locations. These would be existing identified employment sites.
RETAIL AND LEISURE ALTERNATIVES																		
Core Strategy Approach - Support City Centre, District Centres and Local Centres. If no in- or edge-of-centre sites are available, retail and leisure can go anywhere.	Y	-	-	-	-	N	N	Y	?	?	Y	O	?	?	O	?	?	If no in- or edge of centre locations are available, retail and leisure uses can go anywhere, which may not be in locations which would reduce the need to travel or allow fullest possible use to be made of public transport, walking or cycling. It would also not support an efficient transport network. This impact would only be ascertained at the time of a planning application
(F) Meadowhall Shopping Centre and retail parks identified as commercial centres where retail and leisure development is preferred if no in- or edge of centre sites are available	N	-	-	-	-	Y	O	Y	?	?	Y	O	?	?	O	?	?	Preferring Meadowhall and retail parks as a location for retail and leisure development above other less accessible out of centre locations, may diminish the confidence of potential investors in existing centres. If no in- or edge of centre sites are available, out of centre locations such as Meadowhall and retail parks are accessible locations which could allow trips to be linked, thus reducing the need to travel.

Appendix B: Citywide Options for Growth (Housing) (2015)

Sustainability Aims	Economy	Education and Training	Housing	Health Services	Open Space, Culture & Leisure	Locations affecting Travel	Transport Network	Use of Land	Built Environment	Historic Environment	Landscapes	Ecology & Geology	Water	Climate Change	Pollution	Energy	Waste	<u>Key - Likely impacts in relation to Sustainability Aim using appraisal criteria to guide this assessment</u> 0 Neutral impact or equal negative & positive impact Y Minor Positive YY Significant Positive N Minor Negative NN Significant Positive - No link with Aim ? Uncertain ?S if site assessment would provide more certainty ?P if policy assessment would provide more certainty ?C if cumulative impact of sites would provide more certainty Discussion of significant effects (including need/ability to mitigate)
A Urban Capacity Approach	O	O	Y	O	? S C	? C	Y	P	P	Y	Y	O	P	? S	? P	? P	? C	- This option does not impact on the ability of the Sheffield Plan to provide enough land for employment, as long as sufficient housing is provided in the Sheffield Travel to work area. This option assumes that dominance of existing uses will be ensured, as per the Table H1 in the Pre-Submission City Policies and Sites Document. It safeguards current Industrial/Business and Industry/General Employment Areas for employment, assuming they are not suitable for housing. This option does not adequately reflect the Employment Land Review, that some employment sites need not be safeguarded for employment uses, and may be available for housing development. - This option does not impact on the ability of the Sheffield Plan to provide enough land for employment- It provides some land for housing but insufficient to meet needs. This option could rectify a previous underestimate of large windfalls and would reduce housing pressure elsewhere. It has the same sustainability implications as the status quo situation, although a little more housing would be provided. - The dwelling potential includes a few open spaces not in active use that could be achievable and available. As these open spaces have not been tested to see if they are surplus, development of some of these open spaces could lead to a negative impact, but the very low number would mean it would be very minor. It would not affect physical activity and health as they are not available to be used. - Much of the housing that would be delivered through this option would be on smaller sites and it would be difficult to accurately forecast growth and anticipate any limited need for school & health facility or utility expansion. Concerns about health impact have already been raised at Pre-Submission stage for some areas of the city. - Housing would be 'slotted in' and therefore may not necessarily be in the locations which would reduce the need to travel and make best use of more sustainable modes of travel. It would depend on each individual site. Therefore there are likely to be air pollution increases on arterial routes from any additional development. Unlikely to be sufficient growth in any particular location to make transport network more efficient, but again this would depend on each individual site. -Accessibility, reduction in need to travel and ability to make more efficient use of the transport network will vary between sites - This option makes use of existing infrastructure within urban area and makes most efficient use of land with 95% of sites identified in the SHLAA being on brownfield sites. Very few sites are non-urban sites to have the question about landscape value. - Site assessment required as to whether climate change would be worsened or mitigated. Many other aspects are site specific. - Additional capacity through sub-options (b) and (c) would not affect any additional non-urban land than identified in the Pre-Submission allocation (so no additional impact on agricultural land, landscapes, ecology or geology)
B Urban Intensification	Y	O	Y	O	? S C	? S	Y	Y	P	P	Y	Y	P	N	? P	? P	? C	- Higher densities everywhere, differentiated by accessibility to centres and public transport and developing on surplus open space makes efficient use of land as more intensification of brownfield land is proposed and no additional development proposed in non-urban areas, protecting landscapes. - It improves the viability of local businesses and facilities, and the vitality of local centres. - Education impact will vary depending on sub-option and the density of housing, although family housing is still possible at higher than current densities, with good design. - More people will lead to additional pressure on health facilities. Increased housing market pressure through intensification makes it more difficult to provide land for additional education and health provision. -More smaller housing reflects better housing fit to smaller households, partly in relation to older population. But it might also cause an over supply of smaller homes, therefore not meeting the needs of larger families. Sheffield Housing Needs Assessment does not go down to this level of detail to appraise fully. - Surplus open spaces need looking at in terms of ecology and geology and impact on Green Network. -Loss of open spaces and reduced amenity green space would have negative impact on climate change, air quality, health and surface water run-off. Intensification will worsen Urban Heat Island effect and majority of sites are small, which means that there would be only limited opportunities to provide water and flood management and sustainable design on-site. - Transport and travel impacts will vary depending on the sub-option and site location

Sustainability Aims	Economy	Education and Training	Housing	Health Services	Open Space, Culture & Leisure	Locations affecting Travel	Transport Network	Use of land	Built Environment	Historic Environment	Landscapes	Ecology & Geology	Water	Climate Change	Pollution	Energy	Waste	Key - Likely impacts in relation to Sustainability Aim using appraisal criteria to guide this assessment
																		0 Neutral impact or equal negative & positive impact Y Minor Positive YY Significant Positive N Minor Negative NN Significant Positive - No link with Aim ? Uncertain ?S if site assessment would provide more certainty ?P if policy assessment would provide more certainty ?C if cumulative impact of sites would provide more certainty
																		Discussion of significant effects (including need/ability to mitigate) Same impacts as general Urban Intensification Option except: - Family housing is still possible at slightly higher densities than existing, meaning there would be an education impact. - Reducing off-street parking provision close to District and Neighbourhood Centres may encourage alternative means of travelling, and would limit increases in air pollution but it could result in on-street parking pressure, possibly affecting road safety. - Higher density living in locations accessible to public transport would mean short distances to work and services, and improve viability of public transport and mean that walking and cycling become more viable alternatives to the car for shorter journeys. This could lead to higher level of public transport provision, although the population increase may not be significant enough for this investment. Either impact depends on public transport operators and/or design of residential developments. - Reducing amenity space would reduce amount of permeable surfaces which limit surface run-off and increase flooding.
(a) Increase density of sites (excluding City Centre, Kelham and areas undergoing urban remodelling)	Y	O	Y	O	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Same impacts as Option A except for following: - Apartment development in City Centre is more attractive to young professionals, students and older people, while there will be some family housing in Kelham which is being anticipated in education plans for the next few years. - Very few local shops, facilities and open space in Kelham Island for current small residential population, but City Centre is closeby. - City Centre and Kelham Island sites have no ecological value to protect. - As the city centre is the most accessible place to elsewhere in the city by public transport, and many short journeys could be made by walking and cycling, there would be a negligible increase in air quality from development, although air and noise pollution from Inner Ring Road would need mitigating. - Flood and water management measures and design needed to mitigate flood risk. - City Centre sites have potential to link into District Heating Network. Same impacts as general urban intensification option B except in relation to the following: - Loss of employment sites would not affect Economic Aim, and would fit in with Employment Land Review. - Increasing capacity in City Centre and Kelham would improve vibrancy of City Centre and Kelham but more local facilities, shops and services, open space would be needed for Kelham, including maybe health facilities. - If education need materialises, this would be on a greater scale, but uncertainty yet if it can be accommodated. - Dwelling capacity assumptions respect heritage aspects, character and ecology.
(b) Increase capacity of the City Centre and Kelham	O	O	Y	O	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Same impacts as Option A except for following: - Apartment development in City Centre is more attractive to young professionals, students and older people, while there will be some family housing in Kelham which is being anticipated in education plans for the next few years. - Very few local shops, facilities and open space in Kelham Island for current small residential population, but City Centre is closeby. - City Centre and Kelham Island sites have no ecological value to protect. - As the city centre is the most accessible place to elsewhere in the city by public transport, and many short journeys could be made by walking and cycling, there would be a negligible increase in air quality from development, although air and noise pollution from Inner Ring Road would need mitigating. - Flood and water management measures and design needed to mitigate flood risk. - City Centre sites have potential to link into District Heating Network. Same impacts as general urban intensification option B except in relation to the following: - Loss of employment sites would not affect Economic Aim, and would fit in with Employment Land Review. - Increasing capacity in City Centre and Kelham would improve vibrancy of City Centre and Kelham but more local facilities, shops and services, open space would be needed for Kelham, including maybe health facilities. - If education need materialises, this would be on a greater scale, but uncertainty yet if it can be accommodated. - Dwelling capacity assumptions respect heritage aspects, character and ecology.
(c) Develop 1% of urban open space	O	O	Y	O	O	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	This sub-option is different from Option A based on the SHLAA which assumes a dwelling potential for achievable and available open spaces in non active use. in the following ways - Open spaces would only be released if they were not surplus to open space use and not needed to meet other aspects of the Open Space, Culture and Leisure Aim or the Ecology and Geology Aim. While sensitive areas (e.g. Ecology and Geology) are also discounted from Option A. - Any development of open space would reduce potential surplus open space to provide additional facilities (education, health etc) needed in as a result of increased population growth from other Urban Intensification options - Greater loss of open space and vegetation than the SHLAA approach would exacerbate negative impacts on climate change, air quality, and surface water runoff and ecology.

Sustainability Aims	Economy	Education and Training	Housing	Health Services	Open Space, Culture & Leisure	Locations affecting Travel	Transport Network	Use of land	Built Environment	Historic Environment	Landscapes	Ecology & Geology	Water	Climate Change	Pollution	Energy	Waste	
																		<u>Key - Likely impacts in relation to Sustainability Aim, using appraisal criteria to guide this assessment</u> 0 Neutral impact or equal negative & positive impact Y Minor Positive YY Significant Positive N Minor Negative NN Significant Positive - No link with Aim ? Uncertain ?S if site assessment would provide more certainty ?P if policy assessment would provide more certainty ?C if cumulative impact of sites would provide more certainty Discussion of significant effects (including need/ability to mitigate)
C Urban Remodelling	?	O	Y	O	N	Y	Y	Y	Y	?	Y	Y	?	Y	N	?	?	The impact on employment land can only be ascertained through site assessments, in relation to the Employment Land Review - some sites are no longer needed for employment. - This option would only contribute to housing delivery in latter part of the plan period, though some vacant sites could be developed earlier. However it would focus most new housing development in 1 or 2 areas thereby providing insufficient range of housing sites throughout the city, resulting in consequent issues of deliverability and meeting market needs in some areas. - Areas have no or little local facilities, shops, open space currently but scale of areas so remodelling can and should accommodate these uses and water and flood management and sustainable design within these flood risk areas. The scale of remodelling makes this possible through density increases, reduction in dwelling numbers or larger remodelling areas, - Re-use of brownfield sites. - Removal of industrial uses would remove contamination. - Removal of noise polluting uses and remodelling of large areas provides opportunities to change the environment to make it suitable for residential development. - Locations with existing public transport, but development at a scale which is likely to enable improvements to existing services and infrastructure
(a) Neepsend/ Shalesmoor	?	O	Y	O	N	Y	Y	Y	Y	?	Y	Y	?	Y	N	?	?	Same impacts as full urban remodelling option except: - Area would accommodate both apartments and family housing - scale of remodelling proposed has potential land to accommodate needed infrastructure and services, including education, shops, etc. - Change from employment uses to residential use would remove industrial noise polluting uses. Car trips from residential development would be fairly similar to existing commuting to employment, therefore the air pollution level would be little changed. - Car trips hopefully minimised by close location to tram and city centre, so accessible to public transport and employment areas. - Urban Capacity assessments respect listed buildings. - No ecological or geological impact
(b) Attercliffe	?	O	Y	O	N	Y	Y	Y	Y	?	Y	Y	?	Y	N	?	?	Same impacts as full urban remodelling option except: - A substantial population increase here would help support the viability of Attercliffe centre. Existing air pollution problems are from cars using this arterial route through Attercliffe, which would be exacerbated by additional residential development, which would require mitigation. However area may be sought after due to multiple frequent public transport opportunities to city centre, employment areas and Rotherham, thereby encouraging non-car use & improving on viability of public transport. It would improve the viability of the existing Attercliffe local centre. - Additional education provision may be needed. - Sites in some parts of this area have potential to link into District Heating Network.
D A limited number of Larger Urban Extensions	O	O	Y	O	?	N	N	N	?	?	N	N	?	O	N	?	?	- Local employment sites would need to be provided which would provide choice to local people. However some people would still need to travel to other employment areas, which may be distant. This could increase air and noise pollution for people living in other areas close to arterial routes. - Large scale new development allows forecasting of need for and the provision of a whole range of health, education, local employment and transport infrastructure, open spaces, shops and services, flood and water management measures and sustainable design. It may make a location more sustainable by bringing in additional facilities. These sustainability benefits may outweigh other potential negative impacts but will need investigating in further detail on an area basis, particularly as this may result in additional land take, or higher densities. If a large enough sustainable development can be created to provide some local employment, this may reduce the need to travel and/or result in shorter journeys to employment or other services elsewhere. - This option would lead to loss of greenfield non-urban land, which would also affect surface water run-off. There may be some landscape impact where sites contribute towards making a more sustainable extension overall - as the urban extensions are proposed to be a large scale, more land with landscape or ecological value has the potential to be impacted than for Option E.

Sustainability Aims	Economy	Education and Training	Housing	Health Services	Locations affecting Travel	Transport Network	Use of land	Built Environment	Historic Environment	Landscapes	Ecology & Geology	Water	Climate Change	Pollution	Energy	Waste	Key - Likely impacts in relation to Sustainability Aim, using appraisal criteria to guide this assessment 0 Neutral impact or equal negative & positive impact Y Minor Positive YY Significant Positive N Minor Negative NN Significant Positive - No link with Aim ? Uncertain ?S if site assessment would provide more certainty ?P if policy assessment would provide more certainty ?C if cumulative impact of sites would provide more certainty Discussion of significant effects (including need/ability to mitigate)
(a) Stocksbridge and Upper Don Valley	O	O	Y	O	? S C	N	N	N	? P	? P	? S	? P	N	N	? P	? C	The following impacts are in addition to the impacts of the general Option D: -Parts of this area suffer from lack of public transport accessibility and poor highways network, leading to traffic congestion, and air pollution on roads from this area and arterial routes to employment sites and the M1 via Stocksbridge Bypass. - Therefore investigation is needed about what facilities, public transport and services are needed to meet proposed growth here, and whether proposed growth is of sufficient scale to make such investment viable, to create a sustainable growth area. Without such investment, there would be a negative impact. - Developing on steep slopes will considerably worsen existing surface water run-off problems. Further investigation about whether this is significant or if mitigation can be put in place through improvement to sustainable drainage infrastructure off-site.
(b) East Sheffield (as an extension to Waverley in Rotherham Borough)	O	O	Y	O	? S C	N	N	N	? P	? P	? S	? P	O	N	? P	? C	The following impacts are in addition to the impacts of the general Option D: -Would exacerbate traffic congestion and air pollution problems along arterial route through Handsworth, although there is spare capacity on the bus through Handsworth going to the Advanced Manufacturing Park and development may make new public transport infrastructure viable in future years. -Additional open space anticipated in dwelling estimate for this sub-option but additional needed health and educational facilities would also be required. Large scale extensions allow possibilities to accommodate within development.
(c) South East Sheffield	O	O	Y	O	? S C	N	N	N	? P	? P	? S	? P	O	N	? P	? C	The following impacts are in addition to the impacts of the general Option D: -This proposes development of agricultural land, which is cross-cut by public footpaths. -This option therefore assumes some retention of land for recreational purposes. - This area is not close to the tram.
(d) East of Norton (Sheffield District only)	O	O	Y	O	? S C	O	Y	O	? P	? P	? S	? P	O	N	? P	? C	The following impacts are in addition to the impacts of the general Option D: -Re-use of contaminated brownfield land but also non-brownfield land, potentially with ecological value. - Location takes advantage of tram closeby.
E Multiple Smaller Green Belt Releases	O	O	Y	O	? S C	N	N	N	? P	? P	? S	? P	? S	N	? P	? C	- This option alongside Option A would spread development more evenly around the city, providing wider choice in a range of areas. But it may result in numerous small housing estates which are disconnected from the rest of the urban area. - Distances from employment areas and no scope for additional local employment provision due to limited number of sites and site size would lead to more commuting/air pollution along arterial routes, which may affect already deprived areas. - Increases in local air pollution would be insignificant relative to effect on arterial roads. - Not known yet whether locations are accessible to public transport, good public open space and existing community facilities however sites may be not be large enough to create the critical mass needed for new infrastructure, including for education and public transport. - Less efficient use of land due to lower density development than in the urban area. Development would in turn affect the character of the areas, but they would be large enough for opportunities for water and flood management and sustainable design. - Any Green Belt releases would lead to a permanent loss of non-urban land, including agricultural land, and may lead to more surface water run-off. There could be a minor adverse impact on landscape, ecology or archaeology, although sites which would have had a significant negative impact would only be considered if there were many overriding sustainability benefits. The impact would be spread out the city.

Appendix C: Options Appraisal: Issues and Options (Employment) (2020)

The following alternatives for the scale of employment land provision have been appraised:

- A. 10 hectares of land per year for B1, B2 and B8 uses in order to meet the higher growth options of the Economic Plan;
- B. 8 hectares per year, which reflects the lower requirement forecast set out in the Employment Land Review analysis;
- C. Continue with the Core Strategy approach of requiring 29 hectares per year of land for B1, B2, B8 and other sui generis general industrial uses;
- D. Need based solely on past take-up rates of around 12 hectares per year.

Likely Impact of Alternatives:

	LIKELY impact in relation to Sustainability Aim
YY	Strong support for Aim (i.e. significant positive impact is likely)
Y	Some support for Aim (i.e. minor positive impacts likely to outweigh negative impacts)
-	Option likely to have no or neutral impact insofar as the benefits and drawbacks appear equal and neither is considered significant. This may include partial assessments at interim stages where there is still a degree of uncertainty and further work is needed before the final SA Report
N	Some minor conflict with Aim (i.e. minor negative impact(s) likely not to be outweighed by positive impacts)
NN	Significant conflict with Aim (i.e. significant negative impact is likely)
?	Insufficient information on which to base an assessment at this stage.
N/A	No link with this Sustainability Aim.

Sustainability Aim	a	b	c	d	Commentary / Explanation of Impact
1A vibrant and competitive economy with good job opportunities available to the whole community	YY	Y	Y	Y	All four alternatives would have a significant positive impact in the short-medium term, but Alternative (a). has more positive impact as it will deliver the maximum possible economic benefits represented by the higher job targets set out in the SCR Strategic Economic Plan (SEP). By ensuring that sufficient employment land is safeguarded and made available to meet future demand for office and industrial development will encourage growth within these sectors to meet the jobs and economic growth ambitions set out in the SEP. Alternatives (c) and (d) would represent an over-supply that would stifle options for alternative uses and have less of a positive economic impact.
2. Education and training opportunities provided which build the skills and capacity for the whole population and which encourage lifelong learning.	Y	Y	Y	Y	All alternatives will have positive impact in the long term. Economic growth has potential to indirectly deliver investment in local training programmes.
3. Decent and appropriate housing available to everyone.	Y	Y	NN	NN	Both of the lower alternatives will have positive impact in the medium term. Policy has potential to enhance delivery of housing sites in areas within commuting distance of new employment sites by improving site viability. However, the higher two alternatives would require more land to be allocated for employment, much of which would be at the expense of housing.
4. Health services provided for the health needs of the whole population and which tackle health inequalities.	Y	Y	Y	Y	All alternatives will have positive impact in the long term. Economic growth has potential to indirectly deliver financial resources to enable investment in health care infrastructure and services.
5. Open space and cultural, leisure and recreational facilities available for all.	Y	Y	Y	Y	All alternatives will have some positive impact in the medium term. Promotion of economic development will include delivery of new cultural, leisure and recreational opportunities.
6. Significant development focused in locations that reduce the need to travel and the fullest possible use made of public transport, walking and cycling.	N/A	N/A	N/A	N/A	No link with sustainability aim – the impact will depend on the location of development.
7. An efficient transport network which maximises access and minimises detrimental impacts.	Y	Y	Y	Y	All alternatives will have positive impact in the long term. Economic growth has potential to indirectly deliver financial resources to enable investment in transport and other infrastructure, for example through CIL and other developer contributions.
8. Use of land which supports regeneration of the urban area and protection of valuable soil and mineral resources.	N/A	N/A	N/A	N/A	No link with sustainability aim - the impact will depend on the location of development.
9. An attractive, high quality built environment that works well and lasts.	N/A	N/A	N/A	N/A	No link with sustainability aim.
10. The historic environment protected and enhanced	N/A	N/A	N/A	N/A	No link with sustainability aim.

11. High quality natural landscapes protected and poor landscapes enhanced.	N/A	N/A	N/A	N/A	No link with sustainability aim.
12. Ecological and geological assets created, conserved, managed and enhanced.	N/A	N/A	N/A	N/A	No link with sustainability aim.
13. Water resources protected and enhanced.	N/A	N/A	N/A	N/A	No link with sustainability aim.
14. Greenhouse gas emissions minimised and the impact of climate change effectively managed.	N/A	N/A	N/A	N/A	No link with sustainability aim.
15. Air quality improved and impacts of environmental pollution minimised or mitigated.	N	N	N	N	All alternatives will have some negative impact in the short-medium term. Development of employment sites has potential to increase pollution levels and reduce air quality, as a result of the processes being undertaken on site and increases in vehicle movements. Other development management policies are in place which will mitigate these impacts on a site-by-site basis.
16. Energy consumption minimised and use of sustainable energy sources maximised.	Y	Y	Y	Y	All alternatives will have positive impact in the long term. Economic growth has potential to deliver financial resources to enable investment in District Heating Network and other sustainable energy infrastructure.
17. Minimal production of waste and the reuse, recycling and recovery of waste maximised.	-	-	-	-	All alternatives will have a neutral impact in the medium term. Levels of industrial waste produced within the City may increase as a result of this policy. However, the associated economic growth will also improve the viability of and provide greater opportunity for investment in waste management facilities within the City.

Summary

All alternatives deliver a generally positive outcome. Alternative (a) (10 hectares per year) is marginally more economically sustainable than alternative (b) (8 hectares per year), specifically in terms of Sustainability Aim 1 for a vibrant economy and job opportunities. Both options have minor benefits relating to education and training, housing, health services, open space & cultural, leisure and recreational facilities and energy (Aims 2 to 5, 7 and 16), but the difference of impact between the two options is marginal. However, both are more beneficial than alternatives (c) and (d), which have negative impacts relating to the alternative provision of sufficient housing land (Aim 3).

Appendix D: Options Appraisal: Issues and Options (Housing) (2020)

The options for the scale of housing growth that have been appraised are:

- a) Lower than the Government local housing need assessment (LHN) – continuing with the current Core Strategy target (1,425 homes per year.)
- b) LHN based on new Government methodology (2,095 homes per year)
- c) Higher than the Government LHN (2,660 per year - reflecting the highest number of new homes needed to meet the Sheffield City Region Strategic Economic Plan aspirational jobs growth target but with no improvement in economic activity rates).

Likely Impact of Alternatives:

	LIKELY impact in relation to Sustainability Aim
YY	Strong support for Aim (i.e. significant positive impact is likely)
Y	Some support for Aim (i.e. minor positive impacts likely to outweigh negative impacts)
-	Option likely to have no or neutral impact insofar as the benefits and drawbacks appear equal and neither is considered significant. This may include partial assessments at interim stages where there is still a degree of uncertainty and further work is needed before the final SA Report
N	Some minor conflict with Aim (i.e. minor negative impact(s) likely not to be outweighed by positive impacts)
NN	Significant conflict with Aim (i.e. significant negative impact is likely)
?	Insufficient information on which to base an assessment at this stage.
N/A	No link with this Sustainability Aim.

Sustainability Aim		a	b	c	Commentary / Explanation of Impact
1	A vibrant and competitive economy with good job opportunities available to the whole community.	N	Y	YY	Options (b) and (c) would have a positive indirect impact in the long term. Delivery of new homes will ensure that there continues to be a sufficiently large working population to support and sustain economic growth. Higher housing targets would result in a larger workforce which would have a more positive impact for the economy. A lower than trend requirement could have a negative impact on the economy by not supporting a sufficiently sized workforce.
2	Education and training opportunities provided which build the skills and capacity for the whole population and which encourage lifelong learning	-	-	-	The options would have a neutral impact in the medium term. Delivery of new housing may place an additional strain on existing educational establishments. This impact could be mitigated through the development management process and requirements for new developments to deliver adequate community facilities to support the new population, including school places.
3	Decent and appropriate housing available to everyone	N	YY	YY	Options (b) and (c) would have a significant positive impact in the short-medium term. It would ensure the provision of sufficient new homes to meet local needs. Delivering insufficient numbers of new homes could restrict the ability of the plan to meet the housing needs of people in Sheffield.
4	Health services provided for the health needs of the whole population and which tackle health inequalities.	-	-	-	Policy will have a neutral impact in the medium term. Delivery of new housing may place an additional strain on existing health services. This impact will be mitigated through the development management process and requirements for new developments to deliver adequate community facilities to support the new population, including healthcare provision.
5	Open space and cultural, leisure and recreational facilities available for all	-	-	-	Policy will have a neutral impact in the medium term. Delivery of new housing will result in an increased demand for open space provision to serve the new communities. This impact will be mitigated through the development management process and requirements for new developments to deliver adequate open space to serve the new population.
6	Significant development focused in locations that reduce the need to travel and the fullest possible use made of public transport, walking and cycling.	N/A	N/A	N/A	No link with sustainability aim - impact depends on the location of sites for new housing.
7	An efficient transport network which maximises access and minimises detrimental impacts.	-	-	-	Policy will have a neutral impact in the medium term. Delivery of large numbers of new houses has potential to increase traffic <u>congestion</u> , but also provides opportunities for improving transport infrastructure and promoting increased use of public transport, through the development management and design stage.
8	Use of land which supports regeneration of the urban area and protection of valuable soil and mineral resources.	N/A	N/A	N/A	No link with sustainability aim – impact depends on the location of sites for new housing.

Sustainability Aim		a	b	c	Commentary / Explanation of Impact
9	An attractive, high quality built environment that works well and lasts.	N/A	N/A	N/A	No link with sustainability aim.
10	The historic environment protected and enhanced	N/A	N/A	N/A	No link with sustainability aim.
11	High quality natural landscapes protected and poor landscapes enhanced.	?	?	?	Impact will depend on locations for growth, however it is likely that a lower growth option (a) would have less impact on this indicator, as that <u>amount</u> of new homes are more likely to be able to be accommodated wholly within the existing built up area.
12	Ecological and geological assets created, conserved, managed and enhanced.	N/A	N/A	N/A	No link with sustainability aim.
13	Water resources protected and enhanced.	N/A	N/A	N/A	No link with sustainability aim.
14	Greenhouse gas emissions minimised and the impact of climate change effectively managed.	-	-	-	Policy will have a neutral impact in the short-medium term. Delivery of large numbers of new homes has potential to increase greenhouse gas emissions, particularly during the construction stage, and increasing surface run-off and flood risk. These impacts will be mitigated through the development management process via requirements to incorporate sustainable design and construction practices, including SUDS.
15	Air quality improved and impacts of environmental pollution minimised or Mitigated.	-	-	-	Policy will have a neutral impact in the short-medium term. Delivery of large numbers of new homes has potential to reduce environmental quality through increased traffic movements, dust emissions and noise pollution. These impacts will be mitigated as far as possible through the development management process via requirements to demonstrate assessment of impacts and appropriate monitoring and mitigation measures.
16	Energy consumption minimised and use of sustainable energy sources maximized.	-	-	-	Policy will have a neutral impact in the short-medium term. Delivery of a <u>large number of</u> new homes means that energy consumption is likely to increase during the construction process. There will be opportunities to mitigate these impacts through the development management process by encouraging use of renewable energy and expansion of District Heating Networks.
17	Minimal production of waste and the reuse, recycling and recovery of waste maximized.	N/A	N/A	N/A	No link with sustainability aim.



Summary

All of the options would result in an increase in the number of new homes in the city. However, planning for fewer new homes than needed (Option a) would have a negative impact. This option would deliver insufficient new housing to meet the identified need and would restrict the ability of households to access decent, appropriate housing, including affordable housing (Aim 3). The other key impact relates to the ability of new housing to support a vibrant and competitive economy (Aim 1). Options (b) and (c) would ensure a sufficiently large working population could be accommodated to support and sustain economic growth. Whereas a lower than trend requirement (a) would have a negative impact on the economy by not supporting a sufficiently sized workforce. No comment is made on the relative sustainability of locations to accommodate different levels of housing growth, as this is considered in relation to those options. However it might be assumed that a lower housing target (a) would be less likely to have a negative impact on the environment as it would probably require less land to be used for house building. Option (b) is considered to be the most sustainable approach. It combines positive impacts for housing and economic growth with a likely lower negative environmental impact when compared to the high growth option (c).

Appendix E: Options Appraisal: Issues and Options (Spatial Approach) (2020)

The 3 spatial options set out in the Sheffield Plan Issues and Options document (2020) are:

- Option A: High density, vibrant walkable neighbourhoods with a wide choice of homes.
- Option B: Mid-rise and vibrant central area and some new houses with private gardens in the suburbs.
- Option C: Less dense central area, more new houses with private gardens in the suburbs.

Key:

- ✓✓ Significant positive impacts likely
- ✓ Some positive impacts likely
- Neutral impact likely
- ✗ Some negative impact likely
- ✗✗ Significant negative impact likely
- ? Impact uncertain/unknown

Option A: High density, vibrant walkable neighbourhoods with a wide choice of homes

Distribution of new homes:

- a) Central area: 20,000 homes
- b) In existing urban area (outside the City Centre): 20,000 homes
- c) Green Belt: 0 homes*

(*Though under national planning policies we estimate that 250-750 homes would be developed in the Green Belt through conversion of existing buildings or redevelopment of brownfield sites (a continuation of current policy).

Sustainability Aims	Impact	Comments on Impact
1. A vibrant and competitive economy with good job opportunities available to the whole community.	✓	The city centre is one of two key Growth Areas within the city and is the main office location within the city region. As such, it is the most important economic and employment location in the city. Therefore, in order to maximise the economic potential of the city, we must also ensure that the city centre is promoted and supported as much as possible in order to maximise its economic potential. To do this, there has to be sufficient land and sites allocated to business use. An option that seeks to maximise the capacity of the Central Area for residential uses has the potential to create competition for land between residential and business uses. Given that residential uses are generally more viable than other uses, this option could lead to a shortage of land for business use, with a resulting negative economic impact. On the other hand, the presence of a large and vibrant city centre residential community will also support businesses by providing a local labour supply and demand for services from the local population. On balance, it is considered that the high density option will be beneficial to the city centre and therefore, city economy. However, some of this benefit may be reduced by a resultant shortage in options for land and sites to help meet the demand for new businesses. Concentrating high quality professional and financial services in the city centre will allow a focus on modern manufacturing jobs in the Advanced Manufacturing and Innovation District (AMID).

Sustainability Aims	Impact	Comments on Impact
2. Education and training opportunities	✓	An increased Central Area population may require the provision of new early years and school capacity within or close to the City Centre. This could be problematic if expansion of existing schools in the Central area is required due to physical site constraints and, if a new secondary school is required due to the size of site that is likely to be needed. The type of housing and therefore demographic profile of those living in the Central area, will impact on the number of school aged children likely to live in the Central area. For example an increase in young couples with a small family could see greater demand for early year's childcare provision in the short term close to places of work/living, and consequently primary school capacity if residents stay in the Central area. Central area location allows for flexibility to travel by public transport to a variety of secondary schools, however this could place pressure on existing school places from pupils from the suburbs as well as the inner city. Schools in the city centre may also serve more diverse catchments, including deprived areas of the city, than they would on the edge of the urban area. Provision of new schools, where required, could be more difficult to achieve than under Options B and C (which both offer the potential to utilise undeveloped land on the edge of the built-up areas). The potential need for new school places (alongside demographic modelling to more accurately predict future school age population) will need to be modelled as part of the site selection process. The Option will need to ensure the city's universities' and colleges' land holdings and expansion aspirations are not hindered by competition land and property for new homes. Option A could lead to a more vibrant city centre with associated opportunities for job growth and scope for business, incubator and start-up links to the universities and colleges.

Sustainability Aims	Impact	Comments on Impact
3. Decent and appropriate housing available to everyone.	✓	Provides the opportunity for developing a more balanced population, and a more sustainable housing market, in the central area with some larger housing suitable for families and housing for older people. However, it will be necessary to explore different models of high density housing; supply is currently dominated by apartments which are unlikely to attract families. Might not meet the demand for family-sized housing in the suburbs. The Strategic Housing Market Assessment indicates that the greatest demand is for 2 and 3-bedroom houses with gardens, rather than apartments. However, the SHMA is based on a survey of existing households in Sheffield so does not take account of the fact that about half the city's household growth is likely to be due to migration to Sheffield. Migrants are likely to be younger people who are more likely to want to live in the central area. More homes in the City Centre can therefore ensure that changes in the housing market supports the economy. Opportunities to remodel former industrial areas are likely to require public sector support to be economically viable. This could impact on the ability to deliver the level of affordable homes that may be needed in those locations and citywide. People wanting larger homes might move to other parts of the City Region if there is insufficient supply in Sheffield as focussing a large proportion of new homes in the City Centre is less likely to deliver a wide range of housing, especially to serve the needs of those who require more spacious accommodation, or specialist accommodation, for example for older people, or people wishing to build their own homes. The private rented sector is a growing part of the housing market, and provision of modern, decent, rental properties will be focussed in the City Centre and main urban area, which will be beneficial to certain groups, particularly those who value access to the City Centre; however it may not significantly increase the range of new, quality rental accommodation provided in a wider range of locations to meet a greater range of needs.

Sustainability Aims	Impact	Comments on Impact
4. A healthy population, with health services available to meet the needs of everyone.	X	This Option seeks to maximise the capacity of existing buildings, land and new sites for residential development in the Central Area. This will have the impact of increasing the Central Area population significantly, which will put greater pressure on existing primary care facilities, of which the city centre is relatively short. Developing at high densities could also limit the potential to provide new health facilities on these sites as developers seek to maximise development values. This will be a significant negative impact unless it can be mitigated by the provision of new facilities. However, there will be pressure to provide services and facilities for this increased population, otherwise the new dwellings may not be attractive to the market. This demand could lead to opportunities to provide primary healthcare facilities, including as part of shared communal facilities alongside other uses such as retail, leisure and other community facilities (meeting rooms, etc.). This is one potential positive impact. Increased demand may also create the critical mass /volume of patients needed to make development of a new centre professionally and financially viable. This would have the benefit of enhancing facilities for the existing central area residential population as well as newcomers. However, any new facilities or improvements in provision may not be accessible to the most deprived communities where poor health is a particular issue. Overall we consider this Option will have a negative impact due mainly to the limited opportunities to provide new facilities to meet the needs of the new population, and the limited potential to address the particular needs of the most deprived areas.

Sustainability Aims	Impact	Comments on Impact
5. Open space and cultural, leisure and recreational facilities available for all.	✓/?	This option focuses on maximising the use of land within the Central Area for new residential development. In terms of access to open space, provided that there are clear restrictions in place to prevent building on good quality open space, a strategy that focuses on intensification of residential areas and allows residential use on other types of unused or underused land within this area would allow a greater number of people to access open space without needing to travel far. In light of the Covid-19 pandemic, it's become increasingly important for people to be able to gain easy access, ideally by walking, to open space both for recreational purposes and for physical and mental wellbeing. Another integral part of the strategy both for the Central Area and for the remainder of the urban area – where there are fewer opportunities for larger new residential developments – will be to make existing neighbourhoods more sustainable which, for open space, leisure and culture, means seeking to protect and improve existing facilities many of which will be local in nature and serve relatively small catchment areas but are within easy walking distance. In terms of the viability of this Option, it could be argued that the need to release land for housing could increase development pressure on existing open spaces and also result in fewer and/or smaller new open spaces being provided. However, particularly in light of the Covid-19 pandemic, open space will become more important, so the land value of a site for an open space use will increase, as could the value of a site if it has potential to provide some green space. There is also a view that the upcoming changes to the Use Classes Order and PD rights will give more opportunity and impetus to converting existing space of all uses to residential, so there may be more potential to use existing buildings for residential and thus reduce the level of expectations on new sites. Demand for commercial uses may fall, although given the future need for lower densities (fewer workers per square metre) this may not necessarily happen. The main areas of open space are primarily the city's parks and the major river valleys and countryside that surround the city (the majority of the latter being within the Green Belt). Accessibility to a park depends very much on the area of the city in which people live – the strategy of putting forward 20,000 new homes within the rest of the urban area includes a significant number of existing commitments; one of the key elements of such a strategy would therefore be to seek to improve accessibility to open spaces through walking and cycling and general promotional/marketing highlighting the benefits to health and the merits of parks and other significant areas of greenspace whilst at the same time seeking to protect and enhance those greenspaces for the benefit of all through programmes such as the Better Parks Initiative. In terms of built leisure facilities, which includes leisure centres, gyms, cinemas and concert halls, these are well represented in and around the City Centre and the Lower Don Valley (Valley Centertainment) although such facilities are also located within other parts of the city which enables good access for those neighbourhoods, for example, leisure centres at Hillsborough, Graves (Norton/Meadowhead), Stocksbridge and Springs (Arbourthorne/Gleadless). A strategy which prioritises new residential development within the Central Area, where many of the main built leisure facilities are, would enable excellent, sustainable access to

Sustainability Aims	Impact	Comments on Impact
		With regard to the city's cultural offer, the majority of the city's main facilities lie in and around the City Centre. These include theatres such as the Lyceum and the Crucible, art galleries such as Graves, the Site Gallery, Millennium Gallery and Yorkshire Art Space, the museums of Weston Park and Kelham Island, live entertainment venues such as the City Hall and the Leadmill, the Showroom cinema/workstation complex and many others. A strategy of focusing new homes on the central area would therefore provide residents with excellent, relatively easy access to all of these destinations. Furthermore, ongoing projects in and around the City Centre which are helping to improve the physical environment and accessibility within the centre such as Heart of the City II, Castlegate, the Kelham Island District and Neepsend and the "Grey to Green" project which seeks to open up and improve walking routes in the area would also play a key role in complementing such a strategy.
6. Significant development focused in locations that reduce the need to travel and the fullest possible use made of public transport, walking and cycling.	✓✓	This spatial strategy focusses on higher density residential areas within the Central Area and in the urban area. This could lead to greater concentrations of traffic on the Inner Ring Road, however it would also mean that a greater number of people would be living closer to job opportunities, services, retail and leisure facilities, and potentially have shorter distances to travel to access these locally. With investment in infrastructure, it becomes more viable for more people to make those shorter journeys by walking or cycling. There is also the potential to enable cycling from the City Centre to wider reaching employment areas (for example the Lower Don Valley), given attractive distances and topography. This option would support the creation of low-traffic, liveable and connected communities, and enable more households to be less car dependent, in alignment with the SCC Transport Strategy and SCR Active Travel Implementation Plan.
7. An efficient transport network which maximises access and minimises detrimental impacts.	✓IX	For longer journeys, the city centre is very well connected by public transport, with access to bus, tram, tram-train and rail services. Most of the main employment centres and priority areas for economic development are accessible by public transport from the City Centre, with Midland Rail Station providing greater opportunity for promoting rail for inter-urban travel. This option would also provide increased patronage to support the viability of the existing tram system. Proximity to the City Centre will continue to be important and if there are more people who are able to move around and gain access to services and facilities in the centre, then this will contribute towards a more sustainable future, including improvement in key areas such as reducing air pollution, carbon emissions and energy use, and improving public health. Such a strategy would also tie in with development initiatives such as Heart of the City II, the Castlegate redevelopment and the ongoing Grey to Green project which seeks to create and improve pedestrian and cycle access including along river corridors.

Sustainability Aims	Impact	Comments on Impact
8. Use of land which supports regeneration of the urban area and protection of valuable soil and mineral resources.	✓✓	Under this option, we estimate that around 95% of new homes would be built on brownfield sites. A small number of greenfield sites on the edge of the existing built up areas would potentially be developed (the majority have previously been allocated for housing in the Unitary Development Plan). Potential for mineral extraction could be assessed on a site by site basis, prior to non-mineral development occurring. This would prevent the sterilisation of any viable mineral reserves. Maximising the reuse of brownfield land would increase the feasibility of recycled aggregates (e.g. from demolitions) being used. This option would result in very little, if any, loss of agricultural land, and would protect soil resources.
9. An attractive, high quality built environment that works well and lasts.	✓/X/?	Option A will densify the city centre, concentrating a higher percentage of residents within the city core where the greatest concentration of facilities, employment opportunities and transport hubs are located. This could help to promote more sustainable, active lifestyles, with reduced car dependency, potentially contributing towards reducing carbon emissions within the city. This approach could also offer greater opportunities for development to connect to the district heating system. A higher density centre, could lead to an increase in average building heights which could have an adverse impact on the character of the city centre, listed buildings and conservation areas. Measures to deliver higher density should be explored through medium scale buildings providing a more sensitive response, allowing tall buildings to be used in specific key locations which aid legibility within the city centre. A higher density core using on average taller buildings could have negative impacts on local microclimate conditions within the city centre. Option A could provide an opportunity to use new development and environmental improvements to improve the living environment in areas that are rundown or that lack distinctiveness within the city centre. An increased population within the city centre offers scope to create a safer environment bringing more activity and surveillance onto streets and spaces.

Sustainability Aims	Impact	Comments on Impact
		While option A would help to protect the green belt increasing density within the city centre could potentially have an adverse impact on open space. This could limit opportunities to create new public space as available sites are used to provide new development potentially resulting in overcrowding of existing open space. New developments would need to ensure they provide sufficient accessible public, communal and private amenity space within schemes and individual dwellings. Option A will help to protect important sites of ecological and geological importance within the green belt; but adversely may limit opportunities to increase biodiversity within the city centre while losing urban habitats. Opportunities to increase biodiversity within a densified city centre need to be maximised to help provide habitats for wildlife, increase green infrastructure, help reduce flood risk and air pollution, combat the urban heat island effect, help improve the quality and character of the public realm, while bringing benefits to residents' health and well being. Option A would likely limit the types of dwellings within the city centre to predominantly apartments. Measures will need to be adopted to ensure they function well for residents now and in the future including generous space standards, being flexible, adaptable and accessible while ensuring they have access to sufficient communal space as well as private amenity space within dwellings. Not only will it be important to apply these standards to apartments but they should be applied to all new dwelling types across the city to ensure they are fit for purpose and reduce the potential for any negative impacts on residents' health and well being. While the options identify alternative approaches to where new housing could be located within the city, the inevitability is that whichever option is preferred the city will undergo a huge development drive to meet the housing needs of a growing population. This will put increased pressure on natural resources, which highlights the importance of ensuring that all new homes are future proofed against climate change. New homes will need to encompass sustainable design principles being energy and thermally efficient, water efficient, well ventilated and incorporate measures to reduce overheating. Materials should be sustainably sourced, minimising waste and their impact on the environment, while homes at risk of flooding should be designed to be flood resilient and resistant. Schemes should also incorporate SuDs to help manage flood risk and water quality.

Sustainability Aims	Impact	Comments on Impact
10. The historic environment protected and enhanced.	✓/X	Possible adverse impact on Conservation Areas and Listed Buildings through higher density development and pressure to assemble sites. But, overall, the impact on heritage assets will depend on the location of allocated sites. Redevelopment of the existing urban area, including the City Centre may provide opportunities to restore heritage assets or better reveal their significance through new development.
11. High quality natural landscapes protected and poor landscapes enhanced.	✓✓	The high quality landscapes around Sheffield are all currently within the Green Belt. This option would lead to little, if any, Green Belt release and would strongly protect those landscapes.
12. Ecological and geological assets created, conserved, managed and enhanced.	✓/X	Option A will help protect designated ecological and geological sites within the green belt. Where potential development sites within the city centre or wider urban area may be sited adjacent to designated sites e.g. River Don, schemes should sensitively respond to these ecologically and geologically important habitats and protect them through appropriate mitigation measures. Development across the city should help deliver and expand the future Nature Recovery Network (NRN), which will be developed and mapped as part of the Local Nature Recovery Strategy. Opportunities within a high density city centre may be somewhat limited, but where they arise should be maximised, while scope within the wider urban area may be more achievable and should positively help to expand the NRN wherever possible. Creating a high density city centre may likely limit opportunities to significantly increase biodiversity within it while it could also risk losing urban habitats. Opportunities to increase biodiversity within a densified city centre need to be maximised to help provide habitats for wildlife and increase green infrastructure e.g. green roofs, street trees, pocket parks, SuDs etc. Scope to increase biodiversity within the wider urban area should be more readily achievable on site and delivered through a wide range of measures to provide opportunities for nature. Implementing measures to achieve a net gain in biodiversity will bring benefits to wider environmental gains in helping to reduce flood risk and air pollution, increase tree canopy cover, combat the urban heat island effect, help improve the quality and character of the public realm, while bringing benefits to residents' health and well being.

Sustainability Aims	Impact	Comments on Impact
		Development will need to ensure it minimises its impact on habitats and the wider environment, as a result of flooding, pollution from run-off and emissions, damage, removal, over exploitation of natural resources and inappropriately located uses. Incorporating measures that would avoid or minimise the risk of these occurrences happening can also contribute to wider environmental gains and provide overall improvements in water and air quality, habitats and an increase in biodiversity. Opportunities within a high density city centre may be more limited, but where they arise should be maximised e.g. SuDs, tree planting, while measures should be more achievable within the wider urban area. Proposals should be identified and fully incorporated from the start of the design process regardless of where the site is located within the city and not deemed as an after thought. Where measures are implemented they should be accompanied by long term maintenance plans and also monitored where required e.g. Biodiversity Net Gain. Development across the city will need to ensure measures are taken to avoid the introduction of and reduce the spread of disease, pests and invasive non native species that may be harmful to our flora and fauna e.g. buy British grown stock. Opportunities to increase public access to nature within a high density city centre will be limited so, where they may arise they should be capitalised on e.g. riverside walks and public space, green roofs, street trees, pocket parks, SuDs etc. Greater scope will exist within the wider urban area and should be achieved more readily through the retention of existing landscape/habitat features, provision of street trees, hedgerows, gardens and multi functional public open space including SuDs. Increasing access to nature will provide people with opportunities for recreation and bring added benefits to their health and well being. While opportunities to increase public access to nature should be capitalised on, it should be provided in a way which continues to protect and avoid damage to habitats and wildlife.

Sustainability Aims	Impact	Comments on Impact
13. Water resources protected and enhanced.	✓IX	Compared to Options B and C, Option A may result in: - Increased opportunity to promote Sheffield and its waterways and use them to help celebrate the heritage, culture and rich history of Sheffield because the city centre is at the confluence of the Rivers Don, Sheaf and Porter with sites close to the rivers likely to be considered suitable and available. - Increased opportunity to secure access along a city wide network of riverside parkways because linking such initiatives to central location will reap benefits to the highest number of people visiting, living and working in the city centre. (Sheffield Waterways Strategy 2014) The development of 40,000 additional homes, commercial development and other community facilities will increase the water usage and water treatment needs, but this can be partly mitigated by incorporating water conservation and water efficiency measures into new development (NPPF 2019, and Humber River Basin Management Plan, 2015). However this is true for all 3 Options. New development will also increase hard-surfacing and run-off of pollutants into water courses which may be increased under Option A because of fewer gardens and a more densely packed urban environment. Option A would also limit the range of sustainable urban drainage (SuDS) methods available, which can help reduce pollutants into water courses, compared with Options B and C where there are more opportunities, though it is observed by the Lead local Flood Authority that developers are less willing to adopt SuDS in suburban locations. Focussing population increase in the central area associated with Option A may have greater implications for water demand and sewerage capacity pressures as opposed to spreading population in smaller pockets across the city (implications for Water Resource Management Plan and Drought Plans by Yorkshire Water).

Sustainability Aims	Impact	Comments on Impact
14. Greenhouse gas emissions minimised and the impact of climate change effectively managed.	✓✓/X	Potentially lower greenhouse gas emissions and air pollution than options B and C, due to both reduced travelling distances from new homes to jobs and facilities and a higher proportion of apartments (which have an overall lower carbon footprint than a comparable number of houses) Potential problems could arise due to 'urban heat island' effect due to buildings heating up and retaining heat. Impact on people could be mitigated to some extent through design. Parts of the Central Area of Sheffield are in high flood risk areas so any risks of flooding would need to be mitigated to protect both new and existing developments. Policies to promote energy conservation through sustainable design and the use of renewable energy would help to minimise emissions from new development. Option A may result in more site allocation options in Flood Zones 2 and 3 when compared to Options B and C because such flood zones cover around a third of the city centre. This will lead to a greater reliance on measures to adapt to climate change and the management of flood risk, and implications for the sequential and exception testing of site allocation options. New development will increase hard-surfacing which may increase surface water run-off and associated flood risk under Option A because of fewer gardens and a more densely packed urban environment. Option A would also limit the range of sustainable urban drainage (SuDS) methods available compared with Options B and C where there are more opportunities, though it is observed by the Lead local Flood Authority that developers are less willing to adopt SuDS in suburban locations.
15. Environmental pollution improved and impacts on air quality minimised or mitigated.	✓✓	Overall, this option is likely to have the least adverse impact on air quality because it enables more people to travel using sustainable modes. But as the number of electric vehicles increase over the period of the plan, this advantage over Options B and C will diminish. Redevelopment of brownfield land will enable specific sources of land contamination or environmental pollution to be addressed as sites are developed. Policies could help protect from unacceptable levels of noise and light pollution and to ensure suitable distances between any hazardous installations and environmentally sensitive uses.

Sustainability Aims	Impact	Comments on Impact
16. Energy consumption minimised and use of sustainable energy sources maximised.	✓✓	Apartments offer greater opportunities for renewable and low-carbon features such as solar panels or building wide heat and power generation; they can be more cost effective to implement than features on individual houses. Apartments are also more energy efficient than houses, resulting in lower energy consumption. Maximises opportunities for development to utilise the district heating (energy from waste) network.
17. Minimal production of waste and the reuse, recycling and recovery of waste maximised.	X/?	Although the overall levels of household waste have reduced over the last 10 years, the development of 40,000 additional homes and the associated population growth (projections show an additional 49,000 people by 2038), together with significant commercial development, is likely to increase the amount of waste generated. This can be partly mitigated by incorporating recycling measures into new development (For example, more on-site recycling facilities, clearer signage to those facilities). A separate waste management plan is being considered by the 4 South Yorkshire local planning authorities. Until this is produced, it is not possible to say with any certainty how the reuse, recycling and recovery of waste is to be maximised.

Option B: Mid-rise and vibrant central area and some new houses with private gardens in the suburbs

Distribution of new homes:

- a) Central area: 15,000 homes
- b) In existing urban area (outside the City Centre): 20,000 homes
- c) Green Belt: 5,000 homes*

*Including 250-750 homes which would be developed in the Green Belt through conversion of existing buildings or redevelopment of brownfield sites (a continuation of current policy).

Sustainability Aims	Impact	Comments on Impact
1. A vibrant and competitive economy with good job opportunities available to the whole community.	✓✓	As explained above, the city centre is one of two key Growth Areas within the city and is the main office location within the city region. As such, it is the most important economic and employment location in the city. Therefore, in order to maximise the economic potential of the city, we must also ensure that the city centre is promoted and supported as much as possible in order to maximise its economic potential. To do this, there has to be sufficient land and sites allocated to business use. This Option does not pursue the maximum possible residential capacity in the Central Area, but still seeks to deliver a significant level of residential uses in the Central Area whilst freeing up some capacity for other uses. As such, the potential for competition between business and residential uses is less than Option A, so the potential for negative economic impacts is less. We consider this option would still provide sufficient residential development to deliver the economic benefits of a large and vibrant city centre residential community, but will also allow the maximum potential for new and expanding businesses to locate in the city centre. The enhanced population in the existing urban area could provide a workforce within a reasonable distance of the centres of employment, including the Growth Area around the AMID. Overall we consider that this Option provides for the best balance between residential and business uses and therefore offers the greatest economic benefit.

Sustainability Aims	Impact	Comments on Impact
2. Education and training opportunities.	✓✓	Development on Green Belt sites potentially provides more opportunity (than Option A) to allocate land for new early years and schools to meet any shortfall in school places (due to the ability to utilise undeveloped land on the edge of the built-up areas). Schools on the edge of the built-up area may have opportunity for larger outdoor spaces with wider sports provision leading to greater learning outcomes. However, schools in the city centre under Option A may serve more diverse catchments, including deprived areas of the city, than they would on the edge of the urban area. The potential need for new school places (alongside demographic modelling to more accurately predict future school age population) will need to be modelled as part of the site selection process. The Option poses less risk for competition for land and property between new homes and the universities' and colleges' plans and aspirations for expansion. Option B could still lead to a vibrant city centre with associated opportunities for job growth and scope for business, incubator and start-up links to the universities and colleges.

Sustainability Aims	Impact	Comments on Impact
3. Decent and appropriate housing available to everyone.	✓✓	Provides more opportunity to address the specific housing needs of each housing market area than Option A (though this would depend on the distribution of allocated sites). In particular there would be more scope to broaden the housing mix in areas that are further from the City Centre. Potential to deliver more affordable housing than Option A as Green Belt development is more likely to deliver affordable housing than city centre development (due to lower development costs and higher residential values). Green Belt sites would deliver suburban family housing for which there is an evidenced demand. Less reliance on delivery of apartments in the central area is more likely to ensure that the number of new homes needed is deliverable, as delivery is spread more widely and less heavily reliant on potentially complex City Centre sites. Lower risk of people wanting larger family homes moving out of Sheffield. Potential to deliver more homes at less high densities which would more easily enable accessible housing, and housing with higher space standards to be built. More homes delivered in the outer housing market areas will enable a greater mix of housing to be offered in those areas, including homes for private rent, affordable homes, and accommodation for older people.

Sustainability Aims	Impact	Comments on Impact
4. A healthy population, with health services available to meet the needs of everyone.	O	This Option seeks to provide a significant number of new dwellings within the Central Area, but not the maximum possible that is proposed by Option A. It will also spread some of the new residential development required more evenly around the city. However, the number of new dwellings proposed for the Central area is still significant and will still increase the Central Area population significantly, also putting pressure on existing primary care facilities, though to lesser degree. Densities are proposed to be lower so there may be some potential to provide new health facilities on these sites, also potentially as part of shared communal facilities. However, the same negative impact may result, in that any new facilities or improvements in provision are unlikely to be accessible to the most deprived communities where poor health is a particular issue. But increasing the population more widely across other parts of the city may help to create demand for new or improved primary care facilities in these locations. Overall we consider this Option will deliver some positive and some negative impacts and the overall impact will be neutral.

Sustainability Aims	Impact	Comments on Impact
5. Open space and cultural, leisure and recreational facilities available for all.	✓/?	The main difference between this option and Option A is that there would be less new residential development within the Central Area, although still significant, and instead some new housing would be on land released from the Green Belt through the Local Plan process. In terms of how this affects open space, leisure and culture considerations, the issues for the Central Area and for the remainder of the urban area remains broadly the same as for Option A, with perhaps the main difference being that this Option may not be maximising the potential of the Central Area in terms of introducing new housing in sustainable locations where there are concentrations of existing services and facilities. On the other hand, however, introducing less housing into the Central Area may be more realistic (depending on further assessment viability and land availability) and create less pressure to develop on land that could be used for improved open space and new leisure and cultural facilities as part of the mix of new neighbourhoods being created. However, as stated in Option A above, the increasing importance of open space and future increased opportunities for new residential development as a result of changes to the Use Classes Order and PD rights may in any event lessen that pressure to develop on open spaces. The biggest difference would be the introduction of new housing into areas on the edge of the city. The key to this Option's success would be to ensure that any new housing is located in sustainable locations with good access to public transport, and that new services and facilities are introduced alongside new residential developments to ensure easy access for both new and existing residents in the area as part of comprehensive masterplanning. This Option would provide considerable scope for the introduction of new open space and leisure facilities and in addition, being on the edge of the city, these new neighbourhoods would benefit from the existing open countryside and its extensive network of footpaths and cycleways which are predominantly in the Green Belt. However, the release of significant areas of what are likely to be predominantly greenfield land in the countryside clearly would have an impact on the open nature of the area, biodiversity in those areas and affect/intensify how people currently use those areas, which may contain walking and cycling routes; these would need to be factored in to any masterplanning exercises for comprehensive development. The majority of built leisure and cultural facilities are also focussed in and around the City Centre and Lower Don Valley, away from the more peripheral locations. There would also be a greater likelihood of insufficient critical mass to support built leisure – economics places those in the city centre and in and around Lower Don Valley because of the fact these areas are accessible to the whole city population and/or there is already a conglomeration/cluster of such facilities.

Sustainability Aims	Impact	Comments on Impact
6. Significant development focused in locations that reduce the need to travel and the fullest possible use made of public transport, walking and cycling.	✓/X/?	This spatial strategy would distribute more of the housing into areas outside of the central area, including some in Green Belt. As this would mean more people living outside the central area it is likely to result in a greater need to travel, and journeys that are more likely to be made by car, and would therefore be more likely to impact negatively on carbon and energy use. This could be particularly so in areas on the edge of the city, however in this option it is more likely that development would be in the form of a small number of larger Green Belt releases providing the required number of homes, and with a greater number of new residents they would be more likely to support new or extended public transport services.
7. An efficient transport network which maximises access and minimises detrimental impacts.	?	Aligning the specific growth proposals with the existing tram and high frequency bus network would support a growth in patronage to enable continuation of services and future expansion of frequency and capacity on existing routes. Improved public transport connections would offer an alternative to the car for some journeys, as acknowledged in the Sheffield Transport Strategy (2019). Large Green Belt sites located close to rail stations would provide some opportunity to promote rail travel for inter urban trips. The impact on the existing network will depend on the location of allocated sites. There would be less pressure on the City Centre but more demand for travel across the City in this scenario for work, leisure and other services would likely result in more infrastructure requirements. There are existing pressures on the Inner Ring Road, identified in the Sheffield Transport Strategy, and any major housing development on the western side of the city could impact further as increased numbers of people commute to the main employment areas within and to the east of the City Centre. Development on the eastern side of the city could reduce this impact, although it should be noted that this could increase pressure on the already congested Motorway junctions on the M1. Whilst to some extent this option with a high level of development in the central area would still support the creation of some low-traffic, liveable and connected communities and enable more households to be less car dependent, for those locations well outside the central area cycling for commuting trips is likely to be a less viable option as journey distances will be greater. However, cycling and walking will still be important for shorter trips to access local facilities and services, and there would still be the potential to promote cycling from the City Centre to wider reaching employment areas (such as the Lower Don Valley), given attractive distances, and topography. This would support the approach in the Sheffield Transport Strategy which prioritises investment in cycling infrastructure in areas where there is greatest potential to increase the mode share and enable more people to make some of their journeys by cycling.

Sustainability Aims	Impact	Comments on Impact
8. Use of land which supports regeneration of the urban area and protection of valuable soil and mineral resources.	✓IX	Under this option, over 85% of new homes would be built in the existing urban area, with a continued focus on brownfield sites. There is some risk that developers will favour Green Belt sites rather than brownfield sites within the existing urban areas, which could result in a greater impact on soil resources than option A. But some Green Belt sites could be held in reserve (“safeguarded”) and delivered later in (or after the end of) the plan period, in order to promote building on brownfield sites first. Would result in the loss of some agricultural land, though relatively little land in Sheffield is classified as Best and Most Versatile Land, so the impact on soils and the economic impact on agriculture are both likely to be low. Potential for mineral extraction could be assessed on a site by site basis, prior to non-mineral development occurring. This would prevent the sterilisation of any viable mineral reserves. Although less brownfield land would be developed than under Option A, there would still remain the feasibility of recycled aggregates (e.g. from demolitions) being used in some construction.
9. An attractive, high quality built environment that works well and lasts.	✓IXI?	Option B will densify the city centre, concentrating a high percentage of residents within the city core where the greatest concentration of facilities, employment opportunities and transport hubs are located. This could help to promote more sustainable, active lifestyles, with reduced car dependency, which may result in a reduction in carbon emissions within the city centre. In contrast to the city centre, the inclusion of development within the green belt would likely increase car dependency and result in an increase in carbon emissions across the city. Opportunities should be explored to locate any green belt sites within the most sustainable locations nearest to existing transport hubs. Option B could offer significant opportunities for development to connect to the district heating system within the city centre. A higher density centre, could lead to an increase in average building heights which could have an adverse impact on the character of the city centre, listed buildings and conservation areas. Measures to deliver higher density should be explored through medium scale buildings providing a more sensitive response, allowing tall buildings to be used in specific key locations which aid legibility within the city centre. Option B could provide an opportunity to use new development and environmental improvements to improve the living environment in areas that are rundown or that lack distinctiveness within the city centre.

Sustainability Aims	Impact	Comments on Impact
		The inclusion of development within the green belt, will likely impact on the sensitive character of the landscape. This will need a considered response to help integrate it within the landscape setting including appropriate mitigation measures, integration of existing landscape features, provision of extensive green infrastructure, use of local materials and potential restrictions on building heights. A higher density core could have negative impacts on local microclimate conditions within the city centre. An increased population within the city centre offers scope to create a safer environment bringing more activity and surveillance onto streets and spaces. Option B would see some development in the green belt, which would likely have an impact on landscape character. This would need to be mitigated through design measures to minimise its impact. Increasing density in the city centre could potentially have an adverse impact on open space as opportunities to create new public space could be limited as available sites are used to provide new development. This could potentially result in overcrowding of existing open space. New developments would need to ensure they provide sufficient accessible public, communal and private amenity space within schemes and individual dwellings. Option B would result in the loss of habitats due to there being some development within the green belt; however development would be located to avoid designated sites of ecological or geological importance. If development is located adjacent to a designated site then an appropriate buffer would be included to reduce any impact of the development on the designated site. Development within the green belt would need to provide extensive green infrastructure to increase biodiversity, while creating opportunities for habitat creation to compensate for any loss. Densifying the city centre may limit opportunities to increase biodiversity within this location while potentially losing urban habitats. Opportunities to increase biodiversity within a densified city centre need to be maximised to help provide habitats for wildlife, increase green infrastructure, help reduce flood risk and air pollution, combat the urban heat island effect, help improve the quality and character of the public realm, while bringing benefits to residents' health and wellbeing. Option B would likely limit the types of dwellings within the city centre to apartments, while offering a wider range of larger family homes within the suburbs and green belt. Measures will need to be adopted to ensure all new homes function well for residents now and in the future including generous space standards, being flexible, adaptable and accessible while ensuring they have access to sufficient communal space as well as private amenity space within dwellings or their boundaries. These standards would help to set a baseline ensuring new homes are fit for purpose and reduce the potential for any negative impacts on residents' health and well being.

Sustainability Aims	Impact	Comments on Impact
		While the options identify alternative approaches to where new housing could be located within the city, the inevitability is that whichever option is preferred the city will undergo a huge development drive to meet the housing needs of a growing population. This will put increased pressure on natural resources, which highlights the importance of ensuring that all new homes are future proofed against climate change. New homes will need to encompass sustainable design principles being energy and thermally efficient, water efficient, well ventilated and incorporate measures to reduce overheating. Materials should be sustainably sourced, minimising waste and their impact on the environment, while homes at risk of flooding should be designed to be flood resilient and resistant. Schemes should also incorporate SuDs to help manage flood risk and water quality.
10. The historic environment protected and enhanced.	?	Impact on heritage assets will depend on the location of allocated sites. Under this option there would still be significant levels of development and redevelopment of the existing urban area, including the City Centre, which may provide opportunities to restore heritage assets or better reveal their significance through new development. Some development in the Green Belt may impact on heritage assets, including historic landscapes.

Sustainability Aims	Impact	Comments on Impact
11. High quality natural landscapes protected and poor landscapes enhanced.	✓IX	The high quality landscapes around Sheffield are all currently within the Green Belt. The Green Belt covers around 9,070 ha, though not all of it would be regarded as valued landscape. Areas close to, and visible from, the Peak District National Park would be particularly sensitive and may form part of the National Park's fringe landscape, where development could potentially have a negative impact. Although most of the built-up areas of Sheffield are more than 1km from the National Park boundary some areas south of Stockbridge, west of Dore and Totley, north of Lodge Moor and west of Wharncliffe Side are within 1km of the National Park where the impact may be greater. We estimate that this option would affect less than 1.5% of the Green Belt (based on 5,000 homes at 50dph = requirement for 100ha, plus an assumed requirement of 30ha (equivalent to 30% of developed area) for open space and other uses). There are a small number of derelict brownfield sites in the Green Belt which are currently detrimental to landscape character and where poor landscapes could potentially be improved through redevelopment, though some of these are poorly related to the existing urban areas. Overall, this option would have a greater adverse impact on landscape character than Option A.
12. Ecological and geological assets created, conserved, managed and enhanced.	✓IXI?	Option B would include development within the green belt which would have a negative impact on the environment resulting in the loss of existing habitats and biodiversity. Measures would need to be taken to ensure designated sites of ecological and geological importance continue to be protected within the green belt. Where potential development sites within the city centre or wider urban area may be sited adjacent to designated sites e.g. River Don, schemes should sensitively respond to these ecologically and geologically important habitats and protect them through appropriate mitigation measures. Development across the city should help deliver and expand the future Nature Recovery Network (NRN), which will be developed and mapped as part of the Local Nature Recovery Strategy. Opportunities within a high density city centre may be somewhat limited, but where they arise should be maximised, while scope within the wider urban area may be more achievable and should positively help to expand the NRN wherever possible. While development in the green belt will cause a loss of habitat it may also result in the isolation of habitats or impact on the ability to connect them. Where this may occur measures should be implemented to minimise this risk.

Sustainability Aims	Impact	Comments on Impact
		Creating a high density city centre may likely limit opportunities to significantly increase biodiversity within it while it could also risk losing urban habitats. Opportunities to increase biodiversity within a densified city centre need to be maximised to help provide habitats for wildlife and increase green infrastructure e.g. green roofs, street trees, pocket parks, SuDs etc. Scope to increase biodiversity within the wider urban area should be more readily achievable on site and delivered through a wide range of measures to provide opportunities for nature. Development within the green belt will inevitably result in the loss of habitat and biodiversity. To reduce the impact of this loss, the importance of providing a biodiversity net gain on site will be paramount. Implementing measures to achieve a net gain in biodiversity will bring benefits to wider environmental gains in helping to reduce flood risk and air pollution, increase tree canopy cover, combat the urban heat island effect, help improve the quality and character of the public realm, while bringing benefits to residents' health and well being. Development will need to ensure it minimises its impact on habitats and the wider environment, as a result of flooding, pollution from run-off and emissions, damage, removal, over exploitation of natural resources and inappropriately located uses. Incorporating measures that would avoid or minimise the risk of these occurrences happening can also contribute to wider environmental gains and provide overall improvements in water and air quality, habitats and an increase in biodiversity. Opportunities within a high density city centre may be more limited, but where they arise should be maximised e.g. SuDs, tree planting, while measures should be more achievable within the wider urban area. The inclusion of development within the green belt in option B would have a negative effect on habitats and the environment, so the importance of minimising its impact is essential. Proposals should be identified and fully incorporated from the start of the design process regardless of where the site is located within the city and not deemed as an after thought. Where measures are implemented they should be accompanied by long term maintenance plans and also monitored where required e.g. Biodiversity Net Gain. Development across the city will need to ensure measures are taken to avoid the introduction of and reduce the spread of disease, pests and invasive non native species that may be harmful to our flora and fauna e.g. buy British grown stock. Opportunities to increase public access to nature within a high density city centre will be limited so, where they may arise they should be capitalised on e.g. riverside walks and public space, green roofs, street trees, pocket parks, SuDs etc. Greater scope will exist within the wider urban area and should be achieved more readily through the retention of existing landscape/habitat features, provision of street trees, hedgerows, gardens and multi functional public open space including SuDs. Green belt development will have the greatest scope to provide access to nature and so should be easily achieved. Increasing access to nature will provide people with opportunities for recreation and bring added benefits to their health and well being.

Sustainability Aims	Impact	Comments on Impact
		While opportunities to increase public access to nature should be capitalised on, it should be provided in a way which continues to protect and avoid damage to habitats and wildlife.
13. Water resources protected and enhanced.	✓/X	The population increase under Option B would still present an opportunity to promote Sheffield and its waterways and use them to help celebrate the heritage, culture and rich history of Sheffield. There would still also be an opportunity to reap the benefits of securing access along a city wide network of paths and riverside parkways from a central location (Sheffield Waterways Strategy 2014). The development of 40,000 additional homes, commercial development and other community facilities will increase the water usage and water treatment needs, but this can be partly mitigated by incorporating water conservation and water efficiency measures into new development (NPPF 2019, and Humber River Basin Management Plan, 2015). However this is true for all 3 Options. New development will increase hard-surfacing and run-off of pollutants into water courses which may be increased under Option B compared to C but less so than Option A. This is because a more densely packed urban environment with fewer gardens may make sustainable urban drainage (SuDS) methods (which can help reduce pollutants into water courses) more challenging. The range of SuDS methods available is also limited in central compared with suburban locations, though it is observed by the Lead local Flood Authority that developers are less willing to adopt SuDS in suburban locations. Focussing population increase in the central area associated with Option B may have greater implications for water demand and sewerage capacity pressures, but less so than Option A. This is when compared to Option C which would seek to spread population increase in smaller pockets across the city (implications for Water Resource Management Plan and Drought Plans by Yorkshire Water).

Sustainability Aims	Impact	Comments on Impact
14. Greenhouse gas emissions minimised and the impact of climate change effectively managed.	✓/X	Potentially higher greenhouse gas emissions than Option A, due to increased travelling distances from new homes to jobs and facilities. However, the majority of new homes would still be built within the existing urban area where access to sustainable modes of travel. A lower proportion of apartments would result in a larger carbon footprint than in Option A. Larger housing sites on Green Belt land can be accommodated without the need to build in high flood risk areas. There would potentially be opportunities to build flood alleviation works into new open spaces on larger sites, protecting both new and existing developments. Policies to promote energy conservation through sustainable design and the use of renewable energy would help to minimise emissions from new development. Compared to Option A, there would be less pressure to include site allocations options in Flood Zones 2 and 3 because such flood zones cover around a third of the city centre, and therefore less reliance on measures to adapt to climate change and the management of flood risk; making it easier for the Local Plan to pass the sequential and exception tests of site allocation options. New development will increase hard-surfacing which may increase surface water run-off and associated flood risk under Option B because of fewer gardens and a more densely packed urban environment. Option B would also limit the range of sustainable urban drainage (SuDS) methods available compared with Option C where there are more opportunities, though it is observed by the Lead local Flood Authority that developers are less willing to adopt SuDS in suburban locations.

Sustainability Aims	Impact	Comments on Impact
15. Environmental pollution improved and impacts on air quality minimised or mitigated.	✓/X	Potentially higher air pollution than Option A, due to increased travelling distances from new homes to jobs and facilities. However, the majority of new homes would still be built within the existing urban area where access to sustainable modes of travel. As the number of electric vehicles increase over the period of the plan, the negative impact on air quality will diminish. Could lead to an overall lower amount of reclamation and decontamination of brownfield sites reducing the regeneration of certain areas of the city/city centre/inner city as more greenfield sites in suburban areas would be available for development than in Option A. Those are likely to be developed in preference to those where land contamination is an issue. Greenfield sites are generally easier and cheaper to develop with less risk of land contamination. Potential of an increase in light pollution on some rural areas adversely affecting wildlife and ecology. Policies could help protect from unacceptable levels of noise and light pollution and to ensure suitable distances between any hazardous installations and environmentally sensitive uses.
16. Energy consumption minimised and use of sustainable energy sources maximised.	✓	Less potential to connect new homes to the District heating Network than under Option A. A lower number of overall apartments than in Option A may mean there is less opportunity for some renewable and low-carbon features such as solar panels or building wide heat and power generation facilities. Apartments are also more energy efficient than houses, resulting in lower energy consumption. Policies to promote energy conservation and use of renewable energy would help to minimise emissions from new development.

Sustainability Aims	Impact	Comments on Impact
17. Minimal production of waste and the reuse, recycling and recovery of waste maximised.	X/?	Although the overall levels of household waste have reduced over the last 10 years, the development of 40,000 additional homes and the associated population growth (projections show an additional 49,000 people by 2038), together with significant commercial development, is likely to increase the amount of waste generated. This can be partly mitigated by incorporating recycling measures into new development (for example, more on site recycling facilities, clearer signage to those facilities). A separate waste management plan is being considered by the 4 South Yorkshire local planning authorities. Until this is produced, it is not possible to say with any certainty how the reuse, recycling and recovery of waste is to be maximised.

Option C: Less dense central area, more new houses with private gardens in the suburbs

Distribution of new homes:

- a) Central area: 10,000 homes
- b) In existing urban area (outside the City Centre): 20,000 homes
- c) Green Belt: 10,000 homes*

*Including 250-750 homes would be developed in the Green Belt through conversion of existing buildings or redevelopment of brownfield sites (a continuation of current policy).

Sustainability Aims	Impact	Comments on Impact
1. A vibrant and competitive economy with good job opportunities available to the whole community.	✓	This Option will allow for the maximum potential level of new business development in the city centre, so there will be few constraints on business location and expansion in the key Growth Area of the city centre. However, a relatively low provision of new residential development in the Central Area will result in a smaller residential population in the city centre that could lead to a shortage in the potential workforce and demand for city centre services. The greater population proposed for the urban area will provide an enhanced workforce within a reasonable distance. However, this could result in additional congestion and a reduction in air quality due to the need for more people to make journeys into the central area and to the AMID. On the other hand, there will be additional economic benefits from a spread of new residential development around the city. Smaller businesses and those in local and district centres will benefit from a greater catchment population. Overall, we consider that the economic impacts of this Option will still be positive, as there will be an increase in population in many areas that will benefit most local businesses.

Sustainability Aims	Impact	Comments on Impact
2. Education and training opportunities.	✓✓	Development on Green Belt sites potentially provides even more opportunity (than Options A and B) to allocate land for new early years and schools to meet any shortfall in school places (due to the ability to utilise undeveloped land on the edge of the built-up areas). Schools on the edge of the built-up area may have opportunity for larger outdoor spaces with wider sports provision leading to greater learning outcomes. However, schools in the city centre under Option A may serve more diverse catchments, including deprived areas of the city, than they would on the edge of the urban area. Greater flexibility than Option A and B to fill existing city wide surplus school places, as demand would be spread wider (and not concentrated in the Central area). This will depend of the location of Green Belt development sites, and the existing school capacities. The potential need for new school places (alongside demographic modelling to more accurately predict future school age population) will need to be modelled as part of the site selection process. The Option poses little risk for competition for land and property between new homes and the universities' and colleges' plans and aspirations for expansion in the City Centre. Option C is less likely lead to a vibrant city centre leading to fewer opportunities for job growth and scope for business, incubator and start-up links to the universities and colleges.

Sustainability Aims	Impact	Comments on Impact
3. Decent and appropriate housing available to everyone.	✓✓	Provides significantly more opportunity to address the specific housing needs of each housing market area than Options A or B (though this would depend on the distribution of allocated sites). This option is likely to deliver the most affordable housing due to the better viability of sites in suburban locations (though this will vary depending on the market area), and simultaneously broaden the housing mix in those locations. Additional Green Belt sites would deliver higher numbers of larger homes suitable for families that we know are in higher demand. Including a greater mix of Green Belt sites in the housing supply would spread new homes across the city, and be most likely to ensure consistent delivery of homes regardless of changes in the housing market. Increases the likelihood of being able to deliver new homes in some areas of Sheffield that have few urban site options. This will improve the prospects for meeting a wider range of needs (both type and tenure) in those areas. Significantly less reliance on delivery of apartments in the central area, although still sufficient emphasis on City Centre delivery to ensure a supply of housing in that location to meet the needs of people, especially younger people, who move to the city to work and want to live centrally. Less risk of people wanting larger homes moving out of Sheffield.
4. A healthy population, with health services available to meet the needs of everyone	○	This option doubles the amount of development in the Green Belt compared with Option B. Larger Green Belt sites could potentially provide a critical mass for health facilities to be provided, although smaller Green Belt sites have less potential to do that. Also the location of the Green Belt sites will be a key factor. Some Green Belt near existing populations may create a critical mass for delivery of more health facilities, enhancing provision for existing and new residents. For others it would create a pressure on existing services to the detriment of existing and new residents. Given this, overall we consider this Option will deliver some positive and some negative impacts on balance.

Sustainability Aims	Impact	Comments on Impact
5. Open space and cultural, leisure and recreational facilities available for all.	?	This Option would mean that there would only be around half of the new housing in the Central Area when compared with Option A and double the amount of new housing in the more peripheral areas when compared with Option B which would again include releasing land from the Green Belt but at a significantly higher level. In terms of sustainability, there is a greater risk that new housing in the suburbs would not be in the most sustainable of locations and clearly there would be a significant impact in terms of greenfield development, affecting the Green Belt and the recreational opportunities that lie within and cross over biodiversity /intensification of existing recreation and leisure uses/places. Furthermore, this would mean locating significant new housing development away from the concentrations of built leisure and cultural facilities in and around the City Centre and in the Lower Don Valley. Even with comprehensive masterplanning and aiming to ensure that new residential developments also include new services and facilities as appropriate, and aiming to locate new peripheral housing development in the more sustainable outlying locations, this Option presents much more of a challenge when seeking to meet the overall aim of achieving sustainable development.
6. Significant development focused in locations that reduce the need to travel and the fullest possible use made of public transport, walking and cycling.	✓/X/?	This spatial option would result in a more dispersed population, and with more people living well outside the City Centre it is likely to lead to a greater need to travel. Of the three options, this is likely to result in the most and longest carbon and energy related trips and have greatest adverse impact. Because of that it could also require the greatest level of investment in mitigations and new infrastructure. As this option would require much more of the housing growth in peripheral areas it is more likely that some sites would need to be considered that are less well served by existing public transport infrastructure. This is likely to result in more journeys being made by car. Not only would this impact negatively on carbon and energy use it is also likely to exacerbate existing barriers to accessing opportunities for those households in Sheffield who do not have access to a car.

Sustainability Aims	Impact	Comments on Impact
7. An efficient transport network which maximises access and minimises detrimental impacts.	?	Significant investment in new public transport services and infrastructure would be required to mitigate the impacts. However, as with the other options, where growth proposals are aligned with the existing tram and high frequency bus network these would support a growth in patronage to enable increased viability of services and future expansion of frequency and capacity on existing routes. Improved public transport connections would offer an alternative to the car for some journeys. Large Green Belt sites located close to rail stations would provide some opportunity to promote rail travel for inter urban trips. It is important to note that under this option it is likely that some smaller Green Belt releases would also be required to achieve the growth required. It will depend which sites were brought forward, but as a general principle smaller peripheral sites are less likely to be well connected by existing public transport services, and are unlikely to provide sufficient passenger demand to sustain new services, or even extensions to existing ones. Journeys are likely to be longer meaning that cycling, particularly for commuting purposes, may not be an option for many people. Without a viable alternative, it is likely that these areas would default to becoming more reliant on the car, resulting in an increased contribution to the negative impacts upon air quality, carbon emissions and energy use. As with option B, the impact on the existing network will depend on the location of allocated sites. There would be less pressure on the City Centre but much more demand for travel across the city, resulting in greater infrastructure requirements. There are existing pressures on the Inner Ring Road, as acknowledged in the Sheffield Transport Strategy, and any major housing development on the western side of the city could impact further as increased numbers of people commute to the main employment areas within and to the east of the City Centre. Development on the eastern side of the city could reduce this impact, although it should be noted that this could increase pressure on the already congested Motorway junctions on the M1.

Sustainability Aims	Impact	Comments on Impact
8. Use of land which supports regeneration of the urban area and protection of valuable soil and mineral resources.	✓IX	Under this Option, 75% of new homes would still be built in the existing urban area, with a continued focus on brownfield sites. There is a further risk (compared to Option B) that developers will favour Green Belt sites rather than brownfield sites within the existing urban areas, which would result in a greater impact on soil resources. But some Green Belt sites could be held in reserve ("safeguarded") and delivered later in (or after the end of) the plan period, in order to promote building on brownfield sites first. It would result in further loss of agricultural land compared to Option B, though as noted under Option B, relatively little land in Sheffield is classified as Best and Most Versatile Land, so the impact on soils and the economic impact on agriculture are both likely to be low. Potential for mineral extraction could be assessed on a site by site basis, prior to non-mineral development occurring. This would prevent the sterilisation of any viable mineral reserves. Although less brownfield land would be developed than under Option A and B, there would still remain the feasibility of recycled aggregates (e.g. from demolitions) being used in some construction.
9. An attractive, high quality built environment that works well and lasts.	✓IXI?	Option C will densify the city centre though to a lesser degree than the previous options, but still concentrate a significant percentage of residents within the city core where the greatest concentration of facilities, employment opportunities and transport hubs are located. This could help to promote more sustainable, active lifestyles, with reduced car dependency, which may result in a reduction in carbon emissions within the city centre. Option C promotes the largest increase of homes within the green belt, which would likely see greater car dependency and significant increase in carbon emissions across the city. Opportunities should be explored to locate any green belt sites within the most sustainable locations nearest to existing transport hubs. Option C could offer opportunities for development to connect to the district heating system within the city centre. Although less than previous options density within the city centre would still be increased under Option C, which could lead to an increase in average building heights and have an adverse impact on the character of the city centre, listed buildings and conservation areas. Measures to deliver increased density should be explored through medium scale buildings providing a more sensitive response, allowing tall buildings to be used in specific key locations which aid legibility within the city centre. Option C could provide an opportunity to use new development and environmental improvements to improve the living environment in areas that are rundown or that lack distinctiveness within the city centre.

Sustainability Aims	Impact	Comments on Impact
		The inclusion of significant development within the Green Belt will have an impact on the sensitive character of the landscape. This will need a considered response to help integrate it within the landscape setting including appropriate mitigation measures, integration of existing landscape features, provision of extensive green infrastructure, use of local materials and potential restrictions on building heights. A high density core could have negative impacts on local microclimate conditions within the city centre. An increased population within the city centre offers scope to create a safer environment bringing more activity and surveillance onto streets and spaces. Option C would see significant development in the green belt, which would likely have an impact on landscape character. This would need to be mitigated through design measures to minimise its impact. Although option C would see an increase in density within the city centre, it would be less intense than previous options so there may be greater scope to provide opportunities for new public open space within schemes or on individual sites as a whole within the central core. These opportunities along with a reduction in potential homes built could potentially reduce the risk of overcrowding on existing open space. New developments would still need to ensure they provide sufficient accessible public, communal and private amenity space within schemes and individual dwellings. Option C would result in the significant loss of habitats due to there being a greater extent of development within the green belt; however development would be located to avoid designated sites of ecological or geological importance. If development is located adjacent to a designated site then an appropriate buffer would be included to reduce any impact of the development on the designated site. Development within the green belt would need to provide extensive green infrastructure to increase biodiversity, while creating opportunities for habitat creation to compensate for any loss. Densifying the city centre may limit opportunities to increase biodiversity within this location while potentially losing urban habitats, though this impact may be reduced to some degree through option C. Opportunities to increase biodiversity within a densified city centre need to be maximised to help provide habitats for wildlife, increase green infrastructure, help reduce flood risk and air pollution, combat the urban heat island effect, help improve the quality and character of the public realm, while bringing benefits to residents' health and well being. Option C would likely limit the types of dwellings within the city centre to apartments, while offering a wider range of larger family homes within the suburbs and green belt. Measures will need to be adopted to ensure all new homes function well for residents now and in the future including generous space standards, being flexible, adaptable and accessible while ensuring they have access to sufficient communal space as well as private amenity space within dwellings or their boundaries. These standards would help to set a baseline ensuring new homes are fit for purpose and reduce the potential for any negative impacts on residents' health and well being.

Sustainability Aims	Impact	Comments on Impact
		While the options identify alternative approaches to where new housing could be located within the city, the inevitability is that whichever option is preferred the city will undergo a huge development drive to meet the housing needs of a growing population. This will put increased pressure on natural resources, which highlights the importance of ensuring that all new homes are future proofed against climate change. New homes will need to encompass sustainable design principles being energy and thermally efficient, water efficient, well ventilated and incorporate measures to reduce overheating. Materials should be sustainably sourced, minimising waste and their impact on the environment, while homes at risk of flooding should be designed to be flood resilient and resistant. Schemes should also incorporate SuDs to help manage flood risk and water quality.
10. The historic environment protected and enhanced.	?	Impact on heritage assets will depend on the location of allocated sites. Under this option there would still be development and redevelopment within the existing urban area, including the City Centre, which may provide opportunities to restore heritage assets or better reveal their significance through new development. Some development in the Green Belt may impact on heritage assets, including historic landscapes.
11. High quality natural landscapes protected and poor landscapes enhanced.	✓IX	The high quality landscapes around Sheffield are all currently within the Green Belt. The Green Belt covers around 9,070 ha, though not all of it would be regarded as valued landscape. Areas close to, and visible from, the Peak District National Park would be particularly sensitive and may form part of the National Park's fringe landscape, where development could potentially have a negative impact. Although most of the built-up areas of Sheffield are more than 1km from the National Park boundary, some areas south of Stockbridge, west of Dore and Totley, north of Lodge Moor and west of Wharnccliffe Side are within 1km of the National Park where the impact may be greater. The impact in this option would be greater than option B as the number of homes proposed in this option is double that in Option B. We estimate that this option would affect less than 3% of the Green Belt (based on 10,000 homes at 50dph = requirement for 200ha, plus an assumed requirement of 60ha (equivalent to 30% of developed area) for open space and other uses). As with Option B, some Green Belt sites could be held in reserve ("safeguarded") and delivered later in (or after the end of) the plan period, in order to promote building on brownfield sites first. There are a small number of derelict brownfield sites in the Green Belt which are currently detrimental to landscape character and where poor landscapes could potentially be improved through redevelopment, though some of these are poorly related to the exiting urban areas. Overall, this option would have a greater adverse impact on landscape character than Options A or B.

Sustainability Aims	Impact	Comments on Impact
12. Ecological and geological assets created, conserved, managed and enhanced.	✓/XXI?	Option C would include increased development within the green belt over option B, which would have a significant negative impact on the environment resulting in a greater loss of existing habitats and biodiversity. Measures would need to be taken to ensure designated sites of ecological and geological importance continue to be protected within the green belt. Where opportunities may exist to provide waterside development within the city centre e.g. River Don, schemes should sensitively respond to these designated ecologically important habitats and protect them through appropriate mitigation measures. Development across the city should help deliver and expand the future Nature Recovery Network (NRN), which will be developed and mapped as part of the Local Nature Recovery Strategy. Option C may provide some opportunities within the city centre in comparison to A and B, if fewer homes are required potentially offering more space for nature in this location. Scope within the wider urban area may be more achievable and should positively help to expand the NRN wherever possible. Development in the green belt in option C will cause a significant loss of habitat and it may also result in the isolation of habitats or impact on the ability to connect them. Where this may occur measures should be implemented to minimise this risk. Option C may provide some scope to increase biodiversity in the city centre in comparison to A and B due to fewer homes and potential sites being required in this location. It may also result in the loss of fewer urban habitats. Opportunities to increase biodiversity within the city centre need to be maximised wherever possible to help provide habitats for wildlife and increase green infrastructure e.g. green roofs, street trees, pocket parks, SuDs etc. Scope to increase biodiversity within the wider urban area should be more readily achievable on site and delivered through a wide range of measures to provide opportunities for nature. Option C will further increase development within the green belt and will inevitably result in greater loss of habitat and biodiversity. To reduce the impact of this loss, the importance of providing a biodiversity net gain on site will be paramount. Implementing measures to achieve a net gain in biodiversity will bring benefits to wider environmental gains in helping to reduce flood risk and air pollution, increase tree canopy cover, combat the urban heat island effect, help improve the quality and character of the public realm, while bringing benefits to residents' health and well being.

Sustainability Aims	Impact	Comments on Impact
		Development will need to ensure it minimises its impact on habitats and the wider environment, as a result of flooding, pollution from run-off and emissions, damage, removal, over exploitation of natural resources and inappropriately located uses. Incorporating measures that would avoid or minimise the risk of these occurrences happening can also contribute to wider environmental gains and provide overall improvements in water and air quality, habitats and an increase in biodiversity. Opportunities within the city centre may be more limited, but where they arise should be maximised e.g. SuDs, tree planting, while measures should be more achievable within the wider urban area. The negative impact on habitats and the environment as a result of increased green belt development could be significant, so the importance of minimising its impact is essential. Proposals should be identified and fully incorporated from the start of the design process regardless of where the site is located within the city and not deemed as an after thought. Where measures are implemented they should be accompanied by long term maintenance plans and also monitored where required e.g. Biodiversity Net Gain. Development across the city will need to ensure measures are taken to avoid the introduction of and reduce the spread of disease, pests and invasive non native species that may be harmful to our flora and fauna e.g. buy British grown stock. Opportunities to increase public access to nature within the city centre will be limited so, where they may arise they should be capitalised on e.g. riverside walks and public space, green roofs, street trees, pocket parks, SuDs etc. Greater scope will exist within the wider urban area and should be achieved more readily through the retention of existing landscape/habitat features, provision of street trees, hedgerows, gardens and multi functional public open space including SuDs. Green belt development will have the greatest scope to provide access to nature and so should be easily achieved. Increasing access to nature will provide people with opportunities for recreation and bring added benefits to their health and well being. While opportunities to increase public access to nature should be capitalised on, it should be provided in a way which continues to protect and avoid damage to habitats and wildlife.

Sustainability Aims	Impact	Comments on Impact
13. Water resources protected and enhanced.	✓/X	A more modest population increase would still present an opportunity to promote Sheffield and its waterways and use them to help celebrate the heritage, culture and rich history of Sheffield, but less so than Option A and B. There would be fewer opportunities to reap the benefits of securing access along a city wide network of paths and riverside parkways from a central location (Sheffield Waterways Strategy 2014). The development of 40,000 additional homes, commercial development and other community facilities will increase the water usage and water treatment needs, but this can be partly mitigated by incorporating water conservation and water efficiency measures into new development (NPPF 2019, and Humber River Basin Management Plan, 2015). However this is true for all 3 Options. New development will decrease hard-surfacing and run-off of pollutants into water courses which may be increased under Option C compared to B and C. This is because a less densely packed urban environment with more gardens may make sustainable urban drainage (SuDS) methods (which can help reduce pollutants into water courses) less challenging. The range of SuDS methods available is broader compared with central locations, though it is observed by the Lead local Flood Authority that developers are less willing to adopt SuDS in suburban locations.

Sustainability Aims	Impact	Comments on Impact
14. Greenhouse gas emissions minimised and the impact of climate change effectively managed.	✓/XX	Potentially even higher greenhouse gas than Options A and B, due to more new homes having increased travelling distances to jobs and facilities. A lower proportion of apartments would result in a larger carbon footprint than in Options B and C. As with Option B, larger housing sites on Green Belt land can still be accommodated without the need to build in high flood risk areas. There would potentially be opportunities to build flood alleviation works into new open spaces on larger sites, protecting both new and existing developments. Policies to promote energy conservation through sustainable design and the use of renewable energy would help to minimise emissions from new development. There would be less pressure to include site allocations options in Flood Zones 2 and 3 because such flood zones cover around a third of the city centre, and therefore less reliance on measures to adapt to climate change and the management of flood risk; making it easier for the Local Plan to pass the sequential and exception tests of site allocation options. New development will decrease hard-surfacing which may decrease surface water run-off and associated flood risk under Option B because of more gardens and a less densely packed urban environment. Option C would also increase the range of sustainable urban drainage (SuDS) methods available compared with Option C where there are more opportunities to implement them, though it is observed by the Lead local Flood Authority that developers are less willing to adopt SuDS in suburban locations.
15. Environmental pollution improved and impacts on air quality minimised or mitigated.	✓/XX	Potentially higher air pollution than Options A and B, due to increased travelling distances from new homes to jobs and facilities. However, the majority of new homes would still be built within the existing urban area where access to sustainable modes of travel. As the number of electric vehicles increase over the period of the plan, the negative impact on air quality will diminish. Could lead to an overall lower amount of reclamation and decontamination of brownfield sites as more greenfield sites in suburban areas (Where there is generally a lower risk of land contamination issues) would be available for development in Options A and B.

Sustainability Aims	Impact	Comments on Impact
		Further potential of an increase in light pollution on some rural areas adversely affecting wildlife and ecology. Policies could help protect from unacceptable levels of noise and light pollution and to ensure suitable distances between any hazardous installations and environmentally sensitive uses.
16. Energy consumption minimised and use of sustainable energy sources maximised.	✓	Less potential to connect new homes to the District Heating Network than under Options A or B. A lower number of overall apartments than in Option A may mean there is less opportunity for some renewable and low-carbon features such as solar panels or building wide heat and power generation facilities. Apartments are also more energy efficient than houses, resulting in lower energy consumption. Policies to promote energy conservation and use of renewable energy would help to minimise emissions from new development.
17. Minimal production of waste and the reuse, recycling and recovery of waste maximised.	X/?	Although the overall levels of household waste have reduced over the last 10 years, the development of 40,000 additional homes and the associated population growth (projections show an additional 49,000 people by 2038), together with significant commercial development, is likely to increase the amount of waste generated. This can be partly mitigated by incorporating recycling measures into new development (for example, more on site recycling facilities, clearer signage to those facilities). A separate waste management plan is being considered by the 4 South Yorkshire local planning authorities. Until this is produced, it is not possible to say with any certainty how the reuse, recycling and recovery of waste is to be maximised.

Appendix F: Parameters for Identifying Significant Constraints in the Green Belt

Sheffield Site Assessments- High Level Environmental Constraints

SA Theme	Analysis	Method	Data used	Outputs	Interpretation/comments	Threshold for significant constraint
1. Biodiversity	SAC	Proximity to asset (near analysis tool)	SAC	Distance to asset		Any overlap (over 50%)
	SPA		SPA			Any overlap (over 50%)
	SSSI	Overlap (if any) (tabulate intersection tool)	SSSI	% and area overlap with asset		Any overlap (over 50%)
	LWS		LWS			Any overlap (over 50%)
	Ancient woodland		Ancient woodland			Any overlap (over 50%)
2. Climate change resilience	Flood zone 2	Overlap (tabulate intersection tool)	SFRA	% overlap with flood zone		Over 50% of area is within zones 2, 3a or 3b
	Flood zone 3a		SFRA			
	Flood zone 3b		SFRA			
3. Historic environment	Listed Building	Proximity to asset (near analysis tool)	Listed buildings	Distance to asset		Not likely to be a significant constraint
	Conservation area		Conservation areas			Not likely to be a significant constraint
	Scheduled monument		Scheduled monuments			Not likely to be a significant constraint

SA Theme	Analysis	Method	Data used	Outputs	Interpretation/comments	Threshold for significant constraint
	<i>Parks and gardens</i>		Parks and gardens			?
4. Landscape	<i>Landscape Character Assessment</i>	Overlap (tabulate intersection tool)	Landscape Character Assessment	% and area overlap with asset	Updated data	According to scoring thresholds provided by the council. 15-21, 21-27, 27-33 (Not significant constraints) 33.1-39 Scenario A - (Significant Constraint >33) Scenario B (significant Constraint >27)
5. Green Belt	<i>Green Belt performance</i>	Overlap (tabulate intersection tool)	Green Belt performance	% and area overlap with asset and performance score		Scenario A - Scores 5 in purposes 1 or 2. Scenario B – Scores 4 or 5 for purposes 1 or 2.
6. Land	<i>Agricultural land classification (pre-1988)</i>	Overlap (tabulate	Agricultural land classification (pre-1988)	% and area overlap with asset		Not likely to be a significant constraint

SA Theme	Analysis	Method	Data used	Outputs	Interpretation/comments	Threshold for significant constraint
	<i>Agricultural land classification (post-1988)</i>	intersection tool)	Agricultural land classification (post-1988)		Insufficient data/land surveyed for consistent appraisal of each site	Not likely to be a significant constraint
7. Open space	<i>Open space audit layers</i>	Overlap (tabulate intersection tool)	Open space audit layers	% and area overlap with asset	Analysis for each of the following datasets: - Informal open space - Outdoor sports (excl. golf) - Children's play areas	Not likely to be a significant constraint
8. Economy	<i>Employment land</i>	Overlap (tabulate intersection tool)	Employment land	% and area overlap with asset		Not likely to be a significant constraint

Methodology

- In terms of quantitative methods employed to evidence an initial sift of sites and site clusters, spatial analysis was undertaken on the sites in relation to a number of key constraints. This helped to identify those clusters of sites which could be considered 'reasonable', or 'unreasonable'.

Step 1- Identification of potential strategic clusters

- A manual assessment of all of the potential Green Belt sites was carried out, this focused on their location in relation to other sites and identified potential clusters of sites which could potentially deliver strategic growth.

Establishing thresholds for 'significant constraints'

- A number of key constraint 'themes' were identified, consisting of: biodiversity, flood risk, landscape and Green Belt. Other themes for initial assessments were identified (historic environment, land and soil, open space and employment land), though these were not deemed to be of a significance to exclude sites, especially where these constraints could be more easily mitigated.
- A threshold of 'significance' was established for each of the key constraint themes, which can be seen below:
 - o Biodiversity: Individual site overlap with SAC, SPA, SSSI, LWS or Ancient Woodland by 50%+
 - o Flood risk: Individual site overlap with Flood Zones 2, 3a or 3b by 50%+
 - o Landscape: According to the Council's landscape character assessment, those sites which have a score of over 33 (No/low capacity to accommodate change).
 - o Green Belt: According to the Council's Green Belt Review, any sites which score 5 for Green Belt purposes 1 and/or 2.

Site categorisation and sifting

- Sites could then be categorised as 'significantly constrained' or 'not significantly constrained'. Further to this, the sites were categorised into the number of dimensions of significant constraints which applied to each site.
- It is important to note that those sites identified as 'not significantly constrained' are not necessarily unconstrained. This initial sifting process helped to identify sites which were the least favourable in terms of key constraints.

Further consideration of site clusters and constraints

The site clusters which were considered to be 'significantly constrained' (see table above for definition of significance for each analysis) were then manually focused upon in terms of the potential for the removal of parcels of clusters to be omitted in order for the site to perform more strongly by reducing the potential for significant negative environmental effects. This process focused on determining whether strategic growth and its associated benefits would be likely to come forward in the absence of sites omitted to avoid more significant effects. This process was then replicated but considered a **more sensitive set of criteria** related to landscape and Green Belt criteria to omit sites.

Appendix G: Analysis of Strategic Locations (Housing)

Level of significance				
Major positive	✓✓✓	Neutral -	×××	Major negative
Moderate positive	✓✓		××	Moderate negative
Minor positive	✓		×	Minor negative

Strategic Location 1 (Handsworth)



<i>Economy</i>	<i>Housing</i>	<i>Health and wellbeing</i>	<i>Transport</i>	<i>Soil and Land</i>	<i>Historic Environment</i>	<i>Landscape and Townscape</i>	<i>Biodiversity and Geodiversity</i>	<i>Climate Resilience</i>	<i>Natural Resources</i>	<i>Resource efficiency</i>
✓	✓✓	✓✓	✓✓	x	x	xx	x	x	-	?

This strategic location falls to the east of the city with the northern parcel bounded to the north by the Sheffield to Lincoln line, and is adjacent to Rotherham, the Advanced Manufacturing Park and new housing development at Waverley. The southern parcels of land form a gap between the suburbs of Handsworth and Woodhouse. The strategic location mainly consists of part gently and part steeply sloping agricultural land, but other uses include football playing fields, allotments and areas of grassland with trees, shrubs and plants throughout.

Economy

This strategic location is well placed close to employment opportunities within the Innovation District area, the Lower Don Valley, City Centre and to opportunities in Rotherham. The development of this location for housing would not result in the loss of designated employment land. The southern land parcels in this location are considered to be more appropriate for housing use rather than employment expansion. However, whilst the northern land parcel is not directly adjacent to the Advanced Manufacturing Park, it is relatively well located and potentially suitable to accommodate employment use. The City Council is currently undertaking masterplanning work for the whole AMID area. Whilst the focus is on advanced manufacturing jobs, it is also considering the potential for complementary residential uses on sites in the area. This work is focusing on where intervention is likely to be needed in order to bring sites forward for development, rather than sites that can be considered likely to be developed without significant intervention. This site has been identified as one where a mix of employment and housing may be appropriate and the most beneficial option.). Development in this location should also support the vibrancy of the existing retail and service offer in Handsworth and the proposed new local centre at Waverley. Overall, a **minor positive effect** is predicted, as broadly positive effects from the good access to employment opportunities are undermined by the loss of potentially suitable employment land on the northern parcel. A mixed use site would resolve such issues, and should still allow for strategic housing development to be delivered.

Housing

Development would be close to existing neighbourhoods and given their size and with much land in a single ownership, should present good opportunities to ensure delivery of housing throughout the plan period. Overall, this location could deliver over 1000 dwellings, and therefore constitutes a **moderate positive effect**.

Health and wellbeing

Most of the land parcels at this strategic location are within a walkable distance of existing local primary schools, a secondary school and GP services. The scale of growth and likely land values involved should be able to support improvements to increase existing capacity or deliver new facilities and provision to support housing growth.

The location is also in close proximity to numerous informal open spaces, an allotment, football playing fields and a local wildlife site. Further afield, the location is in good proximity to the Rother Valley Country Park. There are opportunities for development to secure enhancements to existing open space and deliver new on-site provision. In this respect, a **moderate positive effect** is predicted.

Transport and accessibility

This strategic location is very well served by existing transport infrastructure, with high frequency bus routes running in close proximity along Handsworth Road, as well as being sandwiched between two train stations. The location further benefits from good cycle links which connect to a wider network serving the Advanced Manufacturing and Innovation District area, the City Centre and lower Don valley. This location therefore provides good existing opportunities to support a modal shift towards active and public transport modes. There is potential for new housing at this location to further support the business case for a new train station along the line to the north of the northern parcel to serve the immediate area. The local road network is however known to be highly congested during peak hours, with development likely to add further pressure.

This strategic location is well placed to employment opportunities including the Advanced Manufacturing Park immediately to the north. In terms of essential services, the location is nearby two GP services, primary and secondary schools, local convenience stores and an Asda Superstore.

Cumulatively, this location is predicted to generate **moderate positive effects**, with potential for major effects if potential issues in relation to traffic congestion can be addressed.

Soil and Land

The strategic location is greenfield and some parcels of land involved are categorised as Grade 3 agricultural land. The land parcel to the north is in current agricultural use, although this is not considered to be amongst the best and most versatile land. Overall, this constitutes **minor negative effects**.

Historic Environment

The strategic site to the north is relatively unconstrained with regards to designated heritage assets. The south-west corner of the southern land parcel includes cropmark features, although development on this part of the site could be avoided. Land to the south is adjacent to several listed buildings, but with careful design it ought to be possible to avoid direct impacts. There may be some effects on the setting of heritage assets, but these would likely be minor given the separation between areas of likely development and the heritage assets. As a result, uncertain **minor negative effects** are predicted.

Landscape and townscape

The landscape is fairly sensitive to change and development will likely result in negative effects in terms of the character, openness and the function of land. Unless the scale of growth is lowered considerably, it would be difficult to avoid and mitigate these effects. Therefore, **moderate negative effects** are predicted.

Biodiversity and Geodiversity

Parts of the northern parcel of land contain local wildlife sites. The location to the south is adjacent to Shirtcliff Brook, which is a wildlife site and contains parcels of ancient woodland. The location to the south further includes areas of grassland with trees, shrubs and plants to the north and east which are likely to be of ecological importance. Avoidance and mitigation should be able to safeguard the significance of these areas, but development will add increased recreational pressure and cause potential disturbance. Development also provides opportunities to secure improvements to wildlife sites and existing habitats, on-site biodiversity gain on land currently of lower value and improvements to ecological connectivity within and to the wider ecological network.

Overall, **minor negative effects** are predicted at this stage as it ought to be possible to avoid significant effects. If net gain is secured on site, then the effects would be positive in the longer term.

Climate change resilience

The parcels of land involved in this strategic location are not at significant risk of fluvial flooding.

In terms of the urban heat island effect, the loss of greenfield land on the edge of the Sheffield urban area could potentially worsen the situation. The effects would likely be minor in the context of the whole City but would likely contribute towards cumulative effects. It ought to be possible to secure green infrastructure throughout any development, which could help to minimise effects. However, the urbanisation of greenfield land is likely to have some residual negative effects with regards to heating. In this respect, **minor negative effects** are predicted.

Natural resources and pollution

Existing uses in the surrounding area are unlikely to be a major constraint to housing development with regards to amenity. Whilst there is a rail line to the north of the northern parcel, potential adverse noise and visual amenity effects can be mitigated through improving the existing screening along the railway line.

With regards to water quality, this location is not within groundwater protection zones. However, the strategic location contains waterbodies and the southern land parcel is adjacent to a watercourse, and it will therefore be necessary to ensure that effects during construction are managed. In terms of diffuse pollution, the change of use of some land currently in agricultural use should reduce potential existing pollution resulting from farming activities in an area which falls within nitrate vulnerable zones. New development and urbanisation could also give rise to increased pollutants in run-off and water that drains into nearby watercourses such as Shirtcliff Brook, although potential adverse effects can likely be mitigated.

There is potential land contamination related to opencast coal mining in a linear area along the railway line and from other sources at a grassed area with trees and shrubs to the west of the northern land parcel. Whilst restoration of contamination from opencast coal mining can be costly, with the land currently being in agricultural use, the likelihood of high contamination is low, and development presents opportunities for remediation or could potentially avoid contaminated areas. Remediation could potentially improve water quality, although the cumulative effects are likely to be negligible considering the small scale. Overall, it is expected that **neutral effects** would be achieved.

Climate change mitigation and resource efficiency

The carbon and environmental footprint of new development can be addressed through layout and design. A barrier to achieving higher standards is low land values and higher residual costs associated with remediation and infrastructure. The northern land parcel of this strategic location is known to contain potentially contaminated land, which could add to development costs. However, these areas could potentially be avoided or used for non-residential ancillary uses, given the proximity of the northern area to the railway line and the southern area being within an existing grassed and wooded area. At this stage it is unclear whether this location would offer a reduced or increased opportunity to secure higher levels of sustainability in design and construction. **Neutral effects** are predicted.

Site Appraisal classifications (in relation to significant constraints)

Site	Significant Biodiversity Constraints	Significant Flood Risk Constraints	Significant Landscape Constraints	Significant Green Belt Constraints	Strategic Cluster
S01119	No	No	No	No	1
S02426	No	No	No	No	1
S02502	No	No	No	No	1
S03019	No	No	No	No	1
S03020	No	No	No	No	1
S03021	No	No	No	No	1
S03022	No	No	No	No	1
S03061	No	No	No	No	1
S03651	No	No	No	No	1

S04385	No	No	No	No	1
Discussion					
The Handsworth strategic location does not contain any individual sites which are considered to be significantly constrained in terms of biodiversity, flood risk, landscape or Green Belt (according to the parameters set for identifying strategic clusters). This is reflected by the fact that there are no major negative effects in the options appraisal. The most negative score is a moderate negative for Landscape and Townscape, which relates to cumulative effects (i.e. all the sites being released together). Looking at the potential strategic growth location in terms of '<i>less significant constraints</i>' (i.e. scenario B), sites S03019 and S03020 do have greater sensitivities with regards to landscape and Green Belt impacts. To lessen these impacts, both sites could be removed. However, this would be detrimental to the ability for this cluster of growth to deliver strategic benefits; these sites form a large proportion of the southern area of the proposed strategic location and S02502 would be left segregated from the rest of the growth sites. Site S03061 (the large northern parcel of land) is also considered to be somewhat constrained in terms of its landscape; removing this site would be expected to significantly reduce the potential for the site to deliver strategic benefits. Considering the removal of S03019, S03020 and S02502 to lessen the effects upon landscape and Green Belt outcomes would be expected to prevent strategic growth being delivered in this location.					
Potential to deliver strategic growth under Scenario A			Potential to deliver strategic growth under Scenario B		
Very likely			Very unlikely		

OPTIONS

1. Retain strategic location as a reasonable alternative without amending site boundaries. Landscape effects could still be addressed through careful layout and mitigation measures such as landscape buffers and the inclusion of open space. Potential effects on heritage would need to be addressed through layout and design. This approach would be consistent with that taken for other strategic clusters.
2. Remove the more sensitive sites to the south of the cluster (S03120, S03119, S02502). This would reduce effects on landscape, and there would still be sufficient capacity on remaining sites to deliver strategic growth (over 1500 dwellings). The site to the north would also be moderately constrained in terms of landscape, but it does potentially provide more direct benefits in relation to rail line improvements..
3. Remove the site to the north S03061. The cluster of sites to the south would perhaps be more difficult to coordinate as a strategic cluster given the multiple parcels of land, and would not deliver as many homes (closer to 1000 dwellings). These sites are also constrained in terms of landscape so one may question it being favoured over the northern site.

RECOMMENDATION:

Option 1 - Retain Strategic Location as a reasonable alternative without amending site boundaries.

Strategic Location 2 (West of Mosborough)



<i>Economy</i>	<i>Housing</i>	<i>Health and wellbeing</i>	<i>Transport</i>	<i>Soil and Land</i>	<i>Historic Environment</i>	<i>Landscape and Townscape</i>	<i>Biodiversity and Geodiversity</i>	<i>Climate Resilience</i>	<i>Natural Resources</i>	<i>Resource efficiency</i>
✓	✓✓	✓✓	✓	✗	✗✗	✗✗	✗	✗	-	-

This strategic location falls to the south-east of the city and mostly consists of gently rolling agricultural land which is steep in parts. The area to the east falls in good proximity to community facilities and services in the central area of Mosborough. The field to the east and adjacent to the playground is also used widely for recreation and as an informal play area. There is a small hamlet, Plumbley, to the south of the strategic location site, with the site sustaining its rural surrounds from the otherwise urbanised and contained area of Mosborough.

Economy

This strategic location is well placed to employment opportunities locally in and around Crystal Peaks and Holbrook Industrial Estate. The development of this location for housing would not result in the loss of employment land. The land parcels in this location are also considered to be more appropriate for housing use rather than employment expansion. Development in this location should also support the vibrancy of the existing retail offer locally in the Mosborough area and in and around Crystal Peaks. Overall, a **minor positive effect** is predicted.

Housing

Development would be close to existing neighbourhoods and given their size, should present good opportunities to ensure delivery of housing throughout the plan period. Overall, this location could deliver over 1000 dwellings, and therefore constitutes a **moderate positive effect**.

Health and wellbeing

Most of the strategic location is within a walkable distance of an existing primary schools and GP services. The scale of growth and likely land values involved should be able to support improvements to increase existing capacity or deliver new facilities including a primary school. This location is not within a walkable distance of a secondary school and the scale of growth is unlikely to be able to support new onsite facilities.

The location is also in close proximity to informal open space, open countryside, a playground, a golf course and a local wildlife site. Further afield, the location is in good proximity to the Rother Valley Country Park. There are opportunities for development to secure enhancements to existing open space and deliver new on-site provision. Overall, a **moderate positive effect** is predicted.

Transport and accessibility

Parts of the strategic location are served by a frequent bus route to the north along the A6135 and benefits from good cycle links, which intersects the site and connects to a wider network serving the Halfway tram stop, nearby Morrisons store and Holbrook Industrial Estate.

This location therefore provides some opportunities to support a modal shift towards active and public transport modes. There is potential for new housing at this location to further support bus improvements. However substantial investment would be required, and development would also add to local traffic.

This strategic location is well placed to employment opportunities. In terms of essential services, the location is in close proximity to a GP service and primary school. Further afield, there is a secondary school, local convenience stores and a Morrisons Superstore.

Cumulatively, this location is predicted to generate **minor positive effects**.

Soil and Land

The strategic location is greenfield, categorised as Grade 3 agricultural land and some of the land is in current agricultural use. This constitutes **minor negative effects**.

Historic Environment

This strategic location is relatively unconstrained with regards to designated heritage assets. There is a small group of Grade II listed buildings to the west and a Grade II listed farmhouse to the south. However, adverse effects can likely be avoided through sensitive design. The location to the west includes landscape of high historic significance with the location known to include fossilised medieval landscape. Overall, a **moderate negative effect** is predicted.

Landscape and townscape

The landscape is fairly sensitive to change and development will likely result in negative effects in terms of the character, openness and the function of land. Unless the scale of growth is lowered considerably, it would be difficult to avoid and mitigate these effects. Development at this location will further cause coalescence between the Mosborough area and Plumbley. Overall, **moderate negative effects** are predicted.

Biodiversity and Geodiversity

There are small parcels of local wildlife sites which overlap with the strategic location. Avoidance and mitigation should be able to safeguard the significance of these areas, but development will add increased recreational pressure and cause potential disturbance. Development also provides opportunities to secure improvements to wildlife sites and existing habitats, on-site biodiversity gain on land currently of lower value and improvements to ecological connectivity within and to the wider ecological network.

Overall, **minor negative effects** are predicted at this stage as it ought to be possible to avoid significant effects. If net gain is secured on site, then the effects would be positive in the longer term.

Climate change resilience

The parcels of land involved in this strategic location are not at significant risk of fluvial flooding.

In terms of the urban heat island effect, the loss of greenfield land on the edge of the urban area is likely to worsen the situation and whilst in the context of the City potential effects are minor, this would contribute to cumulative effects. However, compared to other strategic locations, this strategic location falls within a less dense surrounding urban environment, which should help reduce the intensity of potential effects. Furthermore, the land parcels within this location provide opportunities for development to incorporate new green infrastructure and open space. However, the urbanisation of greenfield land is likely to have some residual negative effects with regards to heating. In this respect, **minor negative effects** are predicted.

Natural resources and pollution

Existing uses in the surrounding area are unlikely to be a major constraint to housing development with regards to amenity.

With regards to water quality, this location is not within groundwater protection zones. However, the strategic location contains tributaries to the river Moss to the south, and it will therefore be necessary to ensure that effects during construction are managed. In terms of diffuse pollution, the change of use of some land currently in agricultural use should reduce potential existing pollution resulting from farming activities in an area which falls within nitrate vulnerable zones. New development and urbanisation could also give rise to increased pollutants in run-off and water that drains into watercourses and The Moss nearby, although potential adverse effects can likely be mitigated.

There is a negligible area of potential land contamination to the north west of this strategic location and the location is adjacent to a small area of potential historic landfill. Opportunities for remediation are limited due to the small scale of potential contamination and residential development in this area could be avoided.

Overall, it is expected that **neutral effects** would arise.

Climate change mitigation and resource efficiency

The carbon and environmental footprint of new development can be addressed through layout and design. A barrier to achieving higher standards is low land values and higher residual costs associated with remediation and infrastructure. This strategic location is known to contain a negligible area of potentially contaminated land, which is not likely to add to development costs due to limited opportunities for remediation and because residential development in this area could be avoided without undermining the development capacity of the location. At this stage it is unclear whether this location would offer a reduced or increased opportunity to secure higher levels of sustainability in design and construction. Therefore, **neutral effects** are predicted.

Site Appraisal (significantly constrained sites)

Site	Significant Biodiversity Constraints	Significant Flood Risk Constraints	Significant Landscape Constraints	Significant Green Belt Constraints	Strategic Cluster
S03062	No	No	No	No	2

Discussion

The strategic location to the West of Mosborough does not contain sites which are considered to be significantly constrained in terms of biodiversity, flood risk, landscape or Green Belt;

Looking at the potential strategic growth location through scenario B, the site does have some sensitivity in terms of potential impacts on landscape and Green Belt outcomes (reflected in the moderate negative effect recorded in the options appraisal).

The landscape data does not differentiate which parts of the site are most sensitive, and therefore it is not appropriate to suggest that the site could be amended at this stage. Given that there is only one site involved, it is not possible to remove this as there would no longer be potential to deliver strategic growth.

Potential to deliver strategic growth under Scenario A

Potential to deliver strategic growth under Scenario B

Very likely

Very unlikely

RECOMMENDATION:

Retain Strategic Location as a reasonable alternative without amending site boundaries. Landscape effects could still be addressed through careful layout and mitigation measures such as landscape buffers and the inclusion of open space. This might reduce capacity somewhat, but not to a level that would mean strategic growth is not possible.

Strategic Location 3 (South of Birley Estate)



<i>Economy</i>	<i>Housing</i>	<i>Health and wellbeing</i>	<i>Transport</i>	<i>Soil and Land</i>	<i>Historic Environment</i>	<i>Landscape and Townscape</i>	<i>Biodiversity and Geodiversity</i>	<i>Climate Resilience</i>	<i>Natural Resources</i>	<i>Resource efficiency</i>
✓	✓✓	✓	✓✓✓	x	x	x	-	x	-	-

This strategic location falls to the south-east of the city with the blue tram route to the north and the partial outer ring road (A6102) in good proximity to the west. This location mainly comprises a golf course with the site parcel to the north east gently sloping and partly wooded and the parcel to the south east steep in character and consisting of what appears to be agricultural land.

Economy

This strategic location benefits from good public transport and road access to employment opportunities in the City Centre and locally in and around Crystal Peaks and Holbrook Industrial Estate. This strategic location is also within reasonable accessibility of the Advanced Manufacturing and Innovation District area. The development of this location for housing would not result in the loss of employment land. However, there would be some loss of employment associated with the golf course. The land parcels in this location are also considered to be more appropriate for housing use rather than employment expansion. Development in this location should also support the vibrancy of the existing retail offer locally in and around Crystal Peaks. Overall, a **minor positive effect** is predicted.

Housing

Development would be close to existing neighbourhoods and given their size, should present good opportunities to ensure delivery of housing throughout the plan period. The land parcel to the south east is steeply sloping which could result in higher remediation and construction costs, reducing opportunities to obtain a higher contribution of affordable housing and the provision for smaller housing types which may be less viable in this location. Overall, this location could deliver over 1000 dwellings, and therefore constitutes a **moderate positive effect**.

Health and wellbeing

Most of the strategic location is within a walkable distance of an existing primary school, a secondary school and a GP service. The scale of growth and likely land values involved should be able to support improvements to increase existing capacity or deliver new facilities including a primary school.

The land parcel to the west comprises a golf course and development would result in its loss. The location is also in close proximity to informal open space, open countryside and a local wildlife site. There are opportunities for development to deliver on-site open space provision. Whilst there is a loss of recreation facilities, these are not publicly accessible, and could be offset by the provision of new open space. Therefore, a **minor positive effect** is recorded overall to reflect good access to green space, health care and other facilities.

Transport and accessibility

This strategic location is very well served by existing public transport infrastructure, with the blue tram route and tram stops to the north and a frequent bus route to the east along the A6135. The location further benefits from good road access and is in close proximity to the partial outer ring road (A6102). However, the location is not served by cycle links, undermining opportunities for active travel unless significant improvements are made in this respect. This strategic location is well placed to employment opportunities. In terms of essential services, the location is nearby a GP service, primary and secondary schools. Cumulatively, this location is predicted to generate potential **major positive effects**.

Soil and Land

The strategic location is greenfield and categorised as Grade 3 agricultural land. Most of the land consists of a golf course and the remaining land is not known to be in current agricultural use. As such, **minor negative effects** are predicted.

Historic Environment

This strategic location is relatively unconstrained with regards to designated heritage assets and historic landscapes. The strategic location does not fall within proximity to or the likely setting of listed buildings or scheduled monuments. However, the land parcel to the west which comprises a golf course falls within the Moss Valley conservation area. There is potential for development to have adverse effects on the character of the conservation area. Therefore, an **uncertain minor negative effect** is predicted.

Landscape and townscape

The landscape is somewhat sensitive to change but the land parcels benefit from strong boundaries which provide a degree of enclosure and confinement for potential development. Unless the scale of growth is lowered considerably, development will likely cause harm to the character of the landscape and the function of land, and these effects will be difficult to avoid and mitigate. Overall, **minor negative effects** are predicted.

Biodiversity and Geodiversity

The strategic location does not include designated sites, but the location includes and adjoins woodland and clusters of grassland with trees, shrubs and plants which are likely to be of ecological importance. Avoidance and mitigation should be able to safeguard the significance of these areas, but development will add increased recreational pressure and cause potential disturbance on land parcels to the east. Development also provides opportunities to secure improvements to existing habitats, on-site biodiversity gain and improvements to ecological connectivity within and to the wider ecological network.

Overall, **neutral effects** are predicted at this stage as it ought to be possible to avoid significant effects on existing habitats. If net gain is secured on site, then the effects would be positive in the longer term.

Climate change resilience

The parcels of land involved in this strategic location are not at significant risk of fluvial flooding.

In terms of the urban heat island effect, the loss of greenfield land on the edge of the urban area is likely to worsen the situation and whilst in the context of the City potential effects are minor, this would contribute to cumulative effects. However, compared to other strategic locations, this strategic location falls within a less dense surrounding urban environment, which should help reduce the intensity of potential effects. Furthermore, the land parcels within this location provide opportunities for development to incorporate new green infrastructure and open space. However, the urbanisation of greenfield land is likely to have some residual negative effects with regards to heating. In this respect, **minor negative effects** are predicted.

Natural resources and pollution

Existing uses in the surrounding area are unlikely to be a major constraint to housing development with regards to amenity. Whilst there is a tram route to the north of the strategic location, potential visual adverse effects are not predicted, and adverse noise effects are not likely to be significant and can be mitigated.

With regards to water quality, this location is not within groundwater protection zones. However, the strategic location contains a watercourse to the south of the golf course and intersecting between the two eastern land parcels. It will therefore be necessary to ensure that effects during construction are managed. In terms of diffuse pollution, new development and urbanisation could give rise to increased pollutants in run-off and water that drains into nearby watercourses, but potential adverse effects can likely be mitigated.

There is an area of potential land contamination in the northern part of the land parcel to the south east related to former colliery works. Development presents some opportunities for remediation, but residential development is more likely to be avoided in this area if contaminated due to the costs and challenges involved to remediate.

Overall, it is expected that **neutral effects** would be achieved.

Climate change mitigation and resource efficiency

The carbon and environmental footprint of new development can be addressed through layout and design. A barrier to achieving higher standards is low land values and higher residual costs associated with remediation and infrastructure. This strategic location is known to contain an area of potentially contaminated land, which is not likely to significantly add to development costs or undermine the development capacity of the location (considering the need for ancillary uses such as open space). At this stage it is unclear whether this location would offer a reduced or increased opportunity to secure higher levels of sustainability in design and construction. Therefore, **neutral effects** are predicted.

Site Appraisal (significantly constrained sites)

Site	Significant Biodiversity Constraints	Significant Flood Risk Constraints	Significant Landscape Constraints	Significant Green Belt Constraints	Strategic Cluster
S03004	No	No	No	No	3
S03071	No	No	No	No	3
S03247	No	No	No	No	3
S04242	No	No	No	No	3

Discussion

The South of Birley Estate strategic cluster of sites does not contain sites which are considered to be significantly constrained in terms of biodiversity, flood risk, landscape or Green Belt (under Scenario A).

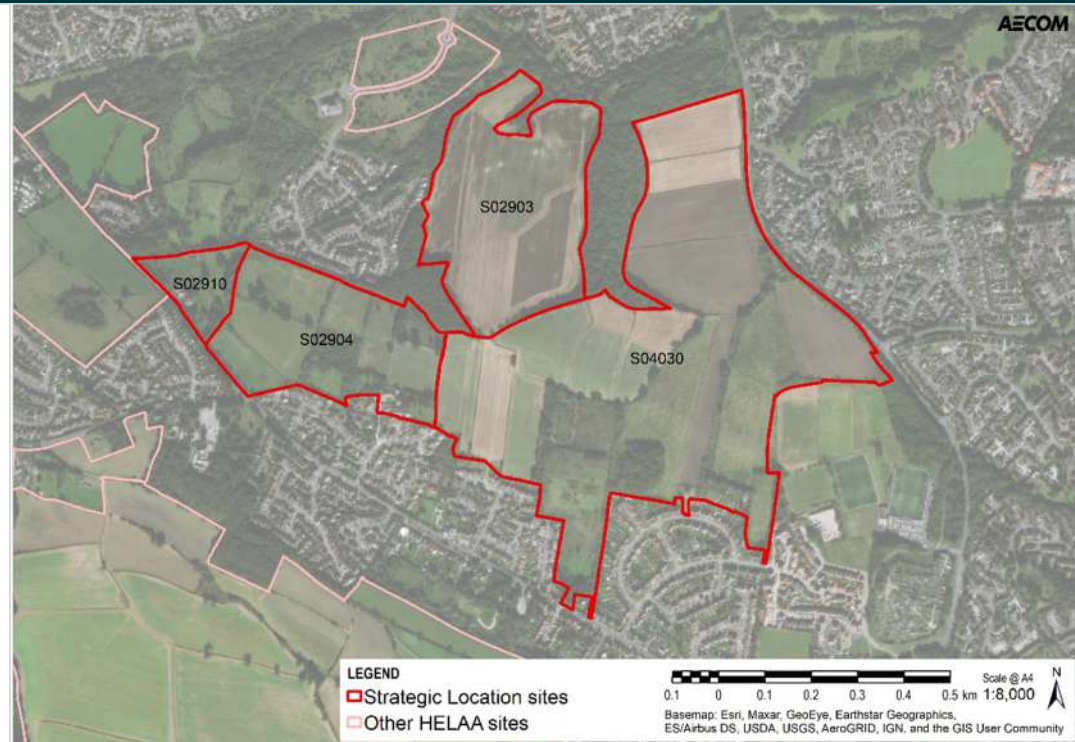
Looking at the potential strategic growth location in terms of Scenario B, none of the sites are identified as being moderately constrained in terms of biodiversity, flood risk, landscape or Green Belt (as reflected by only minor negative effects in the options appraisal).

Potential to deliver strategic growth under Scenario A	Potential to deliver strategic growth under Scenario B
Very likely	Very likely

RECOMMENDATION:

Retain strategic location as a reasonable alternative without amending site boundaries.

Strategic Location 4 (Owlthorpe/ Mosborough)



<i>Economy</i>	<i>Housing</i>	<i>Health and wellbeing</i>	<i>Transport</i>	<i>Soil and Land</i>	<i>Historic Environment</i>	<i>Landscape and Townscape</i>	<i>Biodiversity and Geodiversity</i>	<i>Climate Resilience</i>	<i>Natural Resources</i>	<i>Resource efficiency</i>
✓	✓✓	✓	✓✓	✗	✗	✗✗✗	✗✗	✗	-	-

This strategic location falls to the south-east of the city with the blue tram route to the north, the Crystal Peaks shopping centre and Drakehouse retail park to the north east and the Holbrook industrial estate in good proximity to the east. The parcels of land mostly consist of agricultural land but also include grassland (mostly to the west and south-east), some of which is wooded and includes trees and shrubs. Most of the area in agricultural use is gently rolling and the grassland to the west is steep and downward sloping towards Moorthorpe Rise. There is also a paddock to the west of the site along the A6135.

Economy

This strategic location is well placed to employment opportunities locally in and around Crystal Peaks and Holbrook Industrial Estate and is within reasonable accessibility of the City Centre and Advanced Manufacturing and Innovation District area. The development of this location for housing would not result in the loss of employment land. The land parcels in this location are also considered to be more appropriate for housing use rather than employment expansion. Development in this location should also support the vibrancy of the existing retail offer locally in and around Crystal Peaks. Overall, a **minor positive effect** is predicted.

Housing

Development would be close to existing neighbourhoods and given their size, should present good opportunities to ensure delivery of housing throughout the plan period. The land to the west is steeply sloping which could result in higher remediation and construction costs, reducing opportunities to obtain a higher contribution of affordable housing. Overall, this location could deliver over 1000 dwellings, and therefore constitutes a **moderate positive effect**.

Health and wellbeing

Some of the strategic location is within a walkable distance of existing primary schools and GP services. However, most of this location is not within a walkable distance of GP services and a secondary school and the scale of growth is unlikely to be able to support new onsite facilities. The scale of growth and likely land values involved should be able to support improvements to increase existing capacity or deliver a primary school.

The location is also in close proximity to informal open space, playing fields, sports facilities, an allotment and local wildlife sites. Further afield, the location is in good proximity to the Rother Valley Country Park. There are opportunities for development to secure enhancements to existing open space and deliver new on-site provision. Overall, a **minor positive effect** is predicted.

Transport and accessibility

This strategic location is served by existing public transport infrastructure including the blue tram route and a tram stop (Moss Way) to the north and frequent bus routes to the north along Ochre Dike Lane/ Moss Way and south along the A6135. The location is also adjacent to a cycle route to the east connecting to nearby tram stops, Crystal Peaks shopping centre and Holbrook Industrial Estate. The development of the site provides opportunities to extend the cycle network and support a modal shift towards active and public transport modes, but this would require investment.

This strategic location is well placed to employment opportunities. In terms of essential services, the location is in close proximity to GP services, but is slightly distant to existing primary and secondary schools. However, the scale of development involved should be able to deliver a new primary school. Overall, this location is predicted to generate **moderate positive effects**, as the location has good accessibility to transport infrastructure and services and provides opportunities to support a modal shift to active and public transport modes but is slightly distant to a secondary school.

Soil and Land

The strategic location is greenfield, categorised as Grade 3 agricultural land and most of the land is in current agricultural use. This constitutes **minor negative effects**.

Historic Environment

The strategic location does not fall within proximity or the likely setting of listed buildings, scheduled monuments, conservation areas or other statutory or non-statutory historic designations and assets. However, the location to the west includes an area with ridge and furrow features and an area of significant historic landscape to the south including well-preserved strip field patterns. An uncertain **minor negative effect** is predicted, derived from potential harm to important historic landscape features.

Landscape and townscape

The landscape is sensitive to change, particularly to the west of the location which has long distance views and is prominent and open in character. Development will likely result in negative effects in terms of the character, openness and the function of land. Unless the scale of growth is lowered considerably, it would be difficult to avoid and mitigate these effects. Overall, **major negative effects** are predicted.

Biodiversity and Geodiversity

Parts of the strategic location contain local wildlife sites. The location to the west further includes areas of grassland with trees, shrubs and plants which are likely to be of some ecological value. Avoidance and mitigation should be able to safeguard the significance of these areas to an extent, but development will add increased recreational pressure and cause disturbance and fragmentation. Development also provides opportunities to secure improvements to wildlife sites and existing habitats, on-site biodiversity gain on land currently of lower value and improvements to ecological connectivity within and to the wider ecological network.

Overall, **moderate negative effects** are predicted at this stage. If net gain is secured on site, then the effects would be positive in the longer term.

Climate change resilience

The parcels of land involved in this strategic location are not at significant risk of fluvial flooding.

In terms of the urban heat island effect, the loss of greenfield land on the edge of the urban area is likely to worsen the situation and whilst in the context of the City potential effects are minor, this would contribute to cumulative effects. However, compared to other strategic locations, this strategic location falls within a surrounding urban environment with a network of open spaces, which should help reduce the intensity of potential effects. Furthermore, the land parcels within this location provide opportunities for development to incorporate new green infrastructure and open space. However, the urbanisation of greenfield land is likely to have some residual negative effects with regards to heating. In this respect, **minor negative effects** are predicted.

Natural resources and pollution

Existing uses in the surrounding area are unlikely to be a major constraint to housing development with regards to amenity.

With regards to water quality, this location is not within groundwater protection zones. However, the strategic location contains several waterbodies and a watercourse which flows into the Ochre Dyke along the northern boundary, and it will therefore be necessary to ensure that effects during construction are managed. In terms of diffuse pollution, the change of use of most of the land currently in agricultural use should reduce potential existing pollution resulting from farming activities in an area which falls within nitrate vulnerable zones. New development and urbanisation could also give rise to increased pollutants in run-off and water that drains into nearby watercourses such as Ochre Dyke, although potential adverse effects can likely be mitigated.

There is a negligible area of potential land contamination mainly comprising potential historic landfill. Opportunities for remediation are limited due to the small scale of potential contamination, appropriateness of the area to be preserved for its potential biodiversity and ecological value and as residential development in this area could be avoided.

Overall, it is expected that **neutral effects** would be achieved.

Climate change mitigation and resource efficiency

The carbon and environmental footprint of new development can be addressed through layout and design. A barrier to achieving higher standards is low land values and higher residual costs associated with remediation and infrastructure. This strategic location is known to contain a negligible area of potentially contaminated land, which is not likely to add to development costs due to limited opportunities for remediation and because residential development in this area could be avoided without undermining the development capacity of the location. At this stage it is unclear whether this location would offer a reduced or increased opportunity to secure higher levels of sustainability in design and construction. Therefore, **neutral effects** are predicted.

Site Appraisal (significantly constrained sites)

Site	Significant Biodiversity Constraints	Significant Flood Risk Constraints	Significant Landscape Constraints	Significant Green Belt Constraints	Strategic Cluster
S02903	No	No	No	No	4
S02904	No	No	Yes	No	4
S02910	No	No	Yes	No	4
S04030	No	No	No	No	4

Discussion

The Owlthorpe/Mosborough strategic cluster of sites does not contain sites which are considered to be significantly constrained in terms of biodiversity, flood risk or Green Belt. Two of the four sites (S02904 and S02910), however, are considered to be significantly constrained in terms of their landscape. By removing these two parcels of land from the cluster, the western side of the strategic growth area would essentially be removed, raising potential issues related to the ability for the remaining site to deliver strategic benefits. The remaining parcel of land would still have potential to deliver around 1000 dwellings though, which could perhaps still deliver strategic growth..

Looking at the potential strategic growth location in terms of less significant constraints, all four sites are identified as being moderately constrained in terms of their landscape making it unlikely that using this more sensitive approach to discount sites would deliver strategic growth in this location. This is reflected by a major negative effect with regards to landscape in the options appraisal (which factors in cumulative effects of all the sites)

Potential to deliver strategic growth under Scenario A	Potential to deliver strategic growth under Scenario B
Very likely	Very unlikely

Options

1. Removal of the more sensitive locations will reduce the potential for landscape effects from major to moderate. This would also have knock on benefits with regards to biodiversity. However, the positive effects recorded for housing would be reduced and there would be some question marks over the potential to secure the full benefits of strategic growth. Over 1000 dwellings could still be delivered though.
2. Keeping the more sensitive parcels of land in the cluster means that major landscape effects are likely to remain without comprehensive mitigation and enhancement. The biodiversity effects would also remain more prominent. Strategic benefits would likely be higher.

RECOMMENDATION:

Amend the site boundary to omit those sites that are significantly constrained with regards to landscape. The scale of growth remains strategic, and negative effects on landscape will reduce to moderate / minor.

Strategic Location 5 (Beighton)



<i>Economy</i>	<i>Housing</i>	<i>Health and wellbeing</i>	<i>Transport</i>	<i>Soil and Land</i>	<i>Historic Environment</i>	<i>Landscape and Townscape</i>	<i>Biodiversity and Geodiversity</i>	<i>Climate Resilience</i>	<i>Natural Resources</i>	<i>Resource efficiency</i>
✓	✓	✓✓	✓✓	x	-	x	-	x	x	-

This strategic location falls to the south-east of the city with the A57 to the north (with good road access to the M1 and the City Centre), and the blue tram route, Crystal Peaks shopping centre and Drakehouse retail park to the south. The land parcels comprise agricultural land which is gently rolling in character and mostly enclosed with residential development and dense boundary trees and shrubs.

Economy

This strategic location is well placed to employment opportunities locally in and around Crystal Peaks and Holbrook Industrial Estate and is within reasonable accessibility of the Advanced Manufacturing and Innovation District area. The development of this location for housing would not result in the loss of employment land. The land parcel to the east is considered to be more appropriate for housing use rather than employment expansion. However, housing development on the land parcel to the west could impede the potential expansion of retail and employment uses, although the Crystal Peaks and Drakehouse area is not a key area for employment growth. Development in this location should also support the vibrancy of the existing retail offer. Overall, a **minor positive effect** is predicted.

Housing

This strategic location would support a significant amount of growth close to existing neighbourhoods. However, high voltage overhead power lines and pylons cross the location. Whilst this should not impede development, this infrastructure would either reduce the development area of the site or increase development costs associated with moving the power lines underground. The power lines are also likely to undermine the potential increase of land values from development, overall reducing the viability to obtain a higher contribution of affordable housing. As such, **minor positive effects** are predicted in this respect.

Health and wellbeing

The strategic location is within a walkable distance of a GP service, a children's mental health facility, retail and other services. However, this location is not within a walkable distance of a primary and secondary school. The scale of growth involved should be able to support improvements to increase existing GP capacity and deliver a new primary school.

The location is also in close proximity to informal open space, open countryside and local wildlife sites. Further afield, the location is in good proximity to the Rother Valley Country Park. There are opportunities for development to secure enhancements to existing open space and deliver new on-site provision. Overall, a **moderate positive effect** is predicted.

Transport and accessibility

This strategic location is served by existing public transport infrastructure including the blue tram route and a tram stop (Beighton - Drake House Lane to the south and frequent bus routes. The location is also adjacent to a comprehensive network of cycle routes and good road access. This location therefore provides good existing opportunities to support a modal shift towards active and public transport modes. There is also potential for new housing at this location to support a business case for a new train station at Beighton along the Barrow Hill line.

This strategic location is well placed to employment opportunities. In terms of essential services, the location is nearby a GP service, convenient stores and other retail and services. However, the location is distant to existing primary and secondary schools, although the scale of development involved should be able to deliver a new primary school. Cumulatively, this location is predicted to generate **moderate positive effects**.

Soil and Land

The strategic location is greenfield (although part of the eastern land parcel may be brownfield), predominantly categorised as Grade 3 agricultural land and the land parcels to the west are in current agricultural use. This constitutes **minor negative effects**.

Historic Environment

The strategic location does not fall within proximity or the likely setting of listed buildings, scheduled monuments, conservation areas or other statutory or non-statutory historic designations and assets. The site is also not known to include historic landscape features. Therefore, a **neutral effect** is predicted.

Landscape and townscape

The landscape is somewhat sensitive with the sensitivity increasing in parts of the eastern land parcel which is slightly more open and prominent in character. Otherwise, the land parcels at this location benefit from strong boundaries which provide a degree of enclosure and confinement for potential development (further supported by the A57). Nevertheless, unless the scale of growth is lowered considerably, development will likely cause some harm to the character of the landscape and the function of land, and these effects will be difficult to avoid and mitigate completely. Overall, **minor negative effects** are predicted.

Biodiversity and Geodiversity

The strategic location does not include designated sites, but the location includes boundary trees and hedges likely to be of ecological importance. The location is also in close proximity to local wildlife sites and the Shire Brook Valley Nature Reserve. Avoidance and mitigation should be able to safeguard the significance of ecologically important areas on-site and designated sites nearby, but development will add increased recreational pressure and cause potential disturbance. Development also provides opportunities to secure improvements to existing habitats, on-site biodiversity gain on agricultural land of lower value and improvements to ecological connectivity within and to the wider ecological network (including nearby designations).

Overall, **neutral effects** are predicted at this stage as it ought to be possible to avoid significant effects on existing habitats and nearby designations. If net gain is secured on site, then the effects would be positive in the longer term.

Climate change resilience

The parcels of land involved in this strategic location are not at significant risk of fluvial flooding. However, there is an area of Flood Zone 3b adjacent along the A57 and along the railway line to the east of the eastern parcel. Development should be able to avoid exacerbating flood risk.

In terms of the urban heat island effect, the loss of greenfield land on the edge of the Sheffield urban area could potentially worsen the situation. The effects would likely be minor in the context of the whole City but would likely contribute towards cumulative effects. It ought to be possible to secure green infrastructure throughout any development, which could help to minimise effects. However, the urbanisation of greenfield land is likely to have some residual negative effects with regards to heating. In this respect, **minor negative effects** are predicted.

Natural resources and pollution

This location is adjacent to the A57 and with regards to amenity for future residents, there is potential for adverse noise effects throughout and visual amenity effects in the eastern parcel due to the road being raised. The land parcel to the east of Beighton road is further bounded by a railway line to the east. However, effects in relation to noise can likely be mitigated by improving the existing screening along the A57 and railway line. Visual amenity issues from the raised road and general amenity issues from the overhead lines and pylons are likely to persist.

With regards to water quality, this location is not within groundwater protection zones. The location also does not include any waterbodies but is nearby the Shire Brook to the north. It will be important to ensure that effects during construction are managed. In terms of diffuse pollution, the change of use of most of the land currently in agricultural use should reduce potential existing pollution resulting from farming activities in an area which falls within nitrate vulnerable zones. New development and urbanisation could also give rise to increased pollutants in run-off and water that drains into Shire Brook and other nearby watercourses, although potential adverse effects can likely be mitigated.

There is an area of potential land contamination in the western part of the land parcel to the east of Beighton Road related to a former sewage works. Development presents some opportunities for remediation, but residential development is more likely to be avoided in this area if contaminated due to

the likely costs involved to remediate and the potential of the area to accommodate ancillary or other uses given its good road access and proximity to the A57.

Overall, it is expected that a **minor negative effect** would occur mainly due to potential effects on amenity.

Climate change mitigation and resource efficiency

The carbon and environmental footprint of new development can be addressed through layout and design. A barrier to achieving higher standards is low land values and higher residual costs associated with remediation and infrastructure. This strategic location is known to contain an area of potentially contaminated land, which is not likely to significantly add to development costs (considering the need for ancillary uses and the potential for the contaminated area to accommodate other uses). At this stage it is unclear whether this location would offer a reduced or increased opportunity to secure higher levels of sustainability in design and construction. Therefore, **neutral effects** are predicted.

Site Appraisal (significantly constrained sites)

	Site	Significant Biodiversity Constraints	Significant Flood Risk Constraints	Significant Landscape Constraints	Significant Green Belt Constraints	Strategic Cluster
	S03005	No	No	No	No	5
	S03049	No	No	No	No	5

Discussion

The Beighton strategic cluster of sites does not contain sites which are considered to be significantly constrained in terms of biodiversity, flood risk, landscape or Green Belt.

Looking at the potential strategic growth location in terms of 'less significant constraints', S03049 is considered to be moderately constrained in terms of potential effects on the landscape. Given that this site contributes substantially towards the overall strategic cluster, however its omission would limit the ability to achieve strategic growth with associated benefits in terms of infrastructure.

Potential to deliver strategic growth under Scenario A	Potential to deliver strategic growth under Scenario B
Likely	Unlikely

RECOMMENDATION

Retain Strategic Cluster as a reasonable alternative without amending site boundaries.

Strategic Location 6 (Norton / Charnock)



<i>Economy</i>	<i>Housing</i>	<i>Health and wellbeing</i>	<i>Transport</i>	<i>Soil and Land</i>	<i>Historic Environment</i>	<i>Landscape and Townscape</i>	<i>Biodiversity and Geodiversity</i>	<i>Climate Resilience</i>	<i>Natural Resources</i>	<i>Resource efficiency</i>
✓	✓✓?	-?	✓✓?	✓	✗	✗	✗✗	✗	-	✗

This strategic location falls to the south of the city and is part bounded to the west by the partial outer ring road (A6102) and to the east by dense woodland. To the north of the location, there is a primary school and the purple tram route. The location is predominantly flat or gently sloping and consists of a former RAF aerodrome which has partially rewilded, an NHS social care facility mainly used for administrative purposes, football playing fields, a bike track and a field with tall shrubs and trees. There is a street with a single row of houses in the south west corner of the strategic location.

Economy

This strategic location is not closely located to employment areas but does benefit from good public transport and road access to employment opportunities in the City Centre. The development of this location for housing would not result in the loss of employment land. However, the site does include an NHS social care facility mainly used for administration, with development potentially causing a displacement of the existing employment. The land parcels in this location are also considered to be more appropriate for housing use rather than employment expansion. Development in this location should also support the vibrancy of the existing retail offer locally at Gleadless Townend. Overall, a **minor positive effect** is predicted.

Housing

This strategic location would support growth close to existing neighbourhoods, although the scale of growth achievable is unclear due to the unknown availability of large parts of the site currently in use by the NHS and as playing fields. The location comprises brownfield land and large areas which have rewilded. This has potential to reduce the viability to obtain a higher contribution of affordable housing due to potential higher site remediation costs and challenges (and associated costs) with achieving a biodiversity net gain. As such, potential **moderate positive effects** are predicted in this respect.

Health and wellbeing

The strategic location includes football playing fields, a bike track and informal open space with development resulting in their loss having potential to have adverse effects, although the location can be developed sensitively to avoid the loss and potentially deliver enhancements to these facilities. The strategic location is adjacent and wholly within a walkable distance of a primary school. However, the location is distant to GP services and a secondary school, although improvements to public transport access and provision could enhance the accessibility between the location and GP and other services at Gleadless Townend. The redevelopment of the Aerodrome part of the site presents opportunities to enhance access for existing communities to the west to existing sport facilities, open space and countryside. The location is also adjacent to a local wildlife site and nearby allotments. The likely high site remediation costs and possible challenges (and associated costs) in achieving a biodiversity net gain on site could constrain onsite provision for new health and wellbeing infrastructure. Overall, **neutral effects** are predicted.

Transport and accessibility

This strategic location is well served by existing public transport infrastructure, with the purple tram route and tram stops to the north and a frequent bus route to the north-east. The location further benefits from good road access and is part adjacent to the partial outer ring road (A6102), though this does lead to some severance. The location is not served by cycle links, but does fall in close proximity to a comprehensive cycle network. This location therefore provides some good existing opportunities to support a modal shift towards active and public transport modes. Tram and bus services are remote from part of the site, requiring significant investment to re-route or improve access to existing services.

This strategic location is not closely located to employment areas but does benefit from good public transport and road access to employment opportunities. In terms of essential services, the location is in immediate proximity to a primary school but distant to GP services, a secondary school and convenience stores. However, development provides opportunities to improve public transport and active travel links between the location and Gleadless Townend, to improve accessibility to GP services and convenience stores. Cumulatively, this location is predicted to generate potential moderate positive effects reflecting the potential for improvements, but acknowledging the major investment required.

Soil and Land

The strategic location consists of mostly greenfield land with large parts of brownfield land mainly to the west (the former RAF site). The location does not include land considered to be amongst the best and most versatile and is not known to be currently in agricultural use. Development would make effective use of brownfield land, thereby helping to protect soil and land resources in more sensitive locations, therefore minor positive effects are predicted.

Historic Environment

This strategic location is relatively unconstrained with regards to designated heritage assets. The strategic location does not fall within proximity or the likely setting of listed buildings or scheduled monuments. However, the eastern part of the location does fall within the Moss Valley conservation area. There is potential for development to have adverse effects on the character of the conservation area. There is also potential for the eastern part of the site to be of some archaeological significance. Overall, an uncertain minor negative effect is predicted.

Landscape and townscape

The brownfield element of the site is relatively insensitive to change, but for parts of the wider site, the landscape is somewhat sensitive to change. Though the land parcels benefit from strong boundaries and enclosures (including the A6102 and dense woodland) which provide confinement for potential development. Unless the scale of growth is lowered considerably, development will likely cause some harm to the character of the landscape, and these effects will be difficult to avoid and mitigate completely. Overall, minor negative effects are predicted.

Biodiversity and Geodiversity

The strategic location does not include designated sites, but the location includes woodland, clusters of grassland with trees, shrubs and plants and large rewilded areas which are likely to be of ecological importance. The location further adjoins a local wildlife site and ancient woodland to the east. Avoidance and mitigation should be able to safeguard the adjacent designated areas and on-site areas of high ecological value. However, development will add increased recreational pressure and cause potential disturbance. Development is also likely to result in the loss of areas which have potential to be of ecological importance and result in the loss of existing habitats. If demonstrated to be of high ecological value, it is unclear if an on-site biodiversity gain can be achieved.

Overall, **moderate negative effects** are predicted at this stage to reflect disturbances and loss of land potentially of ecological significance. However, if rewilded areas are not of high ecological value or if net gain can be secured, then the effects would be positive in the longer term.

Climate change resilience

This strategic location is not at significant risk of fluvial flooding.

In terms of the urban heat island effect, the loss of greenfield land with trees and brownfield land which has rewilded with trees and shrubs on the edge of the urban area is likely to worsen the situation. Whilst in the context of the City potential effects are minor, this would contribute to cumulative effects. However, compared to other strategic locations, this strategic location falls within a surrounding urban environment with a network of open spaces, which should help reduce the intensity of potential effects. Furthermore, with part of the land parcel in current recreational use, there are opportunities to safeguard existing playing fields which should also reduce the intensity of potential effects from development. However, some residual negative effects with regards to heating are predicted. In this respect, **minor negative effects** are predicted.

Natural resources and pollution

Existing uses in the surrounding area are unlikely to be a major constraint to housing development with regards to amenity. Whilst the location is adjacent to the A6102 and nearby a tram route, potential adverse noise and visual amenity effects can likely be adequately addressed through improving the existing screening along the western boundary of the land parcel.

With regards to water quality, this location is not within groundwater protection zones. However, the strategic location contains watercourses to the north and south, and it will therefore be necessary to ensure that effects during construction are managed. In terms of diffuse pollution, new development and urbanisation could give rise to increased pollutants in run-off and water that drains into the watercourses, but potential adverse effects can likely be mitigated.

There are two small areas of potential land contamination partly covering the former aerodrome. There are some opportunities for remediation where this could accompany the potential intensive site clearance work required. Although, opportunities are constrained due to the small scale of potential contamination and as residential development in this area could be avoided.

Overall, it is expected that **neutral effects** would be achieved.

Climate change mitigation and resource efficiency

The carbon and environmental footprint of new development can be addressed through layout and design. A barrier to achieving higher standards is low land values and higher residual costs associated with remediation and infrastructure. This strategic location is known to contain a small area of potentially contaminated land, which is not likely to significantly add to development costs due to limited opportunities for remediation and because residential development in this area could be avoided. However, the part brownfield nature of this location and other factors is likely to require intensive site clearance work which could add to development costs. Therefore, potential **minor negative effects** are predicted.

Site Appraisal (significantly constrained sites)

Site	Significant Biodiversity Constraints	Significant Flood Risk Constraints	Significant Landscape Constraints	Significant Green Belt Constraints	Strategic Cluster
S02897	No	No	No	No	6

Discussion

The Norton/Charnock strategic site is not considered to be significantly constrained in terms of biodiversity, flood risk, landscape or Green Belt.

Looking at the strategic growth location in terms of less significant constraints, the site which makes up this strategic growth option is not considered to be moderately constrained in terms of biodiversity, flood risk, landscape or Green Belt. This is based on a lack of overlap with of designated biodiversity assets. However, there are substantial amounts of trees / woodlands on the site which translate to a moderate negative effect on biodiversity in the options appraisal.

Potential to deliver strategic growth under Scenario A	Potential to deliver strategic growth under Scenario B
Likely	Likely

RECOMMENDATION

Retain Strategic Cluster as a reasonable alternative without amending site boundaries. The potential moderate negative effects on biodiversity would need to be addressed through site layout and design, with potentially a need for higher densities to achieve sufficient growth to support infrastructure.

Strategic Location 7 (Land between Dore and Whirlow)



<i>Economy</i>	<i>Housing</i>	<i>Health and wellbeing</i>	<i>Transport</i>	<i>Soil and Land</i>	<i>Historic Environment</i>	<i>Landscape and Townscape</i>	<i>Biodiversity and Geodiversity</i>	<i>Climate Resilience</i>	<i>Natural Resources</i>	<i>Resource efficiency</i>
-	✓✓	✓✓?	✓	-	xx	x	x	x	-	- ?

This strategic location falls to the south-west of the city in proximity to the Peak District National Park and adjacent to Ecclesall Woods (woodland and local nature reserve). The northern parcels comprise playing fields, the southern parcel includes horse boarding stables and most of the remaining area consists of fields. The A621 and Dore Station to the south and the A625 to the north provide road and rail connections to the City Centre and Manchester. The strategic location also falls in proximity to the neighbourhood centre of Dore which includes some community facilities and services.

Economy

This strategic location is not closely located to employment areas but does benefit from some public transport access to employment opportunities in the City Centre. The strategic location is also connected with the City Centre by the A625 Ecclesall Road and A621 Abbeydale Road, but these roads are known to be highly congested during peak travel times. The development of this location for housing would not result in the loss of employment land. However, there is potential for some displacement or loss of employment associated with existing playing fields and sport facilities. The land parcels in this location are also considered to be more appropriate for housing use rather than employment expansion. Development in this location should also support the vibrancy of the existing retail offer at the local centre in Dore. Overall, a **neutral effect** is predicted.

Housing

Development would be close to existing neighbourhoods and given their size, should present good opportunities to ensure delivery of housing throughout the plan period. Development also presents opportunities boosted by high land values to diversify the local housing mix, through introducing a range of housing types and tenures including affordable housing in an area with limited smaller housing and affordable housing provision. , **moderate positive effects** are predicted.

Health and wellbeing

The strategic location includes playing fields, sports facilities and informal open space with development resulting in their loss having potential to have adverse effects, although the location can be developed sensitively to avoid the loss and potentially deliver enhancements to these facilities. The southern parcels of land are in close proximity to a GP service and the location is considered to be in reasonable distance to a secondary school. However, the location is distant to local primary schools, although the likely scale of growth and potential high land values should be able to support improvements to increase existing GP capacity and deliver a new primary school. The location is also adjacent or in close proximity to informal open space, open countryside, local wildlife sites and Ecclesall Woods. Overall, an **uncertain moderate positive effect** is predicted.

Transport and accessibility

This strategic location is served by existing public transport infrastructure including frequent bus routes and a train station to the east with Park and Ride facilities and regular including some express train services to the City Centre and Manchester. However, some parcels of land in this location are not within walking distance of these public transport facilities. The Park and Ride facilities is also currently operating at capacity, although there are plans underway to expand the capacity at this facility. The location is adjacent to a comprehensive network of cycle routes. Therefore, this location provides some existing opportunities to support a modal shift towards active and public transport modes. However, the main roads (A625 Ecclesall Road and A621 Abbeydale Road) connecting this location to the wider city are known to be highly congested during peak travel times, with development likely to exacerbate this further.

This strategic location is poorly placed to employment opportunities. In terms of essential services, the southern land parcels are in close proximity to a GP service, a convenience store and other retail and services in the centre of Dore. However, the location is not ideally located with regards to existing primary and secondary schools, although the scale of development involved should be able to deliver a new primary school. Cumulatively, this location is predicted to generate **minor positive effects**, as positive effects from a modal shift are undermined by poor accessibility to a secondary school and employment opportunities, and the potential for development to exacerbate congestion along existing highly congested roads.

Soil and Land

The land involved is greenfield with some land parcels partially developed for ancillary uses to playing fields. Otherwise, the strategic location does not include land considered to be amongst the best and most versatile for agriculture and the land is not currently known to be in agricultural use. As such, **neutral effects** are predicted.

Historic Environment

This strategic location is relatively unconstrained with regards to designated heritage assets. There is a small group of Grade II listed buildings and a scheduled monument to the north, a conservation area and cluster of Grade II listed buildings to the south and other Grade II listed buildings to the south east. The strategic location is not considered to be intrinsic to the setting of these heritage assets. Potential adverse effects can also likely be avoided through sensitive design and existing screening. There is potential for uncertain minor negative effects from significant change to the wider setting of the conservation area. Parts of the location include landscapes of high historic significance, with the location known to include ridge and furrow features and some patterns of enclosure from the medieval period. Development at this location would also further integrate Dore to the wider Sheffield area and thus undermine its historic significance as a standalone settlement.

Overall, a **moderate negative effect** is predicted.

Landscape and townscape

The landscape is somewhat sensitive to change but the land parcels benefit from strong natural boundaries (in some cases extending from the edge of built development) which provide some enclosure and confinement for potential development. Nevertheless, unless the scale of growth is lowered

considerably, development will likely cause cumulative harm to the character of the landscape, and these effects will be difficult to avoid and mitigate completely. Overall, **minor negative effects** are predicted.

Biodiversity and Geodiversity

Parts of this strategic location contain local wildlife sites. To the east of this location is a large local wildlife site and ancient woodland. Avoidance and mitigation should be able to safeguard the significance of these areas, but development will add increased recreational pressure and cause potential disturbance. Development also provides opportunities to secure improvements to wildlife sites and existing habitats, on-site biodiversity gain on land currently of lower value and improvements to ecological connectivity within and to the wider ecological network.

Overall, **minor negative effects** are predicted at this stage as it ought to be possible to avoid significant effects. If net gain is secured on site, then the effects would be positive in the longer term.

Climate change resilience

The parcels of land involved in this strategic location are not at significant risk of fluvial flooding. However, there is an area of Flood Zone 3a to the east along Limb Brook. Development should be able to avoid exacerbating flood risk.

In terms of the urban heat island effect, the loss of greenfield land on the edge of the urban area is likely to worsen the situation and whilst in the context of the City potential effects are minor, this would contribute to cumulative effects. However, compared to other strategic locations, this strategic location falls within a less dense surrounding urban environment and includes open spaces and woodland nearby, which should help reduce the intensity of potential effects. Furthermore, with part of the land parcel in current recreational use, there are opportunities to safeguard existing playing fields which should also reduce the intensity of potential effects from development. However, the urbanisation of greenfield land is likely to have some residual negative effects with regards to heating. In this respect, **minor negative effects** are predicted.

Natural resources and pollution

Existing uses in the surrounding area are unlikely to be a major constraint to housing development with regards to amenity.

With regards to water quality, this location is not within groundwater protection zones. However, the strategic location contains watercourses that flow into the Limb Brook which flows along the boundary from the north to the east of the location. It will therefore be necessary to ensure that effects during construction are managed. In terms of diffuse pollution, new development and urbanisation could give rise to increased pollutants in run-off and water that drains into watercourses, but potential adverse effects can likely be mitigated.

The strategic location is also not known to include any potential land contamination.

Overall, it is expected that **neutral effects** would be achieved.

Climate change mitigation and resource efficiency

The carbon and environmental footprint of new development can be addressed through layout and design. A barrier to achieving higher standards is low land values and higher residual costs associated with remediation and infrastructure. The strategic location is not known to include areas of potential land contamination but does have some infrastructure constraints with development likely to require a new primary school. At this stage it is unclear whether this location would offer a reduced or increased opportunity to secure higher levels of sustainability in design and construction.

Neutral / uncertain effects are predicted.

Site Appraisal (significantly constrained sites)

Site	Significant Biodiversity Constraints	Significant Flood Risk Constraints	Significant Landscape Constraints	Significant Green Belt Constraints	Strategic Cluster
S01883	No	No	No	No	7
S02511	Yes	No	No	Yes	7
S03012	No	No	No	No	7
S03045	No	No	No	No	7
S03064	No	No	No	Yes	7
S03088	No	No	No	Yes	7
S03121	No	No	No	Yes	7

Discussion

The Land between Dore and Whirlow strategic cluster of sites does not contain sites which are considered to be significantly constrained in terms of flood risk or landscape. Focusing on the parcel of land which is significantly constrained in terms of biodiversity (S02511), the land entirely overlaps with a Local Wildlife Site and it abuts ancient woodland which could lead to potential recreational pressures. Considering the site's size and position within the cluster, its removal would be unlikely to prevent the cluster from still delivering strategic benefits and the land could potentially be safeguarded for biodiversity improvement works. In terms of significant Green Belt constraints, the omission of sites S02511, S03064, S03088 and S03121 would remove the northern cluster of sites; though this could still allow some strategic benefits associated with the remaining large southern cluster.

Looking at the potential strategic growth location in terms of less significant constraints, S03064 is considered to be moderately constrained in terms of landscape effects and S03045 and S01883 show some moderate Green Belt constraints. By further omitting these sites from allocation, only site S03012 would remain in this cluster of sites. Whilst this is a large site in itself, the likelihood of strategic growth and its associated benefits in the area would be diminished.

The main negative effects identified in the options appraisal relate to the historic environment. However, these are mostly related to site S03012. Removing this site from the strategic cluster would leave a less than ideal collection of sites to support strategic growth on their own. It is considered that such effects could be mitigated through layout and design.

Potential to deliver strategic growth under Scenario A	Potential to deliver strategic growth under Scenario B
Likely	Uncertain

Options:

1. Remove site S02511 from the strategic cluster. It stands out and can be justified by having two significant constraints.
2. Remove all sites with a significant constraint. This still leaves potential for strategic growth of over 1200 dwellings in total.
3. Do not make any changes.

RECOMMENDATION:

Remove all sites with a significant constraint. The remaining sites will still be sufficient to support strategic growth, whilst the potential effects in terms of biodiversity and landscape would be reduced, particularly given that the sites are constrained by both factors.

IMPLICATIONS:

The overall score for the options appraisal with regards to biodiversity would change from moderate negative to minor negative. Given the overall scale of growth that would remain, minor negative effects in terms of landscape would not change, but the effects would be lower.

Strategic Location 8 (South of Chapeltown)



<i>Economy</i>	<i>Housing</i>	<i>Health and wellbeing</i>	<i>Transport</i>	<i>Soil and Land</i>	<i>Historic Environment</i>	<i>Landscape and Townscape</i>	<i>Biodiversity and Geodiversity</i>	<i>Climate Resilience</i>	<i>Natural Resources</i>	<i>Resource efficiency</i>
-	✓✓	✓	✓✓	x	x	xx	x	xx	x	-

This strategic location falls to the south of Chapeltown and is intersected by a railway line and the A6135. The site parcels mostly consist of gently rolling agricultural land which is steep in parts and forms a gap between the market town of Chapeltown and Ecclesfield. The location includes a paddock to the north and a restaurant and football playing fields to the south. Chapeltown town centre and train station is to the north-west of the strategic location and Junction 35 of the M1 is in close proximity to the east. The south east of the location also includes a large business and industrial park.

Economy

This strategic location is well placed to some employment opportunities at business and industrial parks adjacent and nearby. Otherwise, the location is within reasonable accessibility to employment opportunities in the lower Don valley and the Hillsborough / Wadsley Bridge area. The development of this location for housing would not result in the loss of employment land. However, housing development on land parcels particularly along the B6087 would impede the potential expansion of the existing employment area to the east on land potentially suitable for warehousing, distribution and bulky retail uses, considering its proximity and good road access to the M1. As such, a **neutral effect** is predicted overall.

Housing

Development would be close to existing neighbourhoods and given their size, should present good opportunities to ensure delivery of housing throughout the plan period. The strategic location in part is steeply sloping which could result in higher remediation and construction costs, reducing opportunities to obtain a higher contribution of affordable housing, although this is not likely be significant. Overall, this location could deliver over 1000 dwellings, and therefore constitutes a **moderate positive effect**.

Health and wellbeing

The strategic location includes football playing fields and a paddock with a horse-riding course. There is potential for development to result in the loss of existing provision, although this can be avoided or replaced. Otherwise, the location is in good proximity to GP services and adjacent to a secondary school. However, the location is slightly distant to the nearest primary school, although the likely scale of growth involved should be able to support improvements to increase existing GP capacity and deliver a new primary school. The location is also adjacent or in close proximity to informal open space, open countryside and local wildlife sites. Overall, a **minor positive effect** is predicted (with the effects being less positive due to a potential loss of open space).

Transport and accessibility

This strategic location is served by a highly frequent bus route along the A6135 Chapeltown Road and is in good proximity to Chapeltown train station, with regular services to Sheffield, Barnsley, Huddersfield, Wakefield and Leeds. The location further benefits from a part off-road cycle link to High Green, but otherwise is not connected to the wider cycle network serving Meadowhall, the lower Don valley and towards the City Centre. However, there is potential for new housing at this location to provide improvements to cycle links benefitting new and existing communities. This location therefore provides broadly good opportunities to support a modal shift towards active and public transport modes. However, some parts of the location are less accessible than others, and growth would add to existing congestion issues.

This strategic location is well placed to some employment opportunities. In terms of essential services, the location is mostly within good proximity to GP services, convenience stores and a secondary school. The local primary school is slightly distant, but the scale of development involved should be able to deliver a new primary school.

Overall, this location is predicted to generate **moderate positive effects**. Though the location has good accessibility, the benefits are offset somewhat by increased congestion and the need for investment to ensure that all parts of the location have good accessibility.

Soil and Land

The strategic location is greenfield, partially categorised as Grade 3 agricultural land and some of the land is in current agricultural use. This constitutes **minor negative effects**.

Historic Environment

This strategic location is relatively unconstrained with regards to designated heritage assets. There is a small group of Grade II listed buildings in and adjacent to the land parcel to the north of the railway line. However, adverse effects are unlikely due to the broadly contained setting of these assets and any effects can likely be avoided through sensitive design. The location includes cropmarks mostly to the south west, but development in these areas could be avoided. An uncertain **minor negative effect** is predicted.

Landscape and townscape

The landscape is fairly sensitive to change and development will likely result in negative effects in terms of the character, openness and the function of land. Unless the scale of growth is lowered considerably, it would be difficult to avoid and mitigate these effects fully. Although, the sensitivity of the landscape is reduced to the south of the location which is less prominent and relates better to the built-up area, comprehensive development at this location will further cause coalescence between Chapeltown and Ecclesfield. Overall, **moderate negative effects** are predicted.

Biodiversity and Geodiversity

The parcel to the north of the railway line contains a linear local wildlife site along Blackburn Brook which extends beyond to the north and south east. The location is also adjacent to woodland to the west which also comprises a local wildlife site. Some land parcels further contain small grassed areas

with some trees, shrubs and plants which are likely to be of some ecological value. Avoidance and mitigation should be able to safeguard the significance of these areas, but development will add increased recreational pressure and cause potential disturbance. Development also provides opportunities to secure improvements to wildlife sites and existing habitats, on-site biodiversity gain on land currently of lower value and improvements to ecological connectivity within and to the wider ecological network.

Overall, **minor negative effects** are predicted at this stage as it ought to be possible to avoid significant effects. If net gain is secured on site, then the effects would be positive in the longer term.

Climate change resilience

Most of the parcels of land involved in this strategic location are not at significant risk of fluvial flooding. However, the land parcel north of the railway line (S03124) includes large areas of Flood Zones 2, 3a and 3b along Blackburn Brook. Development on this parcel would be at risk of fluvial flooding and is likely to exacerbate flood risk in the immediate and wider area. Other land parcels in this strategic location should be able to avoid exacerbating flood risk.

In terms of the urban heat island effect, the loss of greenfield land on the edge of the urban area could potentially worsen the situation. The effects would likely be minor in the context of the whole City but would likely contribute towards cumulative effects. It ought to be possible to secure green infrastructure throughout any development, which could help to minimise effects. However, the urbanisation of greenfield land is likely to have some residual negative effects with regards to heating. In this respect, minor negative effects are predicted.

Overall, a **moderate negative effect** is predicted, but in the absence of the land parcel north of the railway line (S03124) the effects would be avoided.

Natural resources and pollution

This location is adjacent to main roads, a large industrial area and a railway line with frequent services. With regards to amenity for future residents, there is potential for adverse noise and visual amenity effects. However, most effects can likely be mitigated by significantly improving the existing screening along the perimeters of land parcels. Some amenity issues mainly due to noise are likely to persist as a result of the scale of contributors involved.

With regards to water quality, this location is not within groundwater protection zones. However, a watercourse flows through the northern parcel and to the south of the land parcel to the south west, and it will therefore be necessary to ensure that effects during construction are managed. In terms of diffuse pollution, the change of use of the land currently in agricultural use should reduce potential existing pollution resulting from farming activities in an area which falls within nitrate vulnerable zones. New development and urbanisation could also give rise to increased pollutants in run-off and water that drains into watercourses, although potential adverse effects can likely be mitigated.

The strategic location is also not known to include any potential land contamination.

Overall, it is expected that a **minor negative effect** would occur mainly due to some potential effects on amenity which cannot be mitigated.

Climate change mitigation and resource efficiency

The carbon and environmental footprint of new development can be addressed through layout and design. A barrier to achieving higher standards is low land values and higher residual costs associated with remediation and infrastructure. The strategic location is not known to include areas of potential land contamination but does have some infrastructure constraints with development likely to require a new primary school. At this stage it is unclear whether this location would offer a reduced or increased opportunity to secure higher levels of sustainability in design and construction. **Neutral effects** are predicted.

Site Appraisal (significantly constrained sites)

Site	Significant Biodiversity Constraints	Significant Flood Risk Constraints	Significant Landscape Constraints	Significant Green Belt Constraints	Strategic Cluster
S03038	No	No	No	No	8
S03039	No	No	No	Yes	8
S03050	No	No	No	Yes	8
S03077	No	No	No	Yes	8
S03124	No	No	No	No	8

Discussion

The South of Chapeltown strategic cluster of sites is not considered to be significantly constrained in terms of biodiversity, flood risk or landscape. Sites S03039, S03050 and S03077 are all considered to be significantly constrained in terms of the land's Green Belt performance. Their removal would result in the loss of the south western area of the site, though the remaining two sites may be able to permit some large scale growth, it would be uncertain whether strategic benefits would be seen to the same extent (given that the remaining sites would only have a combined capacity of 822 dwellings, and parts of site S03124 are sensitive to flooding).

Looking at the potential strategic growth location in terms of 'less significant constraints', sites S03038 and S03039 are moderately constrained in terms of their potential landscape impacts and S03038 is also constrained in terms of potential Green Belt impacts. Removing these sites would leave site S03124 as the only remaining parcel of land to deliver the strategic growth, making infrastructure improvements in the area very unlikely to be delivered.

Potential to deliver strategic growth under Scenario A	Potential to deliver strategic growth under Scenario B
Uncertain	Very unlikely
Options 1. Remove as a reasonable alternative. 2. Remove all significantly constrained sites. This would leave uncertainty about the strategic benefits that could be achieved though. 3. Keep the strategic location. This supports strategic growth, but would involve playing fields and areas performing strongly in GB terms. 4. Remove sites S03050 and S03077 from the strategic location. This would leave a cluster of sites that could still potentially deliver strategic benefits, and would also maintain a degree of separation between Chapeltown and Ecclesfield. It would also prevent the loss of playing fields. RECOMMENDATION: Remove sites S03050 and S03077 from the strategic cluster. IMPLICATIONS: The effects in terms of landscape would reduce from moderate to minor negative. Potential negative effects due to a loss of playing fields would no longer occur. Positive socio-economic effects would be slightly reduced commensurate with the lower housing delivery.	

Strategic Location 9 (Land between Grenoside and Ecclesfield)



<i>Economy</i>	<i>Housing</i>	<i>Health and wellbeing</i>	<i>Transport</i>	<i>Soil and Land</i>	<i>Historic Environment</i>	<i>Landscape and Townscape</i>	<i>Biodiversity and Geodiversity</i>	<i>Climate Resilience</i>	<i>Natural Resources</i>	<i>Resource efficiency</i>
✓	✓✓	✓	✓	x	xx	xx	x	x	-	-

This strategic location falls to the north of the city with the north-western parcel consisting of gently rolling fields part used as a paddock. The other parcels of land consist of gently rolling arable agricultural land and grassland. The A61 is in close proximity to the west of the strategic location, providing good access to services and employment opportunities in the Hillsborough/ Wadsley Bridge area, the City Centre and Barnsley. At a localised scale, the location is also within good proximity to existing limited services and facilities in the Ecclesfield, Parson Cross and Grenoside areas.

Economy

This strategic location is well placed to some employment opportunities at the business and industrial area to the north east of Ecclesfield. The location is also within reasonable accessibility to employment opportunities in the Upper Don valley and the Hillsborough/ Wadsley Bridge area. The development of this location for housing would not result in the loss of employment land. The land parcels in this location are also considered to be more appropriate for housing use rather than employment expansion. Overall, a **minor positive effect** is predicted.

Housing

Development would be close to existing neighbourhoods and given their size, should present good opportunities to ensure delivery of housing throughout the plan period. Overall, this location could deliver almost 1000 dwellings, and therefore constitutes a **moderate positive effect**.

Health and wellbeing

Most of the land parcels at this strategic location are within a walkable distance of existing local primary and secondary schools. However, this location is slightly distant to existing GP services. The scale of growth involved should be able to support improvements to increase existing capacity and potentially contribute towards delivering a new primary school to support housing growth. The northern land parcel is also adjacent to a small local wildlife site and the location is otherwise in nearby countryside and playing fields. There are opportunities for development to provide new on-site open space and play areas. In this respect, a **minor positive effect** is predicted.

Transport and accessibility

This strategic location is within proximity to several frequent bus routes with development presenting some opportunities for re-routing and bus improvements to better serve some existing and new communities. This location is not intersected or adjacent to existing cycle routes but is in close proximity to a network of cycle links to the south, with development providing some opportunities to introduce new cycle links on-site and where possible seek to integrate this with the existing wider network. This location therefore provides some opportunities to support a modal shift towards active and public transport modes.

This strategic location is well placed to some employment opportunities. In terms of essential services, the location is mostly within a walkable distance to local primary and secondary schools, but slightly distant to GP services and convenience stores. The scale of growth involved in isolation is not likely to support a new GP facility but could support new on-site stores. Cumulatively, this location is predicted to generate **minor positive effects**, but there would be requirements for investment to improve connections.

Soil and Land

The strategic location is greenfield, partially categorised as Grade 3 agricultural land and most of the land is in current agricultural use. This constitutes **minor negative effects**.

Historic Environment

This strategic location is relatively unconstrained with regards to designated heritage assets. There is a Grade II listed building to the north but the strategic location is not considered to be intrinsic to its setting. The location is adjacent to a conservation area to the east. Therefore, there is potential for uncertain minor negative effects from significant change to the wider setting of the conservation area. Although, potential adverse effects on the character of the conservation area can be avoided through sensitive design. The location also mostly comprises field boundaries which preserve the character of early enclosure from medieval open field, with development likely to cause permanent loss. Overall, a **moderate negative effect** is predicted.

Landscape and townscape

The landscape is fairly sensitive to change and development will likely result in negative effects in terms of the character, openness and the function of land. Unless the scale of growth is lowered considerably, it would be difficult to avoid and mitigate these effects completely. However, the sensitivity of the landscape is reduced to the north of the location which is more enclosed by landscape features. Comprehensive development at this location will further exacerbate coalescence between Ecclesfield and the wider City urban area (including Grenoside) which has already been partially eroded by development on Yew Lane. Overall, **moderate negative effects** are predicted.

Biodiversity and Geodiversity

Parts of the strategic location contain local wildlife sites. The location further includes small areas of grassland with trees, shrubs and plants which are likely to be of some ecological value. Avoidance and mitigation should be able to safeguard the significance of these areas, but development will add increased recreational pressure and cause potential disturbance. Development also provides opportunities to secure improvements to wildlife sites and existing habitats, on-site biodiversity gain on land currently of lower value and improvements to ecological connectivity within and to the wider ecological network.

Overall, **minor negative effects** are predicted at this stage as it ought to be possible to avoid significant effects. If net gain is secured on site, then the effects would be positive in the longer term.

Climate change resilience

The parcels of land broadly involved in this strategic location are not at significant risk of fluvial flooding. The exception includes a small area of Flood Zone 3b, which can be avoided without undermining the development potential of the site and development should be able to avoid exacerbating flood risk.

In terms of the urban heat island effect, the loss of greenfield land on the edge of the urban area is likely to worsen the situation and whilst in the context of the City potential effects are minor, this would contribute to cumulative effects. However, compared to other strategic locations, this strategic location falls within a surrounding urban environment with a network of open spaces, which should help reduce the intensity of potential effects. Furthermore, the land parcels within this location provide opportunities for development to incorporate new green infrastructure and open space. However, the urbanisation of greenfield land is likely to have some residual negative effects with regards to heating. In this respect, **minor negative effects** are predicted.

Natural resources and pollution

Existing uses in the surrounding area are unlikely to be a major constraint to housing development with regards to amenity.

With regards to water quality, this location is not within groundwater protection zones. However, a watercourse flows along the northern boundary of the northern parcel and another subdivides the land parcel to the south, and it will therefore be necessary to ensure that effects during construction are managed. In terms of diffuse pollution, the change of use of the land currently in agricultural use should reduce potential existing pollution resulting from farming activities in an area which falls within nitrate vulnerable zones. New development and urbanisation could also give rise to increased pollutants in run-off and water that drains into watercourses, although potential adverse effects can likely be mitigated.

The strategic location is not known to include any potential land contamination.

Overall, it is expected that **neutral effects** would be achieved.

Climate change mitigation and resource efficiency

The carbon and environmental footprint of new development can be addressed through layout and design. A barrier to achieving higher standards is low land values and higher residual costs associated with remediation and infrastructure. The strategic location is not known to include areas of potential land contamination or major infrastructure constraints. At this stage it is unclear whether this location would offer a reduced or increased opportunity to secure higher levels of sustainability in design and construction. **Neutral effects** are predicted.

Site Appraisal (significantly constrained sites)

Site	Significant Biodiversity Constraints	Significant Flood Risk Constraints	Significant Landscape Constraints	Significant Green Belt Constraints	Strategic Cluster
S02831	Yes	No	No	No	9
S03034	No	No	No	No	9
S03035	No	No	No	No	9
S03051	No	No	No	No	9

Discussion

The Land between Grenoside and Ecclesfield strategic cluster of sites is not considered to be significantly constrained in terms of flood risk, landscape or Green Belt. Site S02831 is constrained in terms of biodiversity and it entirely overlaps with a Local Wildlife Site; it makes up a small peripheral parcel of the strategic location and hence its omission or protection within the allocation as an area for biodiversity improvements would not be likely to jeopardise the viability of strategic benefits relating to growth in this location.

Looking at the potential strategic growth location in terms of less significant constraints (i.e. Scenario B), S03034 and S03051 are both considered to be moderately constrained in terms of potential landscape impacts and S02831 is moderately constrained in terms of potential Green Belt effects. Removing these sites would lead to site S03035 being the only remaining site within the cluster; its scale would be extremely unlikely to deliver strategic growth and its associated benefits.

Potential to deliver strategic growth under Scenario A	Potential to deliver strategic growth under Scenario B
Likely	Very unlikely

RECOMMENDATION

Adjust the strategic location by removing site S02831. Update the appraisal accordingly.

IMPLICATIONS:

The effects on the historic environment would reduce slightly as the site would no longer directly abut the Conservation Area. The effects on biodiversity would reduce to a neutral / uncertain minor negative as the more sensitive areas would be avoided. Positive socio economic effects would remain the same given that the scale of growth would still remain strategic.

Strategic Location 10 (Birley Edge)



<i>Economy</i>	<i>Housing</i>	<i>Health and wellbeing</i>	<i>Transport</i>	<i>Soil and Land</i>	<i>Historic Environment</i>	<i>Landscape and Townscape</i>	<i>Biodiversity and Geodiversity</i>	<i>Climate Resilience</i>	<i>Natural Resources</i>	<i>Resource efficiency</i>
✓✓	✓	✓✓	✓	x?	-	xxx	x	x	-	-

This strategic location falls to the north of the city with the western part in an elevated position overlooking the City Centre and wider landscape. The location predominantly consists of grassland intersected by trees along an organic field pattern, paddock and agricultural buildings. The land parcel to the south is steep in character and comprises wooded grassland, whilst other land parcels are gently sloping and open in character. The A61 is in close proximity to the east of the strategic location, providing good access to services and employment opportunities in the Hillsborough/ Wadsley Bridge area, the City Centre and Barnsley.

Economy

This strategic location is well placed to employment opportunities in the Hillsborough/ Wadsley Bridge area and the City Centre further afield. The development of this location for housing would not result in the loss of employment land. The land parcels in this location are also considered to be more appropriate for housing use rather than employment expansion. Development in this location should also support the vibrancy of the existing retail and service offer in Grenoside and could help to address deprivation in nearby communities. Overall, a **moderate positive effect** is predicted.

Housing

Development would be close to existing neighbourhoods. The strategic location is also large in size, but its deliverable capacity is likely to be constrained by environmental designations and sensitive landscape. Therefore, a **minor positive effect** is predicted.

Health and wellbeing

Most of the land parcels at this strategic location are within a walkable distance of nearby GP services and a secondary school. However, this location is slightly distant to the local primary school. The scale of growth involved should be able to support improvements to increase existing capacity and potentially contribute towards delivering a new primary school to support housing growth. The location is also adjacent or in close proximity to a scouts club, informal open space, local wildlife sites and open countryside. There are opportunities for development to provide new on-site open space and play areas. There are deprived communities nearby that could benefit. In this respect, a **moderate positive effect** is predicted.

Transport and accessibility

This strategic location is served by less frequent bus routes along Fox Hill Road and A61 Halifax Road. However, the scale of growth involved could support bus re-routing and improvements to benefit both existing and new communities. This location also benefits from good cycle links, which intersects the site and connects to a wider network serving the Hillsborough/ Wadsley Bridge area and City Centre further afield. This location

therefore provides some opportunities to support a modal shift towards active and public transport modes. This could require significant investment though.

This strategic location is fairly well placed to employment opportunities. In terms of essential services, the location is in close proximity to GP services and is in reasonable proximity to a secondary school. Parts of the eastern land parcels benefit from a walkable distance to the local primary school and convenience store. Although, the scale of growth involved should be able to support new provision.

Overall, **minor positive effects** are predicted.

Soil and Land

The strategic location consists of greenfield land but this does not include land identified as potentially being best and most versatile agricultural land. However, some parcels of land do appear to be in agricultural use, and so potential minor negative effects are predicted..

Historic Environment

This strategic location is relatively unconstrained with regards to designated heritage assets and there are no known archaeological features. There is a small group of Grade II listed buildings to the south of the location. However, adverse effects can likely be avoided through sensitive design. Overall, a **neutral effect** is predicted.

Landscape and townscape

The landscape is fairly sensitive to change and development will likely result in negative effects in terms of the character, openness and the function of land. Unless the scale of growth is lowered considerably, it would be difficult to avoid and mitigate these effects. One parcel of land in particular is very sensitive, and therefore, a potential **major negative effect** is predicted.

Biodiversity and Geodiversity

Parts of the strategic location contain local wildlife sites. The western parcel is further adjacent to a large linear local wildlife site likely to be of significant ecological importance for long-distance connectivity. The location further includes small, grassed areas with trees, shrubs and plants which are likely to be of some ecological value. Avoidance and mitigation should be able to safeguard the significance of these areas, but development will add increased recreational pressure and cause potential disturbance. Development also provides opportunities to secure improvements to wildlife sites and existing habitats, on-site biodiversity gain on land currently of lower value and improvements to ecological connectivity within and to the wider ecological network. There is potential for development to cause some harm or loss of habitats to provide access to the land parcel to the west, but such effects are subject to detailed design and could potentially be avoided or off-set.

Overall, **minor negative effects** are predicted at this stage as it ought to be possible to avoid significant effects. If net gain is secured on site, then the effects would be positive in the longer term.

Climate change resilience

The parcels of land involved in this strategic location are not at significant risk of fluvial flooding.

In terms of the urban heat island effect, the loss of greenfield land on the edge of the urban area is likely to worsen the situation and whilst in the context of the City potential effects are minor, this would contribute to cumulative effects. However, compared to other strategic locations, this strategic location falls within a less dense surrounding urban environment, which should help reduce the intensity of potential effects. Furthermore, the land parcels within this location provide opportunities for development to incorporate new green infrastructure and open space. However, the urbanisation of greenfield land is likely to have some residual negative effects with regards to heating. In this respect, **minor negative effects** are predicted.

Natural resources and pollution

Existing uses in the surrounding area are unlikely to be a major constraint to housing development with regards to amenity.

With regards to water quality, this location is not within groundwater protection zones. However, the land parcels to the west of Skew Hill are sandwiched between a watercourse, and it will therefore be necessary to ensure that effects in this area during construction are managed. In terms of diffuse pollution, new development and urbanisation could also give rise to increased pollutants in run-off and water that drains into the watercourse to the west, although potential adverse effects can likely be mitigated.

There is a small area of potential land contamination mainly comprising potential historic landfill associated with quarrying. Opportunities for remediation are limited due to the small scale of potential contamination, challenging topography, appropriateness of the area to be preserved for its potential biodiversity and ecological value and as residential development in this area could be avoided.

Overall, it is expected that **neutral effects** would be achieved.

Climate change mitigation and resource efficiency

The carbon and environmental footprint of new development can be addressed through layout and design. A barrier to achieving higher standards is low land values and higher residual costs associated with remediation and infrastructure. This strategic location is known to contain a small area of potentially contaminated land, which is not likely to add to development costs due to limited opportunities for remediation and because residential development in this area could be avoided without significantly undermining the development capacity of the location. At this stage it is unclear whether this location would offer a reduced or increased opportunity to secure higher levels of sustainability in design and construction. Therefore, **neutral effects** are predicted.

Site Appraisal (significantly constrained sites)

Site	Significant Biodiversity Constraints	Significant Flood Risk Constraints	Significant Landscape Constraints	Significant Green Belt Constraints	Strategic Cluster
S03028	No	No	No	No	10
S03091	No	No	Yes	No	10
S03100	No	No	No	No	10
S03137	No	No	No	No	10
S03138	No	No	No	No	10
S03139	No	No	No	No	10
S04107	Yes	No	No	No	10

Discussion

The Birley Edge strategic cluster of sites is not considered to be significantly constrained in terms of flood risk or Green Belt. Site S04107 entirely overlaps with a Local Wildlife Site; it makes up a small peripheral parcel of the strategic cluster and hence its omission or protection within the allocation as an area for biodiversity improvements would not be likely to jeopardise the viability of strategic benefits relating to the cluster. S03091 is significantly constrained in terms of landscape; it is a large, central area of land within the site and hence its removal from the cluster may make strategic benefits and growth on the cluster of sites less likely to occur, though some uncertainty remains.

Looking at the potential strategic growth location in terms of less significant constraints, sites S03028, S03137, S03138 and S03139 would also be considered constrained in terms of potential landscape issues. Sites S03137, S03138 and S03139 would also be considered to be moderately constrained in terms of potential Green Belt effects. The omission of these constrained sites would result in S03100 being the only remaining site within this cluster; its small scale would make strategic growth here extremely unlikely.

Potential to deliver strategic growth under Scenario A	Potential to deliver strategic growth under Scenario B
Uncertain	Very unlikely

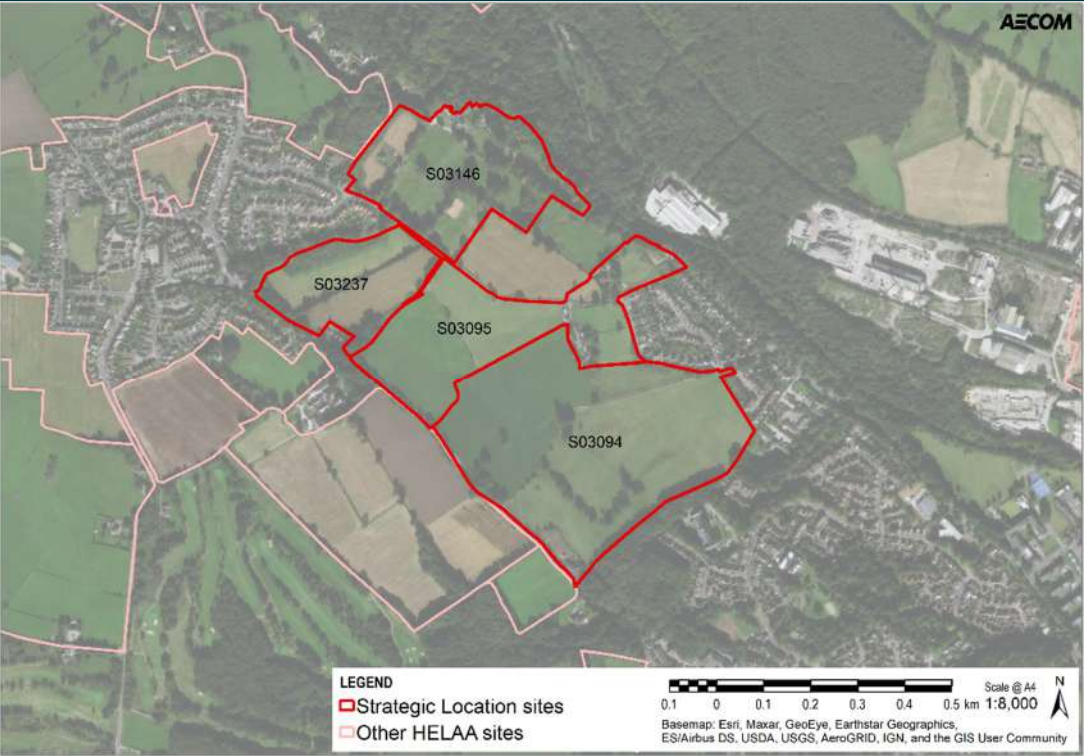
Options

1. Omit one parcel of land S04107. Given this overlaps with a biodiversity site, it can be justified and it only forms a small peripheral part of the cluster. The remaining area could still potentially bring strategic benefits, but there is uncertainty.
2. Omit both parcels of land that exhibit 'significant constraints'. This would make the area even less likely to deliver strategic benefits and there would be a 'hole' in the strategic location for development.
3. Remove this option as a strategic location, reflecting the issues that would arise if both parcels were removed.

RECOMMENDATION

Discount as a strategic location. Though some parcels are unconstrained, an important part of this location is significantly constrained and for consistency, ought to mean that this location can be ruled unreasonable.

Strategic Location 11 (Worrall/ Middlewood)



<i>Economy</i>	<i>Housing</i>	<i>Health and wellbeing</i>	<i>Transport</i>	<i>Soil and Land</i>	<i>Historic Environment</i>	<i>Landscape and Townscape</i>	<i>Biodiversity and Geodiversity</i>	<i>Climate Resilience</i>	<i>Natural Resources</i>	<i>Resource efficiency</i>
✓✓	✓✓	✓✓	✓	x	xx	xxx	x	x	-	-

This strategic location falls to the south-east of Worrall and forms a gap between the village and main urban area. The location mostly consists of gently rolling grassland with the southern parcel of land sloping towards Middlewood. River Don flows to the east of the location alongside Middlewood Road, which provides good access to services and employment opportunities in the Hillsborough/ Wadsley Bridge area and the City Centre. The location is also within close proximity to the Middlewood park and ride facilities at the terminus of the yellow tram route.

Economy

This strategic location is well placed to employment opportunities in the Hillsborough/ Wadsley Bridge area and the City Centre further afield. The development of this location for housing would not result in the loss of employment land. The land parcels in this location are also considered to be more appropriate for housing use rather than employment expansion. Development in this location should also support the vibrancy of the existing retail and service offer in Worrall. Overall, a **moderate positive effect** is predicted.

Housing

Development would be close to existing neighbourhoods and given their size (capacity to deliver over 1,000 dwellings), should present good opportunities to ensure the delivery of housing throughout the plan period. The strategic location also has few constraints, increasing the potential to achieve higher affordable housing contributions. Overall, this location could deliver over 1000 dwellings, and therefore constitutes a **moderate positive effect**.

Health and wellbeing

This strategic location is in good proximity to the local secondary school and to leisure and sport facilities in the Hillsborough area. However, this location is distant to the nearest primary school and GP. However, the likely scale of growth should be able to support improvements to increase existing GP capacity and deliver a new primary school, providing important provision to new and existing communities. The location also partly comprises informal open space which can be safeguarded and is in immediate proximity to a number of informal open spaces and local wildlife sites. The location further benefits from open countryside to the west and the Peak District National Park further afield. Overall, a **moderate positive effect** is predicted, with effects tempered due to poor access to GP services, which is unlikely to be improved by new facilities from the proposed growth in isolation.

Transport and accessibility

This strategic location is nearby existing transport infrastructure including high frequency bus routes along Middlewood Road and the Middlewood tram stop and Park and Ride facilities to the south east. The scale of development proposed presents opportunities for bus improvements for new and existing communities in Worrall. The location is not in close proximity to existing cycle routes but does provide some opportunities to improve

cycle links between Worrall and the wider network of cycle links at Wadsley and Middlewood (which provide connectivity across the upper Don valley and to the City Centre). This location therefore has limited existing opportunities but has potential to support a modal shift towards active and public transport modes.

This strategic location is well placed to employment opportunities in the Hillsborough/ Wadsley Bridge area and the City Centre further afield. In terms of essential services, this location is not nearby a primary school, but the scale of growth involved should be able to support a new facility. This location is in good proximity to a secondary school, but slightly distant to nearby GP services in Middlewood. This location does however benefit from wider retail and service provision in the Hillsborough area. Cumulatively, this location is predicted to generate **minor positive effects**.

Soil and Land

The strategic location consists of greenfield land and some parcels involved in this location are partially categorised as Grade 3 agricultural land. This constitutes **minor negative effects**.

Historic Environment

This strategic location is relatively unconstrained with regards to designated heritage assets. There are a number of Grade II listed buildings in proximity to the location but these either have confined settings or are screened, and any potential adverse effects can likely be avoided through sensitive design. The land parcel to the north is also considered to be of high historic significance and southern land parcels include historic landscape features including surviving earthworks relating to earlier land divisions. Comprehensive development at this location would further integrate Worrall to the main urban area and thus undermine its historic significance as a standalone settlement. Overall, a **moderate negative effect** is predicted.

Landscape and townscape

The landscape is highly sensitive to change in parts and development will likely result in negative effects in terms of the character, openness and the function of land. Unless the scale of growth is lowered considerably, it would be difficult to avoid and mitigate these effects. Comprehensive development at this location will further cause coalescence between Worrall and the main urban area of Sheffield. Overall, **major negative effects** are predicted in this regard. Avoidance of land parcels to the south east would mitigate effects somewhat, but would vastly reduce the delivery of homes (thereby reducing positive effects associated with housing and health and wellbeing in particular).

Biodiversity and Geodiversity

The strategic location does not include designated sites, but the location includes boundary and grassed areas with trees, shrubs and plants likely to be of some ecological importance. The location further adjoins local wildlife sites and woodland to the south and east (with ancient woodland to the east). Avoidance and mitigation should be able to safeguard the significance of these areas, but development will add increased recreational pressure and cause potential disturbance. Development also provides opportunities to secure improvements to existing habitats, deliver on-site

biodiversity gain on land currently of lower value and improvements to ecological connectivity within and to the wider ecological network (including adjacent local wildlife sites and woodland).

Overall, **minor negative effects** are predicted at this stage as it ought to be possible to avoid significant effects. If net gain is secured on site, then the effects would be positive in the longer term.

Climate change resilience

The parcels of land involved in this strategic location are not at significant risk of fluvial flooding. However, there is an area of Flood Zone 3a and 3b to the east along the River Don. Development should be able to avoid exacerbating flood risk.

In terms of the urban heat island effect, the loss of greenfield land on the edge of the urban area is likely to worsen the situation and whilst in the context of the City potential effects are minor, this would contribute to cumulative effects. However, compared to other strategic locations, this strategic location falls within a less dense surrounding urban environment and includes open spaces and woodland nearby, which should help reduce the intensity of potential effects. Furthermore, the land parcels within this location provide opportunities for development to incorporate new green infrastructure and open space. However, the urbanisation of greenfield land is likely to have some residual negative effects with regards to heating. In this respect, **minor negative effects** are predicted.

Natural resources and pollution

Existing uses in the surrounding area are unlikely to be a major constraint to housing development with regards to amenity. Whilst there is a forge to the east of the location, there are no known noise or vibration issues.

With regards to water quality, this location is not within groundwater protection zones. However, there is a watercourse to the south of the strategic location and the Sough Dike and River Don also flow nearby. It will therefore be necessary to ensure that effects during construction are managed, although the potential for adverse effects are unlikely. In terms of diffuse pollution, new development and urbanisation could give rise to increased pollutants in run-off and water that potentially drains into nearby watercourses, but potential adverse effects are unlikely and can likely be mitigated.

The strategic location is not known to include any potential land contamination. Overall, it is expected that **neutral effects** would be achieved.

Climate change mitigation and resource efficiency

The carbon and environmental footprint of new development can be addressed through layout and design. A barrier to achieving higher standards is low land values and higher residual costs associated with remediation and infrastructure. The strategic location is not known to include areas of potential land contamination but does have some infrastructure constraints with development likely to require a new primary school. At this stage it is unclear whether this location would offer a reduced or increased opportunity to secure higher levels of sustainability in design and construction.

Neutral effects are predicted.

Site Appraisal (significantly constrained sites)

Site	Significant Biodiversity Constraints	Significant Flood Risk Constraints	Significant Landscape Constraints	Significant Green Belt Constraints	Strategic Cluster
S03094	No	No	Yes	No	11
S03095	No	No	Yes	No	11
S03146	No	No	No	No	11
S03237	No	No	No	No	11

Discussion

The Worrall/Middlewood strategic cluster of sites is not considered to be significantly constrained in terms of biodiversity, flood risk or Green Belt. Two of the sites (S03094 and S03095) are considered to be constrained in terms of their landscape impacts; these sites constitute a large portion of the cluster and their removal would be expected to make any strategic growth at this location unlikely.

Looking at the potential strategic growth location in terms of 'less significant constraints', S03146 would also be considered to be constrained in terms of potential landscape effects and S03146 and S03237 would also be moderately constrained in terms of impacts upon the Green Belt. Considering this, all sites would be omitted and hence the strategic growth would be unviable.

Potential to deliver strategic growth under Scenario A	Potential to deliver strategic growth under Scenario B
Unlikely	Very unlikely

Options

1. Remove as a strategic cluster on the grounds of significant landscape constraints.
2. Keep the cluster as it stands.

RECOMMENDATION

Remove as a strategic cluster. An important part of this location is significantly constrained and for consistency, ought to mean that this location can be ruled unreasonable.

Strategic Location 12 (South of Deepcar)



<i>Economy</i>	<i>Housing</i>	<i>Health and wellbeing</i>	<i>Transport</i>	<i>Soil and Land</i>	<i>Historic Environment</i>	<i>Landscape and Townscape</i>	<i>Biodiversity and Geodiversity</i>	<i>Climate Resilience</i>	<i>Natural Resources</i>	<i>Resource efficiency</i>
-	✓	-	x	-	xx	x	xx? xxx?	-	✓	x

This strategic location falls to the south of Deepcar with the parcels to the west on higher ground and in proximity to the Peak District National Park. These parcels consist of gently rolling grassland which slopes in part steeply towards the A6102 Manchester Road. Part of these land parcels indicate agricultural use. The land parcel to the east comprises a spoil pit and mostly wooded grassland sandwiched between the River Don corridor and little used freight railway line. This parcel also includes the Upper Don Trail between Stocksbridge via Deepcar and Sheffield City Centre. This parcel also falls adjacent to a water treatment works and in close proximity to another water treatment facility and household waste recycling centre to the north. The strategic location falls in close proximity to the A616 and A6102 providing access to Manchester, Sheffield and the M1. The location is also nearby some employment opportunities, services and facilities in the Stocksbridge and Deepcar area including in Stocksbridge town centre and Fox Valley retail park.

Economy

This strategic location is well placed to some limited employment opportunities in Stocksbridge but is otherwise fairly distant to key employment areas. The development of this location for housing would not result in the loss of employment land. The land parcels in this location are also considered to be more appropriate for housing use rather than employment expansion. As such, **neutral effects** are predicted in this regard.

Housing

The land parcels to the west of the strategic location are adjacent to existing neighbourhoods, but the land parcels to the east do not relate particularly well to existing neighbourhoods in Deepcar (although a housing development is underway to the north of Site S03257). In addition, Site S03257 comprises a spoil pit. This has potential to reduce the viability to obtain a higher contribution of affordable housing due to potential higher site remediation costs. As such, **minor positive effects** are predicted in this respect.

Health and wellbeing

The strategic location does not fall within close proximity to primary and secondary schools, GP services and other health and wellbeing facilities. The scale of growth involved, dispersed character of land parcels, and potential viability constraints is unlikely to support any significant improvement in provision in terms of healthcare and secondary schools. Growth could therefore exacerbate pressures on existing facilities and provide poor accessibility to new residents. On the contrary, the location does benefit from recreational opportunities associated with walking and cycle tracks, informal open space, local wildlife sites, open countryside and the Peak District National Park further afield. Overall, a **neutral effect** is predicted.

Transport and accessibility

The strategic location is poorly served by transport infrastructure, with the exception of Site S03228 which benefits from frequent bus services along the A6102 Manchester Road and the northern part of the parcel to the east, which slightly intersects and connects to a long-distance cycle route between Stocksbridge and Sheffield. There is potential for development on the eastern parcel to improve cycle links by connecting the cycle route to the north with Manchester Road via a currently unused bridge to the north of the Ewden water treatment works. There is also potential for new housing to the west to support improvements to local bus provision and service frequency. However, it is unclear if these improvements would be viable considering potential high land remediation and construction costs. Indirectly, there is potential for new housing at this location to further support the business case for the potential reopening of the existing freight Don Valley line for passenger travel between Sheffield City Centre and Stocksbridge, with a stop to serve Deepcar. This would bring positive effects, but there is considerable uncertainty at this stage.

The strategic location is broadly poorly placed to employment opportunities and essential services. Overall, with limited opportunities for a modal shift towards active and public transport modes and poor local provision of essential services, development is likely to cause a higher reliance on the private car and exacerbate congestion particularly at hotspots in the local area and in the Hillsborough/ Wadsley Bridge area.

Therefore, **minor negative effects** are predicted.

Soil and Land

With the exception of the land parcel to the east (S03257), this strategic location consists of greenfield land with some indication of agricultural use. These land parcels do not comprise the best and most versatile land. A negligible area of land parcel S03257 is categorised as Grade 3 Agricultural Land, however, this site is contaminated and unsuitable in its current condition for agricultural use. Overall, a **neutral effect** is predicted.

Historic Environment

This strategic location is relatively unconstrained with regards to designated heritage assets. There is a scheduled monument on higher ground to the north east of the location and Grade II listed buildings to the north west. However, adverse effects are unlikely and can potentially be avoided through sensitive design. The land parcel to the west include a possible cropmark enclosure and the field pattern may relate to medieval or early post-medieval enclosure. These have potential to be of historic significance. Overall, a **moderate negative effect** is predicted.

Landscape and townscape

The land parcels to the east (S03257 and S03228) are enclosed with strong boundaries and the former is also low-lying and thus these land parcels have low sensitivity to development. The land parcels to the west of this location occupy higher ground and are more open and prominent in character. These land parcels are fairly sensitive to change with development likely to cause harm to the character, openness and the function of land. Nevertheless, for all land parcels, unless the scale of growth is lowered considerably, development will likely cause some harm to the character of the landscape, and these effects will be difficult to avoid and mitigate. Overall, **minor negative effects** are predicted.

Biodiversity and Geodiversity

The land parcel to the east (S03257) is enclosed by a local wildlife site other than to the north which also provides a point of access. Much of the land parcel has also been rewilded with trees and shrubs likely to be of some ecological importance. To the west, the location is adjacent to local wildlife sites and ancient woodland. The designated sites in this location are large in scale and strategic in character. Avoidance and mitigation should be able to safeguard designated areas and on-site areas of higher ecological value. However, development will likely add significantly increased recreational pressure and cause potential disturbance. Development is also likely to result in the loss of rewilded areas which have potential to be of some ecological importance and result in the loss of existing habitats and ecological connectivity. If demonstrated to be of high ecological value, it is unclear if an on-site biodiversity gain can be achieved.

Overall, some uncertain, **moderate** to **major negative effects** are predicted at this stage mostly to reflect potential significant disturbances to the local wildlife site enclosing the land parcel to the east (S03257) and loss of land which has been rewilded over a long period of time and is potentially of ecological significance. However, a degree of uncertainty relates to the ecological value of rewilded land and whether adequate mitigation and net gain can be secured, in some instances where net gain could be seen, the effects may be positive in the longer term.

Climate change resilience

The parcels of land involved in this strategic location are not at significant risk of fluvial flooding. However, the land parcel to the east is adjacent to the River Don, which flows on significantly lower ground and there is a small area of mainly Flood Zone 2 to the south west. Development should be able to avoid exacerbating flood risk.

In terms of the urban heat island effect, this strategic location is distant to the main urban area of Sheffield and whilst there is potential for it to intensify effects in the urbanised Stocksbridge and Deepcar area, effects are not likely to be significant due to the existing low baseline. Furthermore, the land parcels extend in a linear form south into open countryside and woodland. The land parcels are further dispersed with gaps in-between and have potential to incorporate green infrastructure and open space, which should help reduce effects as a result of urban intensification.

Overall, a **neutral effect** is predicted.

Natural resources and pollution

Existing uses in the surrounding area are unlikely to be a major constraint to housing development with regards to amenity for land parcels to the west. However, the eastern part of the strategic location falls in proximity to water treatment facilities, a household recycling facility and the eastern land parcel (S03257) is further adjacent to a railway line. Potential noise and visual amenity effects can likely be adequately addressed (particularly on land parcel S03228) through improving the existing perimeter screening. It is unknown if the water treatment works release potentially harmful gases during the treatment process, but these facilities have potential to release unpleasant odours which cannot be mitigated (once released).

With regards to water quality, this location is not within groundwater protection zones. The River Don flows alongside the land parcel to the east and therefore it will be necessary to ensure that effects during construction are managed. In terms of diffuse pollution, new development and urbanisation could give rise to increased pollutants in run-off and water that drains into the River Don, but potential adverse effects can likely be mitigated.

The eastern land parcel comprises a spoil pit and the land is known to potentially be highly contaminated. Therefore, an intensive remediation exercise would likely be required. There is potential for remediation to improve water quality including the quality of run-off to the River Don.

Overall, development at this location is predicted to derived neutral effects for land parcels to the west. However, cumulatively a **minor positive effect** is expected, with major positive effects expected through the remediation of the eastern land parcel, but moderate negative effects also predicted in relation to amenity issues which cannot be effectively mitigated.

Climate change mitigation and resource efficiency

The carbon and environmental footprint of new development can be addressed through layout and design. A barrier to achieving higher standards is low land values and higher residual costs associated with remediation and infrastructure. The eastern land parcel of this strategic location is known to contain contaminated land, which is likely to add significant cost to development. The strategic location is also poorly served by important social infrastructure including schools and health facilities, with requirements for some new provision which will also add costs to development. Therefore, development is likely to offer reduced opportunities to secure higher levels of sustainability in design and construction and thus **minor negative effects** are predicted.

Site Appraisal (significantly constrained sites)

	Site	Significant Biodiversity Constraints	Significant Flood Risk Constraints	Significant Landscape Constraints	Significant Green Belt Constraints	Strategic Cluster
	S03031	No	No	No	No	12
	S03228	No	No	No	Yes	12
	S03257	No	No	No	No	12
	S03484	No	No	No	No	12

Discussion

The South of Deepcar strategic cluster of sites is not considered to be significantly constrained in terms of biodiversity, flood risk or landscape. It is important to note that in this case the options appraisal raised some potential significant negative effects linked to the rewilded nature of the site and the way in which biodiversity constraints surround the site; these were not factors considered in the site assessment work carried out on each site for the purposes of the SA and did not feature in this consideration of the potential to remove individual sites based on their potential constraints.

S03228 is considered to be significantly constrained in terms of its Green Belt performance; the removal of the fairly central site may reduce the potential for the area to deliver strategic growth by increasing the segregation between parcels of land which make up the potential growth site. It is worth noting that the four parcels of land in this cluster are weakly related in terms of access and topography.

Looking at the potential strategic growth location in terms of 'less significant constraints', sites S03031 and S03484 would be classified as moderately constrained in terms of potential landscape impacts and S03257 would also be constrained in terms of potential Green Belt constraints. Considering this, all sites would be omitted and hence the strategic growth would be unviable.

Potential to deliver strategic growth under Scenario A	Potential to deliver strategic growth under Scenario B
Likely	Very unlikely

Options

1. Remove site S02338 for consistency of approach in terms of avoiding the most constrained parcels of land. This would make the potential for strategic benefits in the area more uncertain (but still possible).
2. Retain the strategic location as it stands. This increases the likelihood that strategic growth can be implemented, but one may question consistency of approach given that a parcel with significant constraint is included.

RECOMMENDATION

Retain the strategic location. Though parcel S02338 is somewhat constrained with regards to Green Belt, its inclusion is important if strategic growth is to be supported in this location.

Strategic Location 13 (Oughtibridge / Wharncliffe Side)



<i>Economy</i>	<i>Housing</i>	<i>Health and wellbeing</i>	<i>Transport</i>	<i>Soil and Land</i>	<i>Historic Environment</i>	<i>Landscape and Townscape</i>	<i>Biodiversity and Geodiversity</i>	<i>Climate Resilience</i>	<i>Natural Resources</i>	<i>Resource efficiency</i>
✓	✓	-	-	x	x	-	x	-	-	-

This strategic location falls to the north-west of the city comprising lower-lying land enclosed by the River Don and woodland to the east and an elevated A6102 Main Road/ Langsett Road to the west. The land parcels are predominantly flat and mostly comprise grassland with a small group of cottages and former agricultural buildings in the northern parcel and a paddock and pond in the southern parcel. The parcel of land to the south falls in Oughtibridge with some local services and facilities, whilst Wharncliffe Side to the west of the northern parcel has limited provision. Further afield, the strategic location is in close proximity to services and employment opportunities in the Hillsborough/ Wadsley Bridge area and the City Centre.

Economy

This strategic location to the south is well placed to employment opportunities in the Hillsborough/ Wadsley Bridge area. The development of this location for housing would not result in the loss of employment land. The land parcels in this location are also considered to be more appropriate for housing use rather than employment expansion. Development in this location should also support the vibrancy of the existing limited retail and service offer in Wharncliffe Side and Oughtibridge. Overall, a **minor positive effect** is predicted.

Housing

Development would be close to existing neighbourhoods. The strategic location also has few constraints, increasing the potential to achieve higher affordable housing contributions. However, the overall scale of growth achievable would be lower than 800 dwellings, and as such, **minor positive effects** are predicted.

Health and wellbeing

The northern land parcel falls in close proximity to a primary school and the southern land parcel is in good proximity to a GP service. Otherwise, the strategic location does not fall within close proximity to health and wellbeing facilities, but does benefit from education, health and leisure facilities in the Hillsborough area. The scale of growth involved and dispersed character of land parcels is further unlikely to support any significant improvement in provision. Growth is therefore likely to exacerbate pressures on existing facilities and provide poor accessibility to new residents. On the contrary, the location does benefit from recreational opportunities associated with walking and cycling including informal open space, nearby local wildlife sites, open countryside and the Peak District National Park further afield. Overall, a **neutral effect** is predicted.

Transport and accessibility

This strategic location is served by a frequent bus route along Main Road and Langsett Road and the southern parcel benefits from good cycle links to the south serving the Hillsborough/ Wadsley Bridge area and the City Centre. This location therefore provides some opportunities to support a modal shift towards active and public transport modes. Indirectly, there is potential for new housing at this location (particularly at the southern land

parcel) to further support the business case for the potential reopening of the existing freight Don Valley line for passenger travel between Sheffield City Centre and Stocksbridge, with a stop to serve Oughtibridge.

This strategic location is well placed to employment opportunities. In terms of essential services, the land parcels are in close proximity to convenience stores but are otherwise distant to other services with the exception of a primary school nearby the northern parcel and GP service nearby the southern parcel. The lower quantum of growth proposed in this location and its dispersed nature is unlikely to deliver any substantial improvements in transport infrastructure or accessibility to services. Growth in this location increases reliance of service provision in the Hillsborough/Wadsley Bridge area, which is also known to have high levels of congestion during peak hours. Cumulatively, this location is predicted to generate broadly **neutral effects**.

Soil and Land

The strategic location is mostly greenfield with the exception of a small cluster of buildings in the parcel to the north. The northern parcels are further categorised as Grade 3 agricultural land, although the strategic location is not in current agricultural use. Overall, the potential loss of the best and most versatile land is considered to be negligible and therefore **neutral effects** are predicted.

Historic Environment

This strategic location is relatively unconstrained with regards to designated heritage assets. There is a Grade II listed building to the east of the southern parcel. However, adverse effects can potentially be avoided through sensitive design. The northern parcel include ridge and furrow cultivation remains and the southern parcel includes cropmark features of local significance. Development would likely result in the permanent loss of these features and therefore a **minor negative effect** is predicted (considering the historic significance of these features).

Landscape and townscape

The landscape is not particularly sensitive to change as the land parcels are low-lying and benefit from strong boundaries which provide enclosure and confinement for potential development. Overall, **neutral effects** are predicted.

Biodiversity and Geodiversity

The strategic location does not include designated sites, but the location includes trees, shrubs and plants likely to be of some ecological importance. The land parcels further adjoin local wildlife sites and a large area of ancient woodland. Avoidance and mitigation should be able to safeguard the significance of these areas, but development will add increased recreational pressure and cause potential disturbance. Development also provides opportunities to secure improvements to existing habitats, deliver on-site biodiversity gain on land currently of lower value and improvements to ecological connectivity within and to the wider ecological network (including adjacent local wildlife sites and woodland).

Overall, **minor negative effects** are predicted at this stage as it ought to be possible to avoid significant effects. If net gain is secured on site, then the effects would be positive in the longer term.

Climate change resilience

The northern parcel at this strategic location is adjacent and includes an area to the south of Flood Zone 2. There is potential for development to avoid the area to the south and to incorporate infrastructure to avoid exacerbating flood risk on-site and in the wider area. The southern parcel is adjacent to an area of mainly Flood Zone 3a and nearby Flood Zone 3b. It will be important for development on this parcel to also integrate measures to avoid the exacerbation of flood risk.

In terms of the urban heat island effect, this strategic location is distant to the main urban area of Sheffield and whilst there is potential for it to intensify effects locally, effects are not likely to be significant due to the existing low baseline. Furthermore, the land parcels are dispersed, not significant in scale and adjacent to open countryside and woodland, which should help reduce effects as a result of urban intensification.

Overall, a **neutral effect** is predicted.

Natural resources and pollution

Existing uses in the surrounding area are unlikely to be a major constraint to housing development with regards to amenity. Whilst the land parcels are sandwiched between a railway line to the east and main road to the west, potential adverse noise and visual amenity effects can likely be adequately addressed through improving the existing perimeter screening.

With regards to water quality, this location is not within groundwater protection zones. The River Don flows to the east of the land parcels and therefore it will be necessary to ensure that effects during construction are managed. In terms of diffuse pollution, new development and urbanisation could give rise to increased pollutants in run-off and water that drains into the River Don, but potential adverse effects can likely be mitigated.

There is a negligible area of potential land contamination in the northern parcel from a plant nursery. Opportunities for remediation are limited due to the small scale of potential contamination and as residential development in this area could be avoided.

Overall, it is expected that **neutral effects** would be achieved.

Climate change mitigation and resource efficiency

The carbon and environmental footprint of new development can be addressed through layout and design. A barrier to achieving higher standards is low land values and higher residual costs associated with remediation and infrastructure. This strategic location is known to contain a negligible area of potentially contaminated land, which is not likely to add to development costs due to limited opportunities for remediation and because residential development in this area could be avoided without significantly undermining the development capacity of the location. At this stage it is unclear whether this location would offer a reduced or increased opportunity to secure higher levels of sustainability in design and construction. Therefore, **neutral effects** are predicted.

Site Appraisal (significantly constrained sites)

Site	Significant Biodiversity Constraints	Significant Flood Risk Constraints	Significant Landscape Constraints	Significant Green Belt Constraints	Strategic Cluster
S03032	No	No	No	No	13
S03486	No	No	No	No	13
S03487	No	No	No	No	13

Discussion

The Oughtibridge / Wharnccliffe Side strategic cluster of sites is not considered to be significantly constrained in terms of biodiversity, flood risk, landscape or Green Belt. Looking at the potential strategic growth location under Scenario B, the sites are still suitable, and would not be omitted from the cluster.

The issue with this strategic cluster is that the overall scale of growth is relatively low (less than 350 dwellings), which makes its potential to deliver strategic benefits unlikely.

Potential to deliver strategic growth under Scenario A	Potential to deliver strategic growth under Scenario B
Unlikely	Unlikely

Options

1. Remove as a strategic location given its relatively small scale.
2. Add additional sites to increase the potential for strategic benefits. These sites are not significantly constrained and their inclusion would be consistent with the approach to other strategic clusters.
3. Keep the strategic cluster as it currently stands. This is somewhat inconsistent with the scale of other clusters.

RECOMMENDATION

Add sites S03134 / S03057 to the cluster. Update the appraisal accordingly. Likely to strengthen positive effects in terms of housing and health, but negative effects on landscape would increase (not to a significant levels though).

Appendix H: Analysis of Strategic Locations (Employment)

Strategic Location A: Hesley Wood



<i>Economy</i>	<i>Housing</i>	<i>Health and wellbeing</i>	<i>Transport</i>	<i>Soil and Land</i>	<i>Historic Environment</i>	<i>Landscape and Townscape</i>	<i>Biodiversity and Geodiversity</i>	<i>Climate Resilience</i>	<i>Natural Resources</i>	<i>Resource efficiency</i>
✓✓✓?	-	-	✓	✓✓	-	x	xx?	x?	-	x?

This strategic location falls to the east of Chapeltown. The location mostly comprises woodland including ancient woodland to the south east. The areas of woodland are also designated as a local wildlife site. The remaining site area comprises a large spoil tip to the nearby former Smithy Wood colliery which is enclosed by the woodland. The spoil tip area is considered to be the developable part of the location and is gently sloping. The location is adjacent to the A629 to the south and Smithy Wood Road which provides a vehicular access to the site, although a suitable vehicular access within the site through the woodland to the likely developable area would need to be established. The location is also within close proximity to the M1 (to the east), with the A629 providing immediate access to Junction 35 of the M1.

Economy

This strategic location is to the north of an area designated as an industrial zone comprising warehousing and light industry. This location benefits from good proximity to Junction 35 of the M1 for distribution purposes and an existing road network considered suitable for employment uses requiring the frequent movement of heavy goods vehicles. Growth at this location is not likely to form a natural extension to existing and proposed employment uses in the area. However, the location is well screened by dense woodland from existing residential uses to the west and therefore most employment uses are not likely to be constrained by potential effects on amenity. Overall, a potential **major positive effect** is predicted.

Housing

The developable area of this site does not adjoin or relate well with existing communities or benefit from good access to public transport, health and social infrastructure. Therefore, the employment use of this location is not considered to result in the loss of suitable housing land. A **neutral effect** is predicted.

Health and wellbeing

Whilst the location is adjacent to the Blackburn Valley Trail, end users are unlikely to benefit from active commuting travel options due to constraints in establishing connections between the trail and the site. There is potential for employment uses that generate a high number of trips to adversely impact on air quality and thus having a negative impact on the amenity and health of existing nearby communities.

There is potential for some employment uses potentially suitable at this location to generate noise and light pollution, but existing screening from nearby communities from the established woodland and other potential mitigation measures should help mitigate any potential adverse effect on residential amenity for existing communities. Overall, a **neutral effect** is predicted. Whilst there are positive effects associated with jobs growth, this is offset by the potential for negative effects discussed above.

Transport and accessibility

This strategic location benefits from good road access with the A629 to the south and Junction 35 of the M1 nearby to the south east of the location. The location is served by existing public transport infrastructure along the A629, with hourly bus services into Chapeltown, Sheffield via Hillsborough and Rotherham. The Blackburn Valley Trail runs adjacent to the west of the site which provides a long distance traffic-free walking and cycle route. However, the Trail is distant to the likely developable area of the site and establishing a new connection between the developable area and the Trail will be challenging due to the substantial topographic difference and likely disturbance and loss of woodland habitats. There is a train station at Chapeltown, which could support some improved access to jobs, but access on foot from the station to the employment site is likely to be over 1km. This location therefore provides some opportunities to support a modal shift towards active and public transport modes. Employment growth at this location would support growth in an area in proximity to existing communities in Chapeltown and Thorpe Hesley, although the location is somewhat distant to ancillary uses such as shops. Cumulatively, this location is predicted to generate **minor positive effects**.

Soil and Land

The developable part of the strategic location consists of a spoil tip to the nearby former Smithy Wood colliery. The development of this location is likely to deliver some site remediation and utilise a currently contaminated site, therefore **moderate positive effects** are predicted.

Historic Environment

This strategic location is relatively unconstrained with regards to designated heritage assets and there are no known archaeological features. Overall, a **neutral effect** is predicted.

Landscape and townscape

The landscape at this strategic location is considered to be moderately sensitive to change. The developable area of the location is enclosed by woodland which limits intra views from the wider landscape into the site, but this also creates a spatial separation of the site from the Chapeltown urban area, resembling an insensitive sprawl of the town into the countryside. The developable area comprises a spoil tip of low landscape value. Therefore, development presents some opportunities to introduce new landscape features and improve landscape character, although opportunities are undermined by the proposed employment use which is likely to require larger buildings. The development of this strategic location would also increase coalescence between Chapeltown and Thorpe Hesley. Overall, a **minor negative effect** is predicted.

Biodiversity and Geodiversity

The developable area of this strategic location is encircled by local wildlife sites which comprise woodland and ancient woodland likely to be of high ecological value. There is potential for some loss of habitat to provide an adequate vehicular access to the site. Otherwise, it is envisaged that employment uses should be able to avoid potential recreational pressures on the local wildlife sites. Development is also likely to cause long term disturbances through undermining ecological connectivity across the site and from noise and light pollution. Development will result in the loss of stepping stone habitats in the likely developable area which could potentially be of some ecological importance. However, potential site remediation works and the landscaping of the spoil tip provide some opportunities to achieve a biodiversity net gain through development.

Overall, potential **moderate negative effects** are predicted at this stage to reflect disturbances and loss of land potentially of ecological significance. However, positive effects can derive where development is delivered sensitively and achieves biodiversity net gain on or near to the site.

Climate change resilience

This strategic location is not at significant risk of fluvial flooding.

In terms of the urban heat island effect, development on the site is not likely to result in the net loss of trees and the remediation of the spoil tip provides opportunities to incorporate new green infrastructure. However, with the strategic location being on the periphery of the urban area nearby industrial uses and in immediate proximity to the M1, there is some potential for development to exacerbate the urban heat island effect. Whilst in the context of the city potential effects are minor, this would contribute to cumulative effects. However, whilst effects are exacerbated due to the M1, this strategic location comprises and falls in proximity to areas of woodland and countryside, which should help reduce the intensity of potential effects. As some residual negative effects with regards to heating are likely, uncertain **minor negative effects** are predicted.

Natural resources and pollution

Development at this strategic location is likely to generate noise and light pollution and cause harm or disturbance on the environment. Subject to the employment use type, there is also potential for development to exacerbate air pollution in the local area through increased trip generation and road congestion.

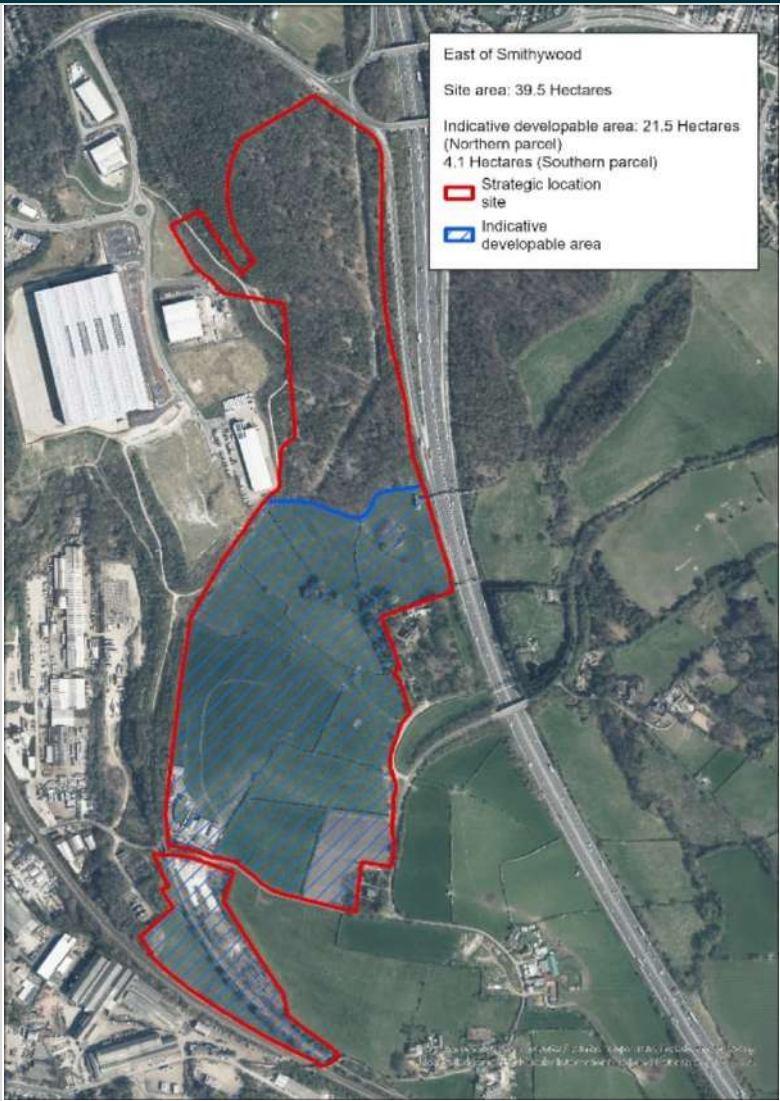
With regards to water quality, this location is not within groundwater protection zones and also does not contain any known watercourses or notable waterbodies. The likely developable area of the strategic location comprises a spoil pit and the land is known to potentially be highly contaminated. Therefore, despite the proposed employment use of the site, some remediation would likely be required. There is potential for remediation to improve groundwater water quality.

Overall, it is expected that **neutral effects** would arise as potential adverse effects from poor air, noise and light pollution would be offset from positive effects from the remediation of contaminated land.

Climate change mitigation and resource efficiency

The carbon and environmental footprint of new development can be addressed through layout and design. A barrier to achieving higher standards is low land values and higher residual costs associated with remediation and infrastructure. The developable area of this strategic location is known to be contaminated, which is likely to add to development costs for some remediation, although a substantial remediation scheme can likely be avoided due to the proposed employment use of the site. Overall, potential **minor negative effects** are predicted.

Strategic Location B: East of Smithywood



<i>Economy</i>	<i>Housing</i>	<i>Health and wellbeing</i>	<i>Transport</i>	<i>Soil and Land</i>	<i>Historic Environment</i>	<i>Landscape and Townscape</i>	<i>Biodiversity and Geodiversity</i>	<i>Climate Resilience</i>	<i>Natural Resources</i>	<i>Resource efficiency</i>
✓✓✓	-	✓	-	x	-	xx	x	x	x	x?

This strategic location consists of two site parcels. The northern parcel covers a large spatial area adjacent to the M1 to the east (including Junction 35 to the north) and warehousing and light industrial uses to the west. This parcel to the north is partially designated as a local wildlife site which consists of woodland, some of which is ancient. The developable area of this site parcel covers the area to the south and adjacent to the local wildlife site. The southern part of this parcel comprises rolling and in part steeply sloping agricultural land, some of which is open in character and at higher ground. This part of the site does not form a natural extension to the adjacent existing and proposed area of warehousing and light industry, due to a significant change in topography and intersecting area of woodland. The southern parcel comprises a part brownfield and greenfield site bounded to the south by a railway line and to the north by Loicher Lane, and intersected by the Blackburn Valley Trail. The southern part of the southern parcel includes an electrical substation.

Economy

This strategic location adjoins an area designated as an industrial zone comprising warehousing and light industry and benefits from good proximity to Junction 35 of the M1 for distribution purposes. Growth at this location is not likely to form a natural extension to the adjacent existing and proposed employment uses, but with the surrounding area widely unconstrained from sensitive receptors, the location presents opportunities to accommodate the extension of such uses. Overall, a **major positive effect** is predicted.

Housing

This location does not fall nearby existing communities and does not benefit from good access to public transport, health and social infrastructure. Therefore, the employment use of this location is not considered to result in the loss of suitable housing land. A **neutral effect** is predicted.

Health and wellbeing

Whilst the location is adjacent to the Blackburn Valley Trail, end users are unlikely to benefit from active commuting travel options due to constraints in establishing connections between the Trail and the site. There is potential for employment uses that generate a high number of trips or noise to adversely impact on air quality or the background noise level and thus have a negative impact on the amenity and health of existing nearby communities. On the contrary, employment growth at this location should provide some job opportunities for nearby communities with higher levels of deprivation. Overall, a **minor positive effect** is predicted, reflecting that there the benefits of jobs accessible to deprived communities ought to outweigh potential negative effects on amenity and air quality.

Transport and accessibility

The location falls in close proximity to Junction 35 of the M1 and could be accessed through the adjacent existing industrial estate.

This strategic location is not served by existing public transport infrastructure. A long distance traffic-free walking and cycle route (Blackburn Valley Trail) runs adjacent to the likely developable area of the site, but this is poorly surfaced in part and thus likely unsuitable for commuting. Furthermore, establishing a new connection between the developable area and the Trail will be challenging due to the topographic difference and likely disturbance and loss of woodland habitats. This location therefore provides limited existing opportunities to support a modal shift towards active and public transport modes.

Opportunities to utilise the railway line to the south of the location for distribution purposes are limited due to site constraints including the substantial topographic differences between the northern parcel and the south, poor highway access, small site area to the south and other infrastructure including an electric substation and Blackburn Valley Trail. A new railway station to serve commuters is unlikely to be viable considering the potential scale of growth involved.

Overall, **neutral effects** are predicted.

Soil and Land

The likely developable area of this strategic location consists of Grade 3 agricultural land, although it is unclear if this is amongst the best and most versatile and is not known to be currently in agricultural use. Overall, this constitutes **minor negative effects**.

Historic Environment

This strategic location is relatively unconstrained with regards to designated heritage assets and there are no known archaeological features. Overall, a **neutral effect** is predicted.

Landscape and townscape

The landscape at this strategic location is considered to be sensitive to change. The developable area predominantly occupies higher ground with long distance open views. Whilst the land to the north west has planning permission for employment use, the development of the strategic location in the absence of development on this land would appear as a sporadic form of development, which does not directly adjoin or relate to the main urban area and intrudes into the countryside. The development of this strategic location would also increase coalescence between Rainstorth, Chapeltown and the main Sheffield urban area. Overall, a **moderate negative effect** is predicted.

Biodiversity and Geodiversity

The area to the north of the developable area of this strategic location includes local wildlife sites which comprise woodland and ancient woodland likely to be of high ecological value. It is envisaged that employment development should be able to avoid these areas and also avoid potential recreational pressures on the local wildlife sites. For the northern parcel, development should also be able to avoid important habitats and ecological corridors along the boundary, although disturbances through the loss of ecological connectivity across the site are likely. For the southern parcel, comprehensive development is likely to result in some habitat loss. Development at this location is further likely to cause noise and light pollution, although effects could be minimised through sensitive design. This greenfield nature of this location presents opportunities for biodiversity net gain.

Overall, a **minor negative effect** is predicted. However, there is potential for significant negative effects if the development were to result in the loss of woodland in the northern part of the site to provide a suitable vehicular access.

Climate change resilience

The developable area of this strategic location is mostly not at significant risk of fluvial flooding, but the southern part of the strategic location includes some areas of Flood Zone 2. However, development can likely be accommodated without exacerbating or increasing flood risk.

In terms of the urban heat island effect, development on the site is not likely to result in the net loss of trees. However, with the strategic location being on the periphery of the urban area nearby industrial uses and in immediate proximity to the M1, there is potential for development to exacerbate the urban heat island effect. Whilst in the context of the City potential effects are minor, this would contribute to cumulative effects. However, whilst effects are exacerbated due to the M1, this strategic location comprises and falls in proximity to areas of woodland and countryside, which should help reduce the intensity of potential effects. As some residual negative effects with regards to heating are likely, **minor negative effects** are predicted.

Natural resources and pollution

Development at this strategic location is likely to generate noise and light pollution and cause harm or disturbance on the environment. Subject to the employment use type, there is also potential for development to exacerbate air pollution in the local area through increased trip generation on a road network unlikely to be suitable to accommodate a substantial increase in traffic.

With regards to water quality, this location is not within groundwater protection zones and also does not contain any known watercourses or notable waterbodies. However, the likely developable area is in proximity to Blackburn Brook to the west, and it will therefore be necessary to ensure that effects during construction are managed. In terms of diffuse pollution, new development and urbanisation could give rise to increased pollutants in run-off and water that drains into the watercourse, but potential adverse effects can likely be mitigated.

Overall, it is expected that **minor negative effects** could arise.

Climate change mitigation and resource efficiency

The carbon and environmental footprint of new development can be addressed through layout and design. A barrier to achieving higher standards is low land values and higher residual costs associated with remediation and infrastructure. This strategic location is not known to include contaminated land, although there is some potential for contamination on the brownfield site area of the southern parcel. This strategic development of the site would however likely require improved or a new vehicular access which could add to development costs. Therefore, potential **minor negative effects** are predicted.

Strategic Location C: Norton



<i>Economy</i>	<i>Housing</i>	<i>Health and wellbeing</i>	<i>Transport</i>	<i>Soil and Land</i>	<i>Historic Environment</i>	<i>Landscape and Townscape</i>	<i>Biodiversity and Geodiversity</i>	<i>Climate Resilience</i>	<i>Natural Resources</i>	<i>Resource efficiency</i>
✓	✗?	✓✓	✓	✓	-	✓	✗?	-	-	✗?

This strategic location falls to the south of the city and is part bounded to the west by the partial outer ring road (A6102). To the north of the location, there is a primary school and the purple tram route. The location is predominantly flat or gently sloping. The developable area consists of a former RAF aerodrome which has partially rewilded. The location outside the developable area also includes an NHS social care facility mainly used for administrative purposes, football playing fields, a bike track and a field with tall shrubs and trees. There is a street with a single row of houses in the south west corner of the strategic location.

Economy

This strategic location is not closely located to existing employment areas but does benefit from good public transport and road access. Part of the site comprises an NHS social care facility mainly used for administration, and therefore is in existing employment use. However, the surrounding area includes residential uses and thus the site could be unsuitable for uses which could have adverse effects on amenity, such as light industry. The site does not fall within a priority economic regeneration area. Overall, a **minor positive effect** is predicted.

Housing

The developable area of this location relates well to existing communities to the west and is also well served by public transport and social infrastructure, including a primary school. The site is also within immediate proximity to Hemsworth and Herdings and nearby other areas which fall within the 10% most deprived neighbourhoods in the country (IMD, 2019). Development at this location for employment use will result in the loss of potentially suitable housing land with potential to deliver a mix of housing types and affordable housing, within a wider area which includes social groups that are likely to be in need of this provision. Therefore, a potential **minor negative effect** is predicted. This could be avoided with a mixed use approach to growth in this location.

Health and wellbeing

This location is in proximity to a comprehensive cycle network with development presenting opportunities for the further integration of the site to the network, promoting active commuting travel options and also potentially improving access for communities to recreation and open space outside the developable area of the location. Development could further support improvements to these facilities, which could derive long term positive effects. There is potential for employment uses that generate a high number of trips or noise to adversely impact on air quality or the background noise level and thus have a negative impact on the amenity and health of existing nearby communities. On the contrary, employment growth at this location should provide some opportunities for nearby communities with higher levels of deprivation. Overall, a **moderate positive effect** is predicted as the location should support active commuting travel options and for the benefit of new employment opportunities in proximity to areas with higher levels of deprivation.

Transport and accessibility

This strategic location is adjacent to the partial outer ring road (A6102). This strategic location is well served by existing public transport infrastructure, with the purple tram route and tram stops to the north and a frequent bus route to the north-east. However, higher trip generating employment uses could add pressures on the capacity of the road network. The location is not served by cycle links but does fall in close proximity to a comprehensive cycle network. This location therefore provides some good existing opportunities to support a modal shift towards active and public transport modes. Employment growth at this location would further support growth in an area in good proximity to existing communities and ancillary uses such as shops. Cumulatively, this location is predicted to generate **minor positive effects**.

Soil and Land

The developable area of this strategic location consists of a former RAF site. T Development would make effective use of brownfield land, thereby helping to protect soil and land resources in more sensitive locations, therefore **minor positive effects** are predicted.

Historic Environment

This strategic location is relatively unconstrained with regards to designated heritage assets. The developable area does not fall within proximity or the likely setting of listed buildings or scheduled monuments and development in this area is unlikely to cause harm to the setting of the Moss Valley conservation area. Overall, a **neutral effect** is predicted.

Landscape and townscape

The developable area of this strategic location consists of previously developed land and is of low landscape value and thus is relatively insensitive to change. The area is enclosed by woodland to the north and east, which limit intra views from the wider landscape. Development presents some opportunities to introduce new landscape features and improve landscape character, although opportunities are undermined by the proposed employment use which is likely to require larger buildings. Development also presents some opportunities to improve townscape character by removing derelict structures. Overall, a **minor positive effect** is predicted.

Biodiversity and Geodiversity

The strategic location does not include designated sites, but the developable area consists of rewilded areas which could potentially be of some ecological value. The area surrounding the developable area includes areas of woodland, clusters of grassland with trees, shrubs and plants which are likely to be of ecological importance. The location further adjoins a local wildlife site and ancient woodland to the east. Development should likely be able to avoid and mitigate potential impacts on nearby designated areas and areas of high ecological value. However, development will likely cause some disturbances from noise and light pollution. There is potential for the development of the brownfield site to deliver biodiversity net gain, which could result in longer term positive effects. However, uncertain / potential **minor negative effects** are predicted at this stage to reflect likely disturbances and loss of land potentially of ecological significance.

Climate change resilience

This strategic location is not at significant risk of fluvial flooding. In terms of the urban heat island effect, the redevelopment of the developable area is not likely to result in the net loss of trees. Whilst development would contribute to cumulative effects, these are likely to be minor due to the small site area and insignificant in the context of the city overall potential effects. Furthermore, compared to other strategic locations, this strategic location falls within a surrounding urban environment with a network of open spaces, which should also help reduce the intensity of potential effects. In this respect, **neutral effects** are predicted.

Natural resources and pollution

There is potential for employment use at this strategic location to generate noise and light pollution. However, the employment use types likely to be suitable at this location is not likely to cause substantial harm or disturbance on the environment beyond that of the surrounding urban environment, although some adverse effects are likely. Subject to the employment use type, there is potential for development to exacerbate air pollution in the local area through increased trip generation and road congestion.

With regards to water quality, this location is not within groundwater protection zones. However, the developable area is in proximity to watercourses to the north east and south, and it will therefore be necessary to ensure that effects during construction are managed. In terms of diffuse pollution, new development and urbanisation could give rise to increased pollutants in run-off and water that drains into the watercourses, but potential adverse effects can likely be mitigated.

There are two small areas of potential land contamination partly covering the former aerodrome. There are some opportunities for remediation where this could accompany the potential intensive site clearance work required. Although, opportunities are constrained due to the small scale of potential contamination and as employment development in this area could be avoided.

Overall, it is expected that **neutral effects** would be achieved.

Climate change mitigation and resource efficiency

The carbon and environmental footprint of new development can be addressed through layout and design. A barrier to achieving higher standards is low land values and higher residual costs associated with remediation and infrastructure. The developable area of this strategic location is known to potentially contain contamination, which is not likely to significantly add to development costs as a comprehensive site remediation is not likely to be required for employment development and use. This site would however likely require intensive site clearance which could add to development costs. Therefore, potential **minor negative effects** are predicted.

Strategic Location D (Handsworth)



<i>Economy</i>	<i>Housing</i>	<i>Health and wellbeing</i>	<i>Transport</i>	<i>Soil and Land</i>	<i>Historic Environment</i>	<i>Landscape and Townscape</i>	<i>Biodiversity and Geodiversity</i>	<i>Climate Resilience</i>	<i>Natural Resources</i>	<i>Resource efficiency</i>
✓✓✓	x?	✓	✓	x	-	x	-	x	-	-?

This strategic location falls to the east of the city and is bounded to the north by the Sheffield to Lincoln rail line, and is adjacent to Rotherham, and the Advanced Manufacturing Park.

Economy

This strategic site is well placed close to employment opportunities within the Advanced Manufacturing and Innovation District (AMID) area, the Lower Don Valley, City Centre and to opportunities in Rotherham. The development for employment is likely to be attractive to market, and this location is being explored for employment use (or mixed use). Given its location within the AMID, the potential to create high quality jobs is considered to be good. As the site is immediately south of a rail line, the site could potentially accommodate employment uses which require or would benefit from a rail freight connection. Access to jobs is also likely to be good, particularly with potential improvements to rail services and a new local centre at Waverley. Overall, a **major positive effect** is predicted with regards to economy.

The City Council is currently undertaking masterplanning work for the whole AMID area. Whilst the focus is on advanced manufacturing jobs, it is also considering the potential for complementary residential uses on sites in the area. This work is focusing on where intervention is likely to be needed in order to bring sites forward for development, rather than sites that can be considered likely to be developed without significant intervention. This site has been identified as one where a mix of employment and housing may be appropriate as the most beneficial option.

Housing

Development at this location for employment use will result in the loss of potentially suitable housing land with potential to deliver a mix of housing types and affordable housing. Therefore, a potential **minor negative effect** is predicted. This could be avoided with a mixed use approach to growth in this location .

Health and wellbeing

There is potential for employment uses that generate a high number of trips or noise to adversely impact on air quality or the background noise level and thus have a negative impact on the amenity and health of existing nearby communities. On the contrary, employment growth at this location should provide some opportunities for nearby communities to access employment. Overall, a **minor positive effect** is predicted as a result of the benefit of new employment opportunities and the potential to mitigate significant negative effects on health and wellbeing.

Transport and accessibility

The strategic location is adjacent to an advanced manufacturing park and the A630, with good connections to Junction 33 of the M1. This strategic location is very well served by existing transport infrastructure, with high frequency bus routes running in close proximity along Handsworth Road, as well as being sandwiched between two train stations. The location further benefits from good cycle links which connect to a wider network serving the Advanced Manufacturing and Innovation District area, the City Centre and lower Don valley. This location therefore provides good existing opportunities to support a modal shift towards active and public transport modes. Employment growth at this location would further support growth in an area in good proximity to existing communities and ancillary uses such as shops. There is potential for development in this location to further support the business case for a new train station along the line to serve the immediate area. There is also potential for new employment uses on site to utilise the adjacent railway line for freight. The local road network is however known to be highly congested during peak hours, with development likely to add further pressure.

Cumulatively, this location is predicted to generate **minor positive effects**, with potential for moderate effects if potential issues in relation to traffic congestion can be addressed.

Soil and Land

The strategic location is greenfield and appears to be in current agricultural use. However, it is unclear whether this is 'best and most versatile land'. Overall, this constitutes **minor negative effects**.

Historic Environment

The strategic site is relatively unconstrained with regards to designated heritage assets, and therefore **neutral effects** are predicted.

Landscape and townscape

The landscape is fairly sensitive to change and development will likely result in negative effects in terms of the character, openness and the function of land. Given that the site is somewhat contained by the rail line to the north and the A630 to the west, the effects are considered less likely to be significant. Overall, **minor negative effects** are predicted.

Biodiversity and Geodiversity

Parts of the site are adjacent to local wildlife habitats / features such as woodland. These would likely be affected by development, but there should also be potential for avoidance, and to secure improvements to wildlife sites and existing habitat. On-site biodiversity gain on land currently of lower value and improvements to ecological connectivity within and to the wider ecological network would bring positive effects. Overall, **neutral effects** are predicted at this stage as it ought to be possible to avoid significant effects. If net gain is secured on site, then the effects would be positive in the longer term.

Climate change resilience

The strategic location is not at significant risk of fluvial flooding.

In terms of the urban heat island effect, the loss of greenfield land on the edge of the Sheffield urban area could potentially worsen the situation. The effects would likely be minor in the context of the whole City but would likely contribute towards cumulative effects. It ought to be possible to secure green infrastructure throughout any development, which could help to minimise effects. However, the urbanisation of greenfield land is likely to have some residual negative effects with regards to heating. In this respect, **minor negative effects** are predicted.

Natural resources and pollution

Existing uses in the surrounding area are unlikely to be a major constraint to employment development with regards to amenity. There are some residential areas to the south and south west of the site, which could potentially experience noise and other amenity issues. However, it ought to be possible to introduce a landscape buffer and other mitigation measures.

With regards to water quality, this location is not within groundwater protection zones. In terms of diffuse pollution, the change of use of some land currently in agricultural use should reduce potential existing pollution resulting from farming activities in an area which falls within nitrate vulnerable zones. However, new development and urbanisation could also give rise to increased pollutants in run-off and water that drains into nearby watercourses.

There is potential land contamination related to opencast coal mining in a linear area along the railway line. Whilst restoration of contamination from opencast coal mining can be costly, with the land currently being in agricultural use, the likelihood of high contamination is low, and development presents opportunities for remediation or could potentially avoid contaminated areas. Remediation could potentially improve water quality, although the cumulative effects are likely to be negligible considering the small scale.

Overall, it is expected that **neutral effects** would be achieved.

Climate change mitigation and resource efficiency

The carbon and environmental footprint of new development can be addressed through layout and design. A barrier to achieving higher standards is low land values and higher residual costs associated with remediation and infrastructure. The site is known to contain potentially contaminated land, which could add to development costs. However, these areas could potentially be avoided and a comprehensive site remediation is not likely to be required for employment development and use. At this stage it is unclear whether this location would offer a reduced or increased opportunity to secure higher levels of sustainability in design and construction. **Neutral effects** are predicted, but there is uncertainty.

Strategic Location E (Warren Lane)



<i>Economy</i>	<i>Housing</i>	<i>Health and wellbeing</i>	<i>Transport</i>	<i>Soil and Land</i>	<i>Historic Environment</i>	<i>Landscape and Townscape</i>	<i>Biodiversity and Geodiversity</i>	<i>Climate Resilience</i>	<i>Natural Resources</i>	<i>Resource efficiency</i>
✓✓✓?	-	✓	✓	✗	-	✗✗	✗	✗?	✗	✗?

Background

This strategic location consists of a large site adjacent to the M1 to the east (including Junction 35a to the north) and a residential area along Warren Lane to the south west. The site is intersected by an underground railway line, with most of the site area outside of the railway corridor falling within the developable area. The location comprises rolling and in part steeply sloping agricultural land, some of which is open in character and at higher ground.

Economy

This strategic location is to the east of an area designated as an industrial zone comprising warehousing and light industry. This location benefits from good proximity to Junction 35a and 36 of the M1 for distribution purposes and an existing road network considered suitable for employment uses requiring the frequent movement of heavy goods vehicles. The location occupies some elevated land and the area to the south includes residential uses and thus the location could be less suitable for uses which could have adverse effects on amenity, such as light industry and warehousing. This could reduce the developable area of the site, but the site is still large enough to deliver new employment uses of a significant scale. The site is being promoted for employment development, and is attractive to market. Overall, a potential / uncertain **major positive effect** is predicted.

Housing

Whilst this location is adjacent to residential development along Warren Lane, the location falls outside of the main urban area of Chapelton and High Green and has poor access to community services and facilities. The scale of housing deliverable on the developable area of the site is unlikely to support substantial new community services and provision and thus this location is not considered to result in the loss of suitable housing land. A **neutral effect** is predicted.

Health and wellbeing

This location is in proximity to a cycle network with development presenting opportunities for the further integration of the site to the network, promoting active commuting travel options. There is potential for employment uses that generate a high number of trips or noise to adversely impact on air quality or the background noise level and thus have a negative impact on the amenity and health of existing nearby communities. Overall, a **minor positive effect** is predicted as the location should support active commuting travel options and new jobs, which outweigh the potential for negative effects.

Transport and accessibility

This strategic location is adjacent to Junction 35a of the M1 and within a short distance to Junction 36, providing access to the M1 in both directions. The location is served by infrequent bus routes to Barnsley, Rotherham, Chapeltown and Sheffield and thus is unlikely to encourage public transport use. However, the location is adjacent to cycle routes connecting to Chapeltown and High Green, which could support cycling and the use of public transport alongside cycling. Growth is likely to add to existing congestion issues in the Chapeltown area. Overall, this location is predicted to generate **minor positive effects**. Though the location has good road access, development is likely to increase congestion and unlikely to encourage a significant shift towards alternative modes of transport to the private car.

Soil and Land

The strategic location is greenfield and categorised as Grade 3 agricultural land. This constitutes **minor negative effects**.

Historic Environment

The strategic location does not fall within proximity or the likely setting of listed buildings, scheduled monuments, conservation areas or other statutory or non-statutory historic designations and assets. The site is also not known to include historic landscape features. Therefore, a **neutral effect** is predicted.

Landscape and townscape

The landscape at this strategic location is considered to be moderately sensitive to change. The location is adjacent to residential development and employment uses, but the development of the site will intensify development in a sporadic form in the countryside outside the urban areas of Chapeltown and High Green. The location is further steep in part with some long distance views from the wider landscape into the site. Development presents some opportunities to introduce new landscape features and improve landscape character, although opportunities could be undermined by the proposed employment use which is likely to require larger buildings. Overall, a **moderate negative effect** is predicted.

Biodiversity and Geodiversity

The strategic location does not include designated sites, but the location includes boundary trees and hedges likely to be of ecological importance. The location is also in close proximity to local wildlife sites. Avoidance and mitigation should be able to safeguard the significance of ecologically important areas on-site and designated sites nearby. Employment development is unlikely to increase recreational pressure but could cause potential disturbance. Development also provides opportunities to secure improvements to existing habitats, on-site biodiversity gain on agricultural land of lower value and improvements to ecological connectivity within and to the wider ecological network (including nearby designations). Overall, a **minor negative effect** is predicted. If net gain is secured on site, then the effects would be positive in the longer term. This is not a certainty though.

Climate change resilience

This strategic location is not at significant risk of fluvial flooding.

In terms of the urban heat island effect, development on the site is not likely to result in the net loss of trees. With the location adjacent to the M1, there is potential for development to exacerbate the urban heat island effect at a localised scale, although any potential effects are likely to be minor and somewhat mitigated from the surrounding woodland and countryside. As the site is distant to the main urban area and includes a large area of woodland in-between, development is unlikely to have any significant adverse effect on the city. As some minor residual negative effects with regards to heating are likely, an uncertain **minor negative effect** is predicted.

Natural resources and pollution

Development at this strategic location is likely to generate noise and light pollution and subject to the employment use type, there is also potential for development to exacerbate air pollution in the local area through increased trip generation and road congestion. This could cause some harm or disturbance on the environment and affect the amenity of residents in the local area. Effects on amenity are likely to be further exacerbated as the location covers elevated land and thus implementing effective mitigation measures is likely to be more challenging.

With regards to water quality, this location is not within groundwater protection zones. The location also does not include any waterbodies. In terms of diffuse pollution, new development and urbanisation could give rise to increased pollutants in run-off, although potential adverse effects can likely be mitigated through the use of SUDs.

The location includes small areas of potential land contamination. There are some opportunities for remediation, but opportunities are constrained due to the small scale of potential contamination and as employment development in this area could be avoided. A comprehensive site remediation is also not likely to be required for employment development and use (but it could be an opportunity to address through new development)

Overall, it is predicted that a **minor negative effect** would occur mainly due to potential effects on amenity.

Climate change mitigation and resource efficiency

The carbon and environmental footprint of new development can be addressed through layout and design. A barrier to achieving higher standards is low land values and higher residual costs associated with remediation and infrastructure. This strategic location is known to contain small areas of potentially contaminated land which could add to development costs. However, these areas could potentially be avoided and a comprehensive site remediation is not likely to be required for employment development and use. The site is likely to require substantial ground levelling which may add to construction costs and reduce opportunities to secure higher levels of sustainability in design and construction. Therefore, an uncertain **minor negative effect** is predicted.

Strategic Location F (Beighton)



<i>Economy</i>	<i>Housing</i>	<i>Health and wellbeing</i>	<i>Transport</i>	<i>Soil and Land</i>	<i>Historic Environment</i>	<i>Landscape and Townscape</i>	<i>Biodiversity and Geodiversity</i>	<i>Climate Resilience</i>	<i>Natural Resources</i>	<i>Resource efficiency</i>
✓✓	x?	✓✓	✓	x	-	x	-	x	x	-?

Background

This strategic location falls to the south-east of the city with the A57 to the north (with good road access to the M1 and the City Centre), and the blue tram route, Crystal Peaks shopping centre and Drakehouse retail park to the south. The developable area comprise agricultural land which is gently rolling in character and mostly enclosed with residential development and dense boundary trees and shrubs. The northern boundary along the A57 is mostly designated as priority habitat including deciduous woodland along the western site parcel. There is also a local nature reserve to the north east.

Economy

This strategic location is to the east of a general employment zone mostly consisting of retail and warehousing for distribution. The employment use of the land parcel to the west could potentially support a mix of employment uses including a potential extension of retail uses to complement the existing retail offer in the Crystal Peaks and Drakehouse area. The location benefits from an existing road network considered suitable for employment uses requiring the frequent movement of heavy goods vehicles and is served by the A57 with onward connections to the M1 for distribution. Overall, a **moderate positive effect** is predicted

Housing

This strategic location could support a significant amount of housing growth close to existing neighbourhoods and community facilities and services. Development at this location for employment use would result in the loss of potentially suitable housing land with potential to deliver a mix of housing types and affordable housing (should it be considered necessary to release Green Belt land in the longer term). Therefore, a potential **minor negative effect** is predicted. The effects could be limited with a mixed use approach to growth in this location.

Health and wellbeing

This location is adjacent to a cycle network with development presenting opportunities for the further integration of the site to the network, promoting active commuting travel options. There is potential for employment uses that generate a high number of trips or noise to adversely impact on air quality or the background noise level and thus have a negative impact on the amenity and health of existing nearby communities. On the contrary, employment growth at this location should provide some opportunities for nearby communities with higher levels of deprivation and could support a wider choice of employment types and options in the Mosborough townships area. Overall, a **moderate positive effect** is predicted as the location should support active commuting travel options and for the benefit of new employment opportunities in proximity to areas with higher levels of deprivation.

Transport and accessibility

This strategic location is adjacent to the A57 with onward connections to the M1. The location is served by existing public transport infrastructure including the blue tram route and a tram stop (Beighton - Drake House Lane to the south) and frequent bus routes. The location is also adjacent to a comprehensive network of cycle routes. This location therefore provides opportunities for use of active and public transport modes ahead of the private car. Employment growth at this location would further support growth in an area in good proximity to existing communities and ancillary uses such as shops. There is also potential for new employment at this location to support a business case for a new train station at Beighton along the Barrow Hill line. However, it may also be necessary to mitigate congestion on the local road network. This location is predicted to generate **minor positive effects** overall.

Soil and Land

The developable area of the strategic location is greenfield, predominantly categorised as Grade 3 agricultural land and the land parcels to the west are in current agricultural use. This constitutes **minor negative effects**.

Historic Environment

The strategic location does not fall within proximity or the likely setting of listed buildings, scheduled monuments, conservation areas or other statutory or non-statutory historic designations and assets. The site is also not known to include historic landscape features. Therefore, a **neutral effect** is predicted.

Landscape and townscape

The landscape is somewhat sensitive with the sensitivity increasing in parts of the eastern land parcel which is slightly more open and prominent in character. Otherwise, the land parcels at this location benefit from strong boundaries which provide a degree of enclosure and confinement for potential development (further supported by the A57). Nevertheless, unless the scale of growth is lowered considerably, development will likely cause some harm to the character of the landscape and the function of land, and these effects will be difficult to avoid and mitigate completely. Overall, **minor negative effects** are predicted.

Biodiversity and Geodiversity

The strategic location does not include designated sites, but the location includes boundary trees and hedges likely to be of ecological importance. The location is also in close proximity to local wildlife sites and the Shire Brook Valley Nature Reserve. Avoidance and mitigation should be able to safeguard the significance of ecologically important areas on-site and designated sites nearby. Employment development is unlikely to increase recreational pressure and cause potential disturbance. Development also provides opportunities to secure improvements to existing habitats, on-site biodiversity gain on agricultural land of lower value and improvements to ecological connectivity within and to the wider ecological network (including nearby designations).

Overall, **neutral effects** are predicted at this stage as it ought to be possible to avoid significant effects on existing habitats and nearby designations. If net gain is secured on site, then the effects would be positive in the longer term.

Climate change resilience

The developable area of the strategic location is not at significant risk of fluvial flooding. However, there is an area of Flood Zone 3b adjacent along the A57 and to the east. Development should be able to avoid exacerbating flood risk.

In terms of the urban heat island effect, the loss of greenfield land on the edge of the Sheffield urban area could potentially worsen the situation. The effects would likely be minor in the context of the whole City but would likely contribute towards cumulative effects. It ought to be possible to secure green infrastructure throughout any development, which could help to minimise effects. However, the urbanisation of greenfield land is likely to have some residual negative effects with regards to heating. In this respect, **minor negative effects** are predicted.

Natural resources and pollution

Development at this strategic location is likely to generate noise and light pollution and subject to the employment use type, there is also potential for development to exacerbate air pollution in the local area through increased trip generation and road congestion. This could cause some harm or disturbance on the environment and affect the amenity of residents in the local area. However, most effects can likely be mitigated through new landscaping and green infrastructure.

With regards to water quality, this location is not within groundwater protection zones. The location also does not include any waterbodies but is nearby the Shire Brook to the north. It will be important to ensure that effects during construction are managed. In terms of diffuse pollution, the change of use of most of the land currently in agricultural use should reduce potential existing pollution resulting from farming activities in an area which falls within nitrate vulnerable zones. New development and urbanisation could also give rise to increased pollutants in run-off and water that drains into Shire Brook and other nearby watercourses, although potential adverse effects can likely be mitigated.

There is an area of potential land contamination in the western part of the land parcel to the east of Bighton Road related to a former sewage works. Development presents some opportunities for remediation, but development in this area could potentially be avoided and a comprehensive site remediation is not likely to be required for employment development and use.

Overall, it is predicted that a **minor negative effect** would occur mainly due to potential effects on amenity.

Climate change mitigation and resource efficiency

The carbon and environmental footprint of new development can be addressed through layout and design. A barrier to achieving higher standards is low land values and higher residual costs associated with remediation and infrastructure. This strategic location is known to contain an area of potentially contaminated land, which is not likely to significantly add to development costs (considering the need for ancillary uses and the potential for the contaminated area to accommodate other uses or be avoided). At this stage it is unclear whether this location would offer a reduced or increased opportunity to secure higher levels of sustainability in design and construction. Therefore, **neutral effects** are predicted, but there is uncertainty.

Strategic Location G (Owlthorpe)



<i>Economy</i>	<i>Housing</i>	<i>Health and wellbeing</i>	<i>Transport</i>	<i>Soil and Land</i>	<i>Historic Environment</i>	<i>Landscape and Townscape</i>	<i>Biodiversity and Geodiversity</i>	<i>Climate Resilience</i>	<i>Natural Resources</i>	<i>Resource efficiency</i>
✓	✗?	✓✓	✓	✗	-	✗	✗	✗?	-	-?

Background

This strategic location falls to the south-east of the city with the blue tram route to the north, the Crystal Peaks shopping centre and Drakehouse retail park to the north east and the Holbrook industrial estate in good proximity to the east. The location is also immediately adjacent to residential areas to the east and nearby communities in Owlthorpe to the north. The site consists of sloping agricultural land which is subdivided by hedgerows.

Economy

Growth at this location is not likely to form a natural extension to existing and proposed employment uses in the area. The strategic location is well screened by dense woodland from existing residential uses to the north and is also reasonably screened from residential uses to the east, and thus most employment uses are not likely to be constrained by potential effects on amenity. The strategic location does not benefit from good access to the motorway network for distribution. Overall, a **minor positive effect** is predicted.

Housing

This strategic location could support housing growth close to existing neighbourhoods and in proximity to public transport, employment and community facilities and services. Development at this location for employment use will result in the loss of potentially suitable housing land with potential to deliver a mix of housing types and affordable housing. Therefore, a potential **minor negative effect** is predicted.

Health and wellbeing

This location is adjacent to a cycle network with development presenting opportunities for the further integration of the site to the network, promoting active commuting travel options. There is potential for employment uses that generate a high number of trips or noise to adversely impact on air quality or the background noise level and thus have a negative impact on the amenity and health of existing nearby communities. However, such effects are not likely to be significant due to the small site area and potential for mitigation. Employment growth at this location should provide some opportunities for nearby communities with higher levels of deprivation. Overall, a **moderate positive effect** is predicted as the location should support active commuting travel options and for the benefit of new employment opportunities in proximity to areas with higher levels of deprivation.

Transport and accessibility

This strategic location is within good proximity to the A57 with onward connections to the M1. The location is served by existing public transport infrastructure including the blue tram route and a tram stop (Moss Way) to the north and frequent bus routes to the north along Ochre Dike Lane/ Moss Way. The location is also adjacent to a cycle route to the east connecting to nearby tram stops, Crystal Peaks shopping centre and Holbrook Industrial Estate. Employment growth at this location would further support growth in an area in good proximity to existing communities. The location supports opportunities for use of active and public transport modes ahead of the private car. Overall, this location is predicted to generate **minor positive effects**.

Soil and Land

The strategic location is greenfield, categorised as Grade 3 agricultural land and the land is in current agricultural use. This constitutes **minor negative effects**, although the scale of potential loss is not considered significant.

Historic Environment

The strategic location does not fall within proximity or the likely setting of listed buildings, scheduled monuments, conservation areas or other statutory or non-statutory historic designations and assets. Therefore, a **neutral effect** is predicted.

Landscape and townscape

The landscape is fairly sensitive to change and development will likely result in negative effects in terms of the character, openness and the function of land. However, this location is low-lying compared to higher land to the south and is enclosed by woodland to the north and west. The eastern part of the site is also adjacent to the built area, and thus development delivered sensitively at this location could resemble a natural and contained extension of the built up area and thus derive less significant adverse effects on landscape character. Overall, **minor negative effects** are predicted.

Biodiversity and Geodiversity

The strategic location is adjacent to a local wildlife site and woodland to the north and west. Mitigation should be able to safeguard the significance of this area and employment development is unlikely to add recreational pressure, but some disturbances are likely through potential light and noise pollution. Development will likely result in the loss of existing hedgerows which subdivide the site, but there are opportunities to introduce new green infrastructure and secure on-site biodiversity gain on land currently of lower value and improvements to ecological connectivity within and to the wider ecological network including the wildlife site. Overall, **minor negative effects** are predicted at this stage. If net gain is secured on site, then the effects would be positive in the longer term.

Climate change resilience

This strategic location is not at significant risk of fluvial flooding.

In terms of the urban heat island effect, the redevelopment of the developable area is not likely to result in the net loss of trees. Whilst development would contribute to cumulative effects, these are likely to be minor due to the small site area and insignificant in the context of the City overall potential effects. Furthermore, compared to other strategic locations, this strategic location falls within a surrounding urban environment with a network of open spaces including a large area of woodland to the north and west, which should also help reduce the intensity of potential effects. In this respect, uncertain **minor negative effects** are predicted.

Natural resources and pollution

Development at this strategic location is likely to generate noise and light pollution and subject to the employment use type, there is also potential for development to exacerbate air pollution in the local area through increased trip generation and road congestion. This could cause some harm or disturbance on the environment and affect the amenity of residents in the local area. However, the scale of the site is unlikely to generate any substantial effects and most effects can also likely be mitigated through new landscaping and green infrastructure.

With regards to water quality, this location is not within groundwater protection zones. However, the strategic location is in close proximity to waterbodies and a watercourse which flows into the Ochre Dyke along the northern boundary, and it will therefore be necessary to ensure that effects during construction are managed. In terms of diffuse pollution, the change of use of land currently in agricultural use should reduce potential existing pollution resulting from farming activities in an area which falls within nitrate vulnerable zones. New development and urbanisation could also give rise to increased pollutants in run-off and water that drains into nearby watercourses such as Ochre Dyke, although potential adverse effects can likely be mitigated.

The strategic location is also not known to include any potential land contamination.

Overall, it is expected that **neutral effects** would be achieved.

Climate change mitigation and resource efficiency

The carbon and environmental footprint of new development can be addressed through layout and design. A barrier to achieving higher standards is low land values and higher residual costs associated with remediation and infrastructure. This strategic location is not known to contain contaminated land, but there is potential for the land to contain minor contamination related to its long term agricultural use. At this stage it is unclear whether this location would offer a reduced or increased opportunity to secure higher levels of sustainability in design and construction. Therefore, **neutral effects** are predicted, but there is uncertainty.

Strategic Location H (South of Chapeltown / Ecclesfield)



<i>Economy</i>	<i>Housing</i>	<i>Health and wellbeing</i>	<i>Transport</i>	<i>Soil and Land</i>	<i>Historic Environment</i>	<i>Landscape and Townscape</i>	<i>Biodiversity and Geodiversity</i>	<i>Climate Resilience</i>	<i>Natural Resources</i>	<i>Resource efficiency</i>
✓✓	x?	-	✓	x	-	xx	x	x	x	?

Background

This strategic location falls to the south of Chapeltown and is adjacent to a railway line and the A6135. The site consists of rolling agricultural land and forms part of a gap between the market town of Chapeltown and Ecclesfield. Chapeltown town centre and train station is to the north-west of the strategic location and Junction 35 of the M1 is in close proximity to the east. The south east of the location also includes a large business and industrial park.

Economy

This strategic location is to the west of an area designated as a general employment zone and has potential to support the expansion of warehousing, distribution and bulky retail in the area. The location is adjacent to a rail line, but a freight connection is unlikely to be feasible due to topographic challenges without significant investment. This location benefits from good proximity to Junction 35 of the M1 for distribution purposes and an existing road network likely to be suitable for employment uses requiring the movement of heavy goods vehicles. Overall, a **moderate positive effect** is predicted

Housing

This strategic location could support housing growth close to existing neighbourhoods and in proximity to public transport, employment and community facilities and services. Development at this location for employment use could therefore result in the loss of potentially suitable housing land with potential to deliver a mix of housing types and affordable housing. Therefore, a potential / uncertain **minor negative effect** is predicted.

Health and wellbeing

This location does not connect to the strategic cycle network, but development presents some opportunities to improve cycle connectivity. There is potential for employment uses that generate a high number of trips or noise to adversely impact on air quality or the background noise level and thus have a negative impact on the amenity and health of existing nearby communities. Such effects are likely to be exacerbated as the local area is known to have high existing levels of road congestion. Overall, a **neutral effect** is predicted. Whilst positive effects are noted in terms of jobs growth, these are offset by the negatives described above.

Transport and accessibility

This strategic location falls to the west of a large business and industrial park and benefits from close access to Junction 35 of the M1. A suitable access can likely be provided along the B6087 for most employment uses, although access for large vehicles may need to be obtained via the A6135 to avoid a low railway bridge. The location is served by a highly frequent bus route along the A6135 Chapeltown Road and is in good proximity to Chapeltown train station, with regular services to Sheffield, Barnsley, Huddersfield, Wakefield and Leeds. The location is not connected to the wider cycle network serving Meadowhall, the lower Don valley and towards the City Centre. However, there is potential for new development at this location to provide improvements to cycle links. This location therefore provides broadly good opportunities to support the use of active and public transport modes ahead of the private car. Employment growth at this location would further support growth in an area in good proximity to existing communities. However, growth would add to existing congestion issue in the area. Overall, this location is predicted to generate **min positive effects**. Though the location has good accessibility, the benefits are offset somewhat by increased congestion potential.

Soil and Land

The strategic location is greenfield, partially categorised as Grade 3 agricultural land and the land is in current agricultural use. This constitutes **or minor negative effects**.

Historic Environment

The strategic location does not fall within proximity or the likely setting of listed buildings, scheduled monuments, conservation areas or other statutory or non-statutory historic designations and assets. Therefore, a **neutral effect** is predicted.

Landscape and townscape

The landscape is fairly sensitive to change and development will likely result in negative effects in terms of the character, openness and the function of land. The scale and comprehensive development of this location will further cause coalescence between Chapeltown and Ecclesfield. Employment development is likely to require larger buildings, making it more challenging to introduce a landscaping scheme to mitigate harm to landscape character. Overall, **moderate negative effects** are predicted.

Biodiversity and Geodiversity

The strategic location is to the south of a linear local wildlife site along Blackburn Brook which extends beyond to the north and south east. Employment development is unlikely to add recreational pressure, but there is some potential for development to cause noise and light pollution. The location is subdivided with linear hedgerows and trees and contains boundary trees and shrubs which are likely to be of some ecological value. Development provides some opportunities to secure improvements to existing habitats and deliver on site biodiversity net gain on land currently of lower ecological value. There is also potential for development to improve ecological connectivity across the site and to the wider ecological network including the local wildlife site to the north. Overall, **minor negative effects** are predicted at this stage as it should be possible to avoid significant effects. If net gain is secured on site, then the effects would be positive in the longer term.

Climate change resilience

This strategic location is not at significant risk of fluvial flooding and is unlikely to exacerbate flood risk in the local area.

In terms of the urban heat island effect, the loss of greenfield land on the edge of the urban area could potentially worsen the situation. The effects would likely be minor in the context of the whole City but would likely contribute towards cumulative effects. It ought to be possible to secure green infrastructure throughout any development, which could help to minimise effects. However, the urbanisation of greenfield land is likely to have some residual negative effects with regards to heating. In this respect, **minor negative effects** are predicted.

Natural resources and pollution

Development at this strategic location is likely to generate noise and light pollution. The location is also likely to attract employment use types such as retail, light industry and warehousing, which are likely to exacerbate air pollution in the local area through increased trip generation and road congestion in an area with already high levels of congestion. This could cause some harm or disturbance on the environment and affect the amenity of residents in the local area. Effects relating to noise and light pollution can likely be mitigated through new landscaping and green infrastructure. However, adverse effects on amenity as a result of road congestion are likely to be challenging to mitigate.

With regards to water quality, this location is not within groundwater protection zones. The strategic location is to the south of a watercourse, and it will therefore be necessary to ensure that effects during construction are managed. In terms of diffuse pollution, new development and urbanisation could give rise to increased pollutants in run-off and water that drains into the watercourses, but potential adverse effects can likely be mitigated.

The strategic location is also not known to include any potential land contamination.

Overall, it is expected that a **minor negative effect** would occur mainly due to some potential effects on amenity which cannot be mitigated.

Climate change mitigation and resource efficiency

The carbon and environmental footprint of new development can be addressed through layout and design. A barrier to achieving higher standards is low land values and higher residual costs associated with remediation and infrastructure. The strategic location is not known to include areas of potential land contamination. At this stage it is unclear whether this location would offer a reduced or increased opportunity to secure higher levels of sustainability in design and construction. **Neutral effects** are predicted, but there is uncertainty.

Appendix I: High Level Site Appraisal Findings

[illegible]

Ref		Address	Use	ELR score	Viability	Expr ₁₀₀₈	Education	Facilities	Affordable housing	Special Housing	Family Housing	Inequality	Loss of open space	Sufficient open space	Local Green Space	Loss CLR score	Active travel	CPTN score	Transport Viability	Housing Led Regen	PDL	Soil	Heritage	Archaeology	Landscape	Ecology	Geology	SFRA	Air	Hazards	Environment Agency	Contamination
S00735	SS04	Former Hazlebarrow School, Land at Hazelbarrow Close, S8 8AQ	Housing																													
S00736		Owlthorpe C, Land to the south of Moorthorpe Gate, S20 6QF	Housing																													
S00737	SES14	Owlthorpe E, Land Off Moorthorpe Way, S20 6PD	Housing																													
S00738		Owlthorpe D, Land to the north of Moorthorpe Gate, S20 6QD	Housing																													
S00739	SV05	K.T Precision Engineering and land adjacent, Turner Street, S2 4AB	Employment																													
S00739	SV05	K.T Precision Engineering and land adjacent, Turner Street, S2 4AB	Housing																													
S00739	SV05	K.T Precision Engineering and land adjacent, Turner Street, S2 4AB	Retail																													
S00740		Castle Markets	Employment																													
S00740		Castle Markets	Housing																													
S00741		Land west of Royal Victoria Hotel, Victoria Station Road, S3 8JD	Housing																													
S00744	HC22	Building adjacent to 20 Headford Street, S3 7WB	Employment																													
S00744	HC22	Building adjacent to 20 Headford Street, S3 7WB	Housing																													
S00747	SV09	3-7 Sidney Street and land adjacent, S1 4RG	Housing																													
S00748	SV15	125-157 Eyre Street and land adjacent, S1 4QW	Employment																													
S00748	SV15	125-157 Eyre Street and land adjacent, S1 4QW	Housing																													
S00751	HC08	Moorfoot Building, The Moor, S1 4PH	Employment																													
S00751	HC08	Moorfoot Building, The Moor, S1 4PH	Housing																													
S00753	HC26	Land at Headford Street and Egerton Street, S3 7XF	Housing																													
S00757		Buildings at Upper Allen Street, Morpeth Street and Craven Street, S3 7GL	Employment																													
S00757		Buildings at Upper Allen Street, Morpeth Street and Craven Street, S3 7GL	Housing																													
S00763	SD07	Site G, Stocksbridge Steelworks, Fox Valley Way, S36 2BT	Housing																													
S00768	ES22	Attercliffe Canalside, Land to the north of Worthing Road, S9 3JN	Employment																													
S00768	ES22	Attercliffe Canalside, Land to the north of Worthing Road, S9 3JN	Housing																													
S00769	ES28	Fitzalan Works, Land to the south of Effingham Street, S9 3QD	Employment																													
S00769	ES28	Fitzalan Works, Land to the south of Effingham Street, S9 3QD	Housing																													
S00778	ES33	Westaways, Land at Bacon Lane, S9 3NH	Housing																													
S00780	SWS06	Howdens Joinery Co, Bramall Lane, S2 4RD	Employment																													
S00780	SWS06	Howdens Joinery Co, Bramall Lane, S2 4RD	Housing																													
S00794	SES11	Manor Top Army Reserve Centre, Hurfield Road, S12 2AN	Employment																													
S00794	SES11	Manor Top Army Reserve Centre, Hurfield Road, S12 2AN	Housing																													

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Ref		Address	Use	ELR score	Viability	Expr ₁₀₀₈	Education	Facilities	Affordable housing	Special Housing	Family Housing	Inequality	Loss of open space	Sufficient open space	Local Green Space	Loss CLR score	Active travel	CPTN score	Transport Viability	Housing Led Regen	PDL	Soil	Heritage	Archaeology	Landscape	Ecology	Geology	SFRA	Air	Hazards	Environment Agency	Contamination
S04637		Dore Moor Garden Centre and Nursery, Brickhouse Lane, S17 3DQ	Housing																													
S04638	SS17	Former Norton Aerodrome, Norton Avenue, S17 3DQ	Employment																													
S04638	SS17	Former Norton Aerodrome, Norton Avenue, S17 3DQ	Housing																													
S04638	SS17	Former Norton Aerodrome, Norton Avenue, S17 3DQ	Leisure																													
S04639		Hesley Wood, north of Cowley Hill, S35 2YH	Employment																													
S04639		Hesley Wood, north of Cowley Hill, S35 2YH	Housing																													
S04640		Meadow Farm Public House, Nether Lane, S35 9ZX	Housing																													
S04667		Castlegate West, Waingate, S3 8LB	Employment																													
S04667		Castlegate West, Waingate, S3 8LB	Housing																													
S04668		Castlegate South, Exchange Street, S2 5TR	Employment																													
S04668		Castlegate South, Exchange Street, S2 5TR	Housing																													
S04669		Land adjacent to 37 Exchange Street, S2 5TR	Employment																													
S04669		Land adjacent to 37 Exchange Street, S2 5TR	Housing																													
S04673	KN13	Warehouse, Boyland Street, S3 8AS	Employment																													
S04673	KN13	Warehouse, Boyland Street, S3 8AS	Housing																													
S04693		Knowle Hill Storage Depot, Mosborough	Housing																													
S04694		Deepcar HWRC	Housing																													

Appendix J: Additional site appraisals post submission (Green Belt)

Uses assessed	Significant positive impact (YY)	Minor positive impact (Y)	Neutral Impact (-)	Minor negative impact (N)	Significant negative impact (NN)

Site reference	Potential to support the viability of the Central Area	Proximity to incompatible uses	Education capacity	Availability of local facilities	Potential to provide affordable housing	Potential to provide specialist housing	Potential to provide family housing	Potential to provide development that would be beneficial to disadvantaged communities	Loss of Open Space	Sufficient existing Open Space in the surrounding area	Local Green Spaces	Loss of community/leisure /recreation facilities	Access to active travel/cycle network	Distance to core public transport network	Potential to increase the viability of public transport	Contribution to housing led regeneration	Use of Previously Developed Land (PDL)	Loss of best and most versatile agricultural land	Impact on heritage assets	Archaeology constraints	Impact on rural landscape character	Impact on ecology/local nature recovery networks	Impact on geology	Flood Risk	Impact on air quality	Proximity to hazardous installations or closed landfill sites	Proximity to regulated waste sites	Likelihood of existing land contamination
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S01098																												
S01119																												

Site reference	Potential to support the viability of the Central Area	Proximity to incompatible uses	Education capacity	Availability of local facilities	Potential to provide affordable housing	Potential to provide specialist housing	Potential to provide family housing	Potential to provide development that would be beneficial to disadvantaged communities	Loss of Open Space	Sufficient existing Open Space in the surrounding area	Local Green Spaces	Loss of community/leisure /recreation facilities	Access to active travel/cycle network	Distance to core public transport network	Potential to increase the viability of public transport	Contribution to housing led regeneration	Use of Previously Developed Land (PDL)	Loss of best and most versatile agricultural land	Impact on heritage assets	Archaeology constraints	Impact on rural landscape character	Impact on ecology/local nature recovery networks	Impact on geology	Flood Risk	Impact on air quality	Proximity to hazardous installations or closed landfill sites	Proximity to regulated waste sites	Likelihood of existing land contamination
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Site reference	Potential to support the viability of the Central Area	Proximity to incompatible uses	Education capacity	Availability of local facilities	Potential to provide affordable housing	Potential to provide specialist housing	Potential to provide family housing	Potential to provide development that would be beneficial to disadvantaged communities	Loss of Open Space	Sufficient existing Open Space in the surrounding area	Local Green Spaces	Loss of community/leisure /recreation facilities	Access to active travel/cycle network	Distance to core public transport network	Potential to increase the viability of public transport	Contribution to housing led regeneration	Use of Previously Developed Land (PDL)	Loss of best and most versatile agricultural land	Impact on heritage assets	Archaeology constraints	Impact on rural landscape character	Impact on ecology/local nature recovery networks	Impact on geology	Flood Risk	Impact on air quality	Proximity to hazardous installations or closed landfill sites	Proximity to regulated waste sites	Likelihood of existing land contamination
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Site reference	Potential to support the viability of the Central Area	Proximity to incompatible uses	Education capacity	Availability of local facilities	Potential to provide affordable housing	Potential to provide specialist housing	Potential to provide family housing	Potential to provide development that would be beneficial to disadvantaged communities	Loss of Open Space	Sufficient existing Open Space in the surrounding area	Local Green Spaces	Loss of community/leisure /recreation facilities	Access to active travel/cycle network	Distance to core public transport network	Potential to increase the viability of public transport	Contribution to housing led regeneration	Use of Previously Developed Land (PDL)	Loss of best and most versatile agricultural land	Impact on heritage assets	Archaeology constraints	Impact on rural landscape character	Impact on ecology/local nature recovery networks	Impact on geology	Flood Risk	Impact on air quality	Proximity to hazardous installations or closed landfill sites	Proximity to regulated waste sites	Likelihood of existing land contamination
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S04031																												
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S04101																												

Site reference	Potential to support the viability of the Central Area	Proximity to incompatible uses	Education capacity	Availability of local facilities	Potential to provide affordable housing	Potential to provide specialist housing	Potential to provide family housing	Potential to provide development that would be beneficial to disadvantaged communities	Loss of Open Space	Sufficient existing Open Space in the surrounding area	Local Green Spaces	Loss of community/leisure /recreation facilities	Access to active travel/cycle network	Distance to core public transport network	Potential to increase the viability of public transport	Contribution to housing led regeneration	Use of Previously Developed Land (PDL)	Loss of best and most versatile agricultural land	Impact on heritage assets	Archaeology constraints	Impact on rural landscape character	Impact on ecology/local nature recovery networks	Impact on geology	Flood Risk	Impact on air quality	Proximity to hazardous installations or closed landfill sites	Proximity to regulated waste sites	Likelihood of existing land contamination
S04106																												
S04107																												
S04108																												
S04111																												
S04128																												
S04141																												
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Site reference	Potential to support the viability of the Central Area	Proximity to incompatible uses	Education capacity	Availability of local facilities	Potential to provide affordable housing	Potential to provide specialist housing	Potential to provide family housing	Potential to provide development that would be beneficial to disadvantaged communities	Loss of Open Space	Sufficient existing Open Space in the surrounding area	Local Green Spaces	Loss of community/leisure /recreation facilities	Access to active travel/cycle network	Distance to core public transport network	Potential to increase the viability of public transport	Contribution to housing led regeneration	Use of Previously Developed Land (PDL)	Loss of best and most versatile agricultural land	Impact on heritage assets	Archaeology constraints	Impact on rural landscape character	Impact on ecology/local nature recovery networks	Impact on geology	Flood Risk	Impact on air quality	Proximity to hazardous installations or closed landfill sites	Proximity to regulated waste sites	Likelihood of existing land contamination
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S04628																												
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Appendix K: Employment strategy options appraisal

Economy

Restricted development in the Innovation District

Restricting uses within the Innovation District should support the growth of high skilled advanced manufacturing. This is likely as such industries benefit from agglomeration as this supports knowledge spillover, collaboration and use of shared infrastructure and resourcing. This should support the expansion and diversification of the economy through supporting new high Gross Value Added employment uses. Although, some sites within the Innovation District are suitable for logistics or other uses, these uses could be accommodated on alternative sites outside the Innovation District. Therefore, restricting uses within the Innovation District is unlikely to impede the general expansion of employment uses. It should be noted though that land employment opportunities would not be available to support higher scales of growth without the release of Green Belt.

This approach supports the continued growth of advanced manufacturing through safeguarding land in proximity to the existing cluster in the city which is most likely to facilitate the growth of this employment type, without undermining the potential for the expansion of other employment uses elsewhere (depending upon the growth scenario being pursued and the presumed release of Green Belt sites to support higher levels of growth).

Option 1 involves a lower scale of growth that can be met within the urban area. Whilst safeguarding employment land is positive in principle, the scale of growth proposed under this option is not likely to address the long term need for employment land during the plan period. These effects are further likely as the employment needs under this option are based on short term take-up rates for general employment between 2012 and 2021, and the demand and need for employment is likely to continue to grow. Thus, opportunities to expand and diversify the economy could be missed under this option, which is a **minor negative effect** if existing pipeline supply is not realised.

Option 2 is likely to support the continuation of existing levels of growth in employment through facilitating employment land to meet take-up rates. In the short-term neutral effects are likely, as this option aligns closely with the continuation of the baseline position. However, potential **minor negative effects** are predicted in the long term, as current employment take-up rates are unlikely to address the increasing employment needs of the city as a result of population growth.

The scale of growth under Option 3 will meet labour supply needs including regional demand from commuting and will make a meaningful contribution to regional logistic needs. This is predicted to derive **minor positive effects**, as this is likely to meet the employment needs of local population growth and proportionately support the expansion and diversification of the wider economy.

However, positive effects are limited as this option will deliver a lower amount of employment land for logistics compared to the requirement based on past take-up rates.

Option 4 involves a similar level of general employment growth to Option 3. However, there would be a need to contribute further towards logistics development. The residual growth required could be accommodated on one site or a combination of sites. It would be possible to select sites that are most attractive and well located for employment uses under this approach, and would contribute towards potential **major positive effects** on the economy.

Option 5 involves a similar level of general employment growth to Option 4. However, the option seeks to address the likely demand for logistics through a higher requirement based on the likely absorption trend. This is predicted to derive **major positive effects** with a greater degree of certainty, as the provision of land under this option will provide choice for all employment types and will contribute substantially towards sub regional logistics need.

Option 6 further supports growth to address the maximum general employment and logistics needs. As this is likely to support the provision of additional land to meet the likely needs over the plan period, a **major positive effect** is predicted. There is some potential for the high availability of choice to undermine economic regeneration through the dispersal of employment uses and from the greater availability of greenfield land. However, the higher availability of land could support further economic development and help meet wider regional needs for uses such as logistics.

Innovation District opened-up to other uses

Allowing alternative uses within the Innovation District should continue to support the growth of high skilled advanced manufacturing. However, some sites in proximity to existing clusters of advanced manufacturing are suitable for alternative uses including logistics. Considering the high immediate demand for land to accommodate logistic use and the slower general expansion of advanced manufacturing, the absence of policy restrictions is likely to encourage the loss of suitable land for advanced manufacturing to logistics or other uses which have a lower Gross Value Added contribution to the local economy. Therefore, the positive effects under growth Options 4, 5 and 6 are less significant under this approach, as an unrestrictive approach will likely undermine the expansion of high Gross Value Added and high skilled employment in the Innovation District, and thus likely undermine the overall diversification of the economy. Though Green Belt land could be released as alternative locations for advanced manufacturing and innovation, this would not promote agglomeration and is contrary to the economic strategy for Sheffield (hence the significance of effects would be less positive).

Economy	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
Innovation District restricted uses	x?	x	✓	✓✓✓?	✓✓✓	✓✓✓
Innovation District opened-up to other uses	x?	x	✓	✓✓	✓✓	✓✓

Housing

Restricted development in the Innovation District

All options involve growth in the urban area. The urban area mostly includes smaller sites which are less likely to support mixed-use development including residential use. This is likely to particularly be the case in employment areas such as the Lower Don Valley, where residential development is less likely with the area being mostly commercial and industrial in nature. Restricting uses within the Innovation District is unlikely to lead to any significant implications in terms of housing delivery. Option 1 is therefore likely to derive mostly **neutral effects**.

There is potential for employment growth at locations in the Green Belt that are close to existing neighbourhoods and in proximity to public transport, employment and community facilities and services to potentially result in the loss of land that might be suitable for housing in the longer term. The scale of growth under Options 2 and 3 should be able to avoid the most suitable Green Belt sites for housing, but the higher scales of growth under Options 5 and 6 are likely to result in some use of sites which could otherwise be suitable for housing growth if exceptional circumstances are demonstrated. This could have implications for the longer-term supply of suitable housing land in the district. However, the effects are not considered to be significant in the context of the current Plan, as the current housing need can be met on other sites.

Options 2 and 3 are likely to derive **neutral effects**, with some potential for effects to be positive where mixed-use development including residential use is supported on sites.

Option 4 involves some Green Belt release, but the scale of growth involved would mean that sites potentially suitable for housing would not need to be allocated (i.e. sites promoted for employment in appropriate locations would be prioritised. In this respect, **neutral effects** are predicted.

The higher scales of growth under Options 5 and 6 is more likely to require the use of sites which may be suitable for housing in the longer term and are thus more likely to generate potential **minor negative effects**.

The higher amount of logistic growth under Options 5 and 6 could further reduce the potential for mixed-use development on Green Belt sites which are potentially suitable for housing. This is because logistics is less likely to be a suitable use adjacent to housing due to potential adverse effects on residential amenity.

Innovation District opened-up to other uses

An unrestricted approach to employment development in the Innovation District is predicted to have similar effects for options to those identified in the appraisal above, as the change in the distribution of employment uses is unlikely to have any significant effects on housing.

However, an unrestricted approach could support logistics or other less compatible (with housing) large scale developments in locations that may otherwise have been appropriate for mixed use development. This could 'sterilise' certain sites in terms of their ability to deliver housing in the longer term. The effects are considered to be minor in the context of the options 1 - 4 and alternative sites that could be brought forward should exceptional circumstances be demonstrated. For Option 5 and 6, there could be greater pressure to release land for employment uses that might otherwise be suitable for housing in the longer term, hence minor negative effects are predicted.

Housing	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
Innovation District restricted uses	-	-	-	-	x	x
Innovation District opened-up to other uses	-	-	-	-	x	x

Health and Wellbeing

Restricted development in the Innovation District

Improvement in employment opportunities should support the reduction of unemployment and help reduce deprivation and related social issues including crime in the long term, both of which are contributors to general health and wellbeing. Therefore, all options should lead to some long term positive effects. The significance will depend upon the scale of growth, type of development involved and location of development sites.

Restricting uses within the Innovation District should further support the growth of high skilled advanced manufacturing and other high Gross Value Added employment opportunities, which are likely to provide skilled employment and training opportunities. This is likely to improve opportunities for higher quality jobs and raise aspirations for communities.

All options will involve development in the urban area. This should support economic development near communities with high levels of deprivation. Access to sites within the urban area by active modes of travel is likely to vary and mainly benefit those communities that are in close proximity. In this regard, there are many deprived communities located to the east of the City Centre that fall are accessible to existing employment areas and several opportunity sites.

An increase in employment land is likely to bring an increase in HGV (and other traffic), which could have adverse effects on health and wellbeing in terms of noise, vibration and air quality. This is likely to be more significant where employment uses are proposed within the urban areas, or where communities are close to the M1 and other significant transport routes. The effects are dependent upon the scale of growth and specific opportunity sites involved.

The loss of greenfield land to employment uses could also have negative effects if it affects recreational opportunities for nearby communities (including through a loss of amenity).

Option 1 involves 157.42 hectares of employment land during the plan period. The Employment Land Review Update 2021 recommends an employment land requirement of 176 hectares to meet local labour supply needs. The lower scale of growth will add to existing pressures for employment and undermine access particularly for deprived communities and those with protected characteristics. Conversely, the lower scale of growth under Option 1 can be wholly accommodated within the urban area, which should minimise potential impacts on open space.

For Option 1, the potential for negative effects in relation to increased traffic and loss of land is limited. However, the lower amount of employment land provision could limit opportunities for health betterment in the longer term. Overall, a **minor negative effect** is predicted.

Option 2 is likely to support the continuation of existing levels of growth in employment through facilitating employment land to meet take-up rates. There would be some need for land to be released outside of the urban area, but the majority of the jobs would likely be accessible to deprived communities. In the short term, this is likely to support opportunities for jobs, but current take-up rates may not address employment needs in the longer term. In this respect, **neutral effects** are predicted as it is very much a continuation of the baseline position.

With regards to potential negative effects, the scale of growth involved is unlikely to lead to a significant increase in traffic through the urban areas, nor should it necessitate a significant loss of land with recreational value. **Neutral effects** are predicted in this respect too.

The scale of growth under Option 3 would meet labour supply needs including regional demand from commuting and make a contribution to regional logistic needs. This would have minor positive effects for health in terms of maintaining job opportunities over the plan period which are accessible to local communities.

The scale of growth would increase traffic and potential associated effects on wellbeing from noise and air pollution, but these are not likely to be significant for the majority of communities, as further development would be located outside of the urban areas and not require multiple sites. In this respect, neutral effects are predicted.

Options 4, 5 and 6 involve higher scales of employment growth which should maximise access for communities to employment and notably increase the potential generation of business rates and other income streams to support social betterment. These options further include higher amounts of employment land for logistic uses, which is likely to provide low skilled employment opportunities that may benefit communities with high levels of education-based deprivation. Though opportunity sites are on the urban periphery, most are to the west of Sheffield and are located close to road links and public transport infrastructure (which should enable access by active and sustainable modes of transport for deprived communities). Options 5 and 6 are likely to generate **moderate positive effects** on health and wellbeing in the long term given the substantial amount of employment land involved. There is some uncertainty whether the effects for Option 4 would be minor positive or moderate positive, as the scale of growth is lower and some sites are more accessible to communities of need than others.

Conversely, development at a higher scale (particularly under Option 6) would require the use of several Green Belt sites, which could affect residential amenity for any nearby communities, and a general increase in traffic, which could affect wellbeing and air quality. These are minor negative effects for both option 5 and 6. For Option 4, the scale of growth involved in the Green Belt would be lower, and might only necessitate the release of one site. Therefore, the potential for negative effects on amenity and environmental quality is considered to be slightly lower. This brings a degree of uncertainty for the minor negative effects.

Innovation District opened-up to other uses

Allowing alternative uses within the Innovation District should continue to support the growth of high skilled employment but some land is likely to be lost to other employment uses such as logistics and thus the positive effects from enhancements to wellbeing from high income employment is not as likely to be fully realised. However, opportunities for lower skilled work could be increased in the urban areas closer to deprived communities, which is a positive effect in the short to medium term (as these jobs are more likely to be suited to the local workforce in these communities).

With regards to negative effects, the increase in logistics and warehousing in the AMID, could bring increased amounts of HGVs, with associated effects on amenity and wellbeing for some communities. By the same token, there would presumably be less intensive employment uses on some peripheral Green Belt sites, so impacts on amenity in those areas would be expected to be limited. Overall, the effects are predicted to be similar to those predicted with a restricted approach to development types in the AMID for each of the scales of growth.

Health and wellbeing	Option 1	Option 2	Option 3	Option 4		Option 5		Option 6	
Innovation District restricted uses	x	-	✓	✓✓?	x?	✓✓	x	✓✓	x
Innovation District opened-up to other uses	x	-	✓	✓✓?	x?	✓✓	x	✓✓	x

Transport and Accessibility

Restricted development in the Innovation District

All options involve growth in the urban area. Employment development is likely to add to existing congestion within and around the urban area, particularly at a localised scale at congested hotspots. This includes routes connecting employment sites to the Strategic Road network (the M1 and A616) and other main roads, including parts of the Lower Don Valley and around Meadowhall and Tinsley, which has existing junction capacity issues.

The urban area benefits from good general access to sustainable transport infrastructure including a comprehensive bus network and the tram network, which covers large parts of the Lower Don Valley and thus should provide a sustainable mode for commuting to many employment locations in this area. The urban area further benefits from a comprehensive cycle network including off-road long distance cycle routes between the city centre, Meadowhall and Rotherham, with routes throughout the Lower Don Valley and Innovation District.

Restricting uses within the Innovation District is somewhat beneficial from a transport perspective as it limits HGV intensification in this location.

Option 1 involves a lower scale of growth that can likely be met within the urban area. This is beneficial as growth can be accommodated in locations that encourage the use of sustainable modes of transport. However, increased development could potentially exacerbate road congestion in the urban area. This option might also lead to an increased need for some Sheffield residents to commute longer distances to access employment opportunities, which also limits the positive effects. Therefore, overall **neutral effects** are predicted.

Option 2 involves some growth in the Green Belt outside the urban area (given that urban opportunities have been maximised). Growth under this option should be possible to accommodate in sustainable locations with good access to sustainable transport and services. The scale of growth under this option will exacerbate road congestion, but as it resonates closely with the baseline position, the potential adverse effects on road congestion are unlikely to be significantly greater than what would occur in the absence of the plan. The growth under this option can also be dispersed to minimise impacts on the road network. This option might lead to some out-commuting as recommended targets in the ELRU and SLS would not be addressed in full. In this respect, **neutral effects** are predicted, similar to Option 1.

Option 3 will involve further growth and would likely require the use of Green Belt locations outside of the urban area. Like Option 2, the growth can be accommodated in broadly sustainable locations (i.e. there are sufficient site options to meet needs in locations with good accessibility), but the increase in employment land is likely to further exacerbate road congestion. Increased provision of land for employment in Sheffield should however help to limit the need to commute further afield. On balance, **neutral effects** are predicted.

Option 4 would involve additional growth on Green Belt land. There would be a choice of sites to make, with an assumption that logistics uses would be located with good access to the strategic road network. There would also be good opportunities to select a site / sites that are accessible to communities by sustainable modes of travel. Increased local opportunities could also reduce out-commuting. On balance, a **minor negative effect** is predicted, but this could potentially be neutral depending on the sites chosen. In this respect there are some uncertainties.

Option 5 and Option 6 to a greater extent, could require the use of site options in less sustainable locations, which is likely to encourage car usage and the higher scale of growth is further likely to exacerbate congestion on the road network. However, some of the Green Belt site options in less sustainable locations benefit from good access and proximity to the M1, which should somewhat reduce pressures from heavy goods vehicle journeys on the local road network. Increased provision of strategic employment land in Sheffield ought to help reduce out commuting, but could lead to greater in-commuting, further increasing road traffic. Overall, on balance, a **minor negative effect** is predicted for Option 5 as it is more likely to lead to negative impacts compared to Option 4.

The scale of growth under Option 6 is likely to require the use of sites in reasonable proximity to each other which will add pressures in already congested areas such as around Chapeltown. The higher scale of growth under Option 6 is further likely to encourage in-commuting from the wider region. Therefore, Option 6 is predicted to have potential **moderate negative effects**.

Innovation District opened-up to other uses

An unrestricted approach to development in the Innovation District is predicted to support a greater proportion of logistic uses, which is likely to increase heavy good vehicle journeys in the area (and disperse local employment opportunities to peripheral locations). This is likely to result in some adverse effects under all options, although effects are not predicted to be significant under Options 1-3 as these options involve lower amounts of logistics growth. However, this approach is predicted to cumulatively derive a **moderate negative effect** under Options 4 and 5 and a **major negative effect** under Option 6.

Transport and Accessibility	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
Innovation District restricted uses	-	-	-	x?	x	xx?
Innovation District opened-up to other uses	-	-	-	xx?	xx	xxx?

Soil and Land

Restricted development in the Innovation District

All options involve development in the urban area, which mostly consists of brownfield land with employment development presenting opportunities for regeneration and land remediation. This is likely to particularly be the case in areas such as the Lower Don Valley, which includes numerous sites suitable for employment uses which are known or likely to include contamination. Development within the urban area encourages the reuse of land and buildings and limits pressures on agricultural land in the district (of which there is a limited amount). The urban area does include a small amount of Grade 3 agricultural land. However, most of this agricultural land is not in agricultural use and is unlikely to be viable as farmland.

The scale of growth under Option 1 can be accommodated within the urban area. This is likely to derive positive effects, as the approach will support land remediation and the regeneration of employment areas and have nominal loss of agricultural land resources. However, there is some uncertainty that low levels of planned employment growth may add pressures for speculative employment development outside the urban area and for this to potentially result in some loss of the best and most versatile agricultural land or undermine the efficient use of land resources. Overall, an uncertain **minor positive effect** is predicted.

Option 2, and to a greater extent Option 3, would involve some growth on sites outside the urban area - and these would mostly involve the best and most versatile agricultural land, some of which are or have recently been in agricultural use. Therefore, these options could potentially result in some loss of agricultural land resources, although the cumulative loss is not likely to be significant. Overall, these options are predicted to lead to **neutral effects**, as development will result in some loss of agricultural land but these effects are offset by the likely positive effects through regeneration and the remediation of land within the urban area.

For Option 4, there will be land lost in the Green Belt which could potentially be greenfield and consist of agricultural land. The scale of growth would not lead to significant losses of land, and therefore only **minor negative effects** would be anticipated at worst. If remediation of land occurred (for example if the site selected was brownfield in part or contaminated), then this would offset the negative effects, but this is uncertain at the strategic level.

The scale of growth proposed under Options 5 and 6 would require greater use of sites outside the urban area comprising the best and most versatile agricultural land, some of which is in agricultural use. Cumulatively, this is likely to result in a **minor negative effect** under Option 5. The higher growth under Option 6 will require further use of agricultural land and the greater choice of site options may undermine development on brownfield sites and sites with contamination, which are likely to be less viable for

development compared to other site options. Therefore, Option 6 is likely to have a **moderate negative effect** as a result of the greater cumulative loss of agricultural land and potential for the scale of growth to undermine the efficient overall use of land resources.

Innovation District opened-up to other uses

An unrestricted approach to development in the innovation district is likely to have similar effects for all options as per the appraisal above, as the urban area can accommodate a greater proportion of logistic uses which should reduce the need for the use of additional sites outside the urban area for logistic use. However, this could displace other employment uses to greenfield locations, and so pressures on land would remain.

Soil and Land	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
Innovation District restricted uses	✓?	-	-	x?	x	x x
Innovation District opened-up to other uses	✓?	-	-	x?	x	x x

Historic Environment

Restricted development in the Innovation District

All options involve growth in the urban area. Some employment development in the urban area could provide opportunities to enhance townscape and historic characteristics of the local area (helping to reflect industrial heritage). This is likely to be the case in the city centre, which has a high concentration of designated heritage assets and there is potential for development to have some positive effects on the townscape and the setting of heritage assets. This is also likely to be the case in the Don Valley, where there are vacant sites that make a negative contribution to the townscape and sites that are in a state of disrepair and include or fall in proximity to heritage assets. There is potential for development to enhance the character and setting of the townscape and heritage assets. Development would need to be of an appropriate type, scale, layout and design (which strategic logistics and large warehouses are less likely to be).

Options 2-6 involve growth on Green Belt sites to varying degrees. However, these sites do not include and are not likely to have adverse effects on listed buildings, scheduled monuments, conservation areas or other statutory or non-statutory historic designations and assets. Though the type of developments are likely to be large scale and visually intrusive, the immediate setting of heritage assets is unlikely to be affected (when looking at the identified strategic opportunity sites).

Options 1-6 are predicted to have neutral effects on the historic environment. Development could enhance the character and setting of the townscape and heritage assets if it replaces poor quality land. However, large scale employment is likely to be intrusive and unlikely to benefit the historic environment. Though the higher growth options involve intrusive developments on the periphery of rural areas, none of the opportunity sites are particularly constrained with regards to the historic environment. There could possibly be an increase in cumulative secondary effects on heritage due to a general increase in traffic, but this would mostly be contained on the strategic road networks and avoid more sensitive local centres.

Innovation District opened-up to other uses

An unrestrictive approach to employment development in the Innovation District is predicted to have similar effects to those identified in the appraisal above, as the change in the distribution of employment uses is unlikely to have any significant effects on the historic environment considering that most sites are not constrained by heritage assets (both within the Innovation District and on the strategic sites in the Green Belt).

Historic Environment	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
Innovation District restricted uses	-	-	-	-	-	-
Innovation District opened-up to other uses	-	-	-	-	-	-

Landscape and Townscape

Restricted development in the Innovation District

All options involve growth within the urban area. Growth within this area has the potential to lead to improvements to the built environment and townscape character through the regeneration and reuse of underutilised or vacant land and introduction of new landscaping features. Furthermore, most employment site options within the urban area fall within existing employment areas such as the Don Valley and the Innovation District, which do not have high landscape sensitivity and include areas with poor townscape character.

Restricting development types in the Innovation District is also likely to avoid the more intrusive types of development associated with logistics and warehousing, which are more difficult to incorporate into urban areas without affecting the character of settlements.

Growth under Option 1 can be met within the urban area including undeveloped sites on the urban periphery, thus avoiding the use of more sensitive landscapes in the Green Belt. This option is likely to cumulatively derive **minor positive effects**, from the likely improvement in townscape character.

The scale of growth under Options 2 and 3 would require some use of Green Belt sites, which could result in some loss of land with important landscape features. However, this scale should be able to avoid the most sensitive sites and is more focused on suitable brownfield sites (which would be maximised). Development on these sites is likely to have some adverse effects on landscape and townscape character, but conversely could have benefits if it involves regeneration/reclamation. These two options will also still involve urban growth, which drives positive effects on townscape. Overall, option 2 is predicted to have neutral effects, whilst option 1 is predicted to have potential **minor negative effects**.

Options 4, 5 and 6 would require greater use of Green Belt sites including some sites with greater landscape sensitivities and long-distance views.

The scale of growth under Option 4 may only require the release of one or two strategic sites, meaning that the most sensitive locations could be entirely avoided, or potentially smaller scale developments proposed that are less intrusive. Nevertheless, most of the strategic sites have some degree landscape sensitivity, and so **minor negative effects** are predicted.

The scale of growth under Option 5 is likely to require some use of site(s) with higher landscape sensitivities. However, most of the growth on Green Belt sites can likely be accommodated on less constrained sites.

The higher amount of logistic growth under Options 5 and 6 will also require larger buildings which could resonate poorly with landscape and townscape character. Overall, **moderate negative effects** are predicted for Option 5. Option 6 would further require the use of sites with higher landscape sensitivities and those that do not resonate with the urban area. This is predicted to derive **major negative effects**.

Innovation District opened-up to other uses

An unrestricted approach to development in the Innovation District is predicted to support a greater proportion of logistic uses in this area, which is likely to reduce some pressures for logistic uses on Green Belt sites. This could have mixed effects. On one hand, it reduces pressure to release the more sensitive Green Belt sites for large scale development. General employment development can likely be integrated more sensitively on Green Belt sites compared to logistics and allow for the better integration of green infrastructure and new landscape features. The effects of logistics development on sites within the Innovation District would be less intrusive in some locations compared to urban fringe locations. However, at a higher scale of growth where additional sites would be required, this could be in locations that are more visible from long-range and are likely to impact on local landscape character. There would also still be a need to release Green Belt sites for logistics under the higher growth options (5 and 6).

Landscape and Townscape	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
Innovation District restricted uses	✓	-	x?	x	xx	xxx
Innovation District opened-up to other uses	✓	-	-	x?	xx?	xxx

Biodiversity and Geodiversity

Restricted development in the AMID

All options involve growth in the urban area. Growth in the urban area should help maximise the utilisation of brownfield land in existing urban locations, which should help reduce pressures on biodiversity designations and sites of biodiversity importance. The intensification of development in existing urban employment areas and mostly on previously developed land such as in the Lower Don Valley should further support the provision of new green infrastructure and habitats and support the enhancement of ecological connectivity through the area. As levels of growth increase and the release of greenfield land is required, the potential for effects increases.

Option 1 involves a lower scale of growth that can be met within the urban area. This scale and distribution of growth is likely to derive positive effects from the preservation of more sensitive Green Belt sites. However, as this scale of growth does not meet current take-up rates, some speculative employment development could come forward during the plan period on potential sites of higher biodiversity importance. Overall, an uncertain **minor positive effect** is predicted.

Option 2 is likely to have similar effects to Option 1, but the amount of employment growth proposed is less likely to lead to successful speculative development. This scale of growth will require some use of Green Belt sites, but this should be able to avoid sites of biodiversity importance (given that several site options are relatively unconstrained). There is also potential for greater positive effects to be achieved through development on the less sensitive Green Belt sites, where a biodiversity net gain is secured. Overall, Option 2 is predicted to derive a **minor positive effect**. Similarly, Option 3 is also likely to have **minor positive effects**, as growth under this option can also avoid sites of biodiversity importance, whilst achieving net gain.

Option 4 will require the release of some Green Belt land, and given the strategic sites being explored, there is potential for development to have a range of effects, depending on the location(s) selected. There are some site options where biodiversity sensitivity is higher, and where it could be more difficult to achieve net gain. It could be possible to avoid these sites and to limit impacts by reducing land take. However, taking a precautionary approach, **minor negative effects** are predicted at this strategic scale.

Options 5 and 6 require the further use of sites outside the urban area including Green Belt sites with important habitats and in immediate proximity to priority habitats and Local Wildlife Sites. Development could potentially deliver on-site biodiversity net gain, although this may not be possible on all sites given the large floor plates involved with logistics opportunities. Given the restricted uses in the AMID, the pressure to release greenfield land for logistics would be greatest for these two options.

This is likely to cause greater disturbances to sensitive areas during construction and operations (noise / light / air quality for example). Therefore, these options are both predicted to have potentially **major negative effects** if adequate mitigation is not secured to minimise disturbances on priority habitats and Local Wildlife Sites and avoid the potential loss of woodland for access to certain sites (for example East of Smithywood and Hesley Wood).

Innovation District opened-up to other uses

A less restrictive approach to employment development in the Innovation District is unlikely to significantly alter the effects for lower scales of growth in terms of biodiversity and geodiversity. Should some logistics be located in the Innovation District, displaced local needs could be delivered on less sensitive sites in the Green Belt if required.

At a higher scale of growth, allowing logistics use in the Innovation District would reduce pressures for such uses on sites where development is likely to cause disturbances to priority habitats and Local Wildlife Sites (in the Green Belt). However, displaced local employment uses would still be necessary to plan for. The smaller floor plates and less intense use of HGVs ought to make the impacts on Green Belt sites less intensive though, and the opportunity for onsite net gain ought to be greater for such uses. Nevertheless, the cumulative impacts due to higher scales of growth mean that uncertain **moderate negative effects** are predicted for options 5 and 6 and **neutral effects** for Option 4.

Biodiversity and Geodiversity	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
Innovation District restricted uses	✓	✓	✓	x?	xxx?	xxx?
Innovation District opened-up to other uses	✓	✓	✓	-?	xx?	xx?

Climate Change Resilience

Restricted development in the Innovation District

All options involve growth in the urban area. As the urban area benefits from good general access to sustainable transport infrastructure, there is potential for growth in this area to have some positive effects on mitigating some of the emissions associated with growth. Growth within the urban areas should also support the economies of scale required to support improvements to sustainable transport infrastructure and low carbon technologies.

Some of the sites in the urban area include areas at risk of fluvial flooding. However, employment uses are generally less sensitive to flooding and most sites in vulnerable areas such as the Don Valley are brownfield, with development providing some opportunities to introduce new green infrastructure and SuDS.

Growth under Option 1 should be able to avoid the most vulnerable sites to fluvial flooding within the urban area. Overall, a **minor negative effect** is predicted as a degree of surface water flood risk exists and needs to be managed.

Options 2 and 3 require the use of some sites outside the urban area. However, the scales of growth under these options can be met on sites which relate better to the urban area, benefit from some existing access to sustainable transport infrastructure and are outside of areas at high risk of fluvial flooding. Though there will be a greater loss of greenfield land (and the resilience benefits that these bring), the effects are still be considered to be minor. Though Option 4 involves additional Green Belt release, it is still likely to generate **minor negative effects** as the overall change in land use will remain low and there are several strategic opportunities to choose from that are not at a significant risk of flooding.

Options 5 and 6 require the further use of sites outside the urban area. There are some opportunities, particularly under Option 6, for growth outside the urban area to achieve the economies of scale to introduce some new infrastructure such as improvements to public transport and the expansion of the cycle network. However, this is not a certainty.

Areas at high risk of fluvial flooding can still be avoided at a higher scale of growth, but there will be cumulative effects to consider in terms of a loss of greenfield land (which has value in terms of climate change resilience and carbon sequestration). The large floor plate of strategic employment sites could make it more difficult to limit the loss of greenfield land and introduce significant green infrastructure enhancements. Therefore, the potential for **moderate negative effects** is raised, with an element of uncertainty.

Innovation District opened-up to other uses

An unrestricted approach to employment development in the Innovation District is unlikely to have a significantly different effect on climate change resilience under any of the scale of growth scenarios. Though it directs some strategic growth away from Green Belt land (which could have value in terms of green infrastructure and resilience), there could still be a need to release such land for local employment uses and advanced manufacturing). Therefore, the potential impacts associated with land use are likely to remain similar at all scales of growth.

Climate Change Resilience	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
Innovation District restricted uses	x	x	x	x	xx?	xx?
Innovation District opened-up to other uses	x	x	x	x	xx?	xx?

Natural Resources and Pollution

Restricted development in the Innovation District

All options involve growth in the urban area to differing extents. The urban area mostly consists of brownfield sites, with many known or likely to be contaminated and requiring some level of remediation. However, employment uses are less likely to require comprehensive remediation and therefore it is possible that some contamination is not addressed on sites where this is not considered to cause a risk to health or cause environmental harm.

New development, particularly through the redevelopment of brownfield sites, also provide opportunities to introduce green infrastructure and SuDS, which should help improve water quality and reduce pollutants in discharge. Similarly, some site options within the urban area consist of agricultural land. There is potential for development to improve water quality through the removal of agriculture related pollutants in run-off, although these effects are not significant as most agricultural land within the urban area is not in agricultural use (and employment uses are likely to increase waste water demands).

The plan area as a whole is designated as an AQMA. Employment development is likely to add to existing congestion within and around the urban area and exacerbate air pollution, particularly at a localised scale at congested hotspots. Development in the Lower Don Valley is likely to lead to an increase in heavy goods vehicle journeys in the area, especially along routes connecting employment sites to the strategic road network including the M1 motorway. This is likely to lead to a deterioration of air quality in the area, especially around Meadowhall and Tinsley, which has existing junction capacity issues. However, as the Lower Don Valley is mostly in employment use, the human-health related impacts of this are likely to be less severe than other areas with larger residential populations. Furthermore, technological improvements should reduce road based emissions in the long term.

Restricting logistic uses in the Innovation District may somewhat reduce heavy goods vehicle journeys in this area which would reduce the potential increase in congestion and adverse air quality. However, these effects are not likely to be significant, as advanced manufacturing and other suitable employment types for the Innovation District are still likely to generate heavy goods (and other) vehicle journeys.

Option 1 involves a lower scale of growth that can be met within the urban area. As discussed above, development is likely to increase congestion and therefore result in a deterioration of air quality in certain locations in the short-term. However, development in the urban area should also support the redevelopment of previously developed and contaminated land, which would reduce environmental pollution. Therefore, **neutral effects** are predicted overall.

Options 2 and 3 require some use of sites outside of the urban area. Under these scales of growth, development can be distributed across a range of Green Belt sites to reduce adverse effects on road congestion and air quality in any specific location. The growth should also be able to avoid more sensitive site options with greater potential to have adverse effects on residential amenity. The change in use of agricultural land provides some opportunities to improve water quality through the removal of agriculture related pollutants in run-off, although some potential adverse effects are likely to remain through urban and industrial related pollutants in run-off (and waste water). Overall, **neutral effects** are predicted at this scale of growth.

Option 4 requires the use of Green Belt land to support a higher scale of development. This could be delivered in one location or two or more smaller site options, so it is likely that effects would be localised rather than widespread. There would likely be an increase in traffic related pollution, which could cause some **minor negative effects**. The potential for effects could be reduced by supporting sites that are accessible by sustainable modes of travel, and implementing mitigation measures.

Option 5, and to a greater extent Option 6, require higher levels of growth including substantially higher amounts of land for logistic use (which would need to be on Green Belt land given a restricted approach to development in the Innovation District). This is likely to increase congestion and related air pollution, especially along routes connecting employment sites to the strategic road network, from an increased local need to travel and from heavy goods vehicle journeys. These effects are likely to be exacerbated, particularly under Option 6, from the cumulative impacts of utilising site options in close proximity to each other in already congested areas (such as around Chapeltown). These scales of growth may also require the use of sites that are elevated or in closer proximity to residential areas, where there is potential for employment development to have some adverse effects on amenity through noise or light pollution. In this regard, Option 5 is predicted to have a **minor negative effect**. Option 6 further supports growth to address the maximum general employment and logistics needs. This is likely to lead to further cumulative negative effects in terms of air quality. The effects on water quality are mixed, as on one hand there will be a reduction in agricultural pollution (given that several of the site opportunities are in agricultural use), but on the other, economic activity could lead to increased pollution in run off and waste water. Overall, Option 6 is predicted to have **moderate negative effects**.

Innovation District opened-up to other uses

An unrestricted approach to employment development in the Innovation District is predicted to have similar effects for growth options to those identified in the appraisal above, as the change in the distribution of employment uses is unlikely to have any significant effects on overall use of natural resources and pollution. However, an unrestricted approach could increase exposure of communities to additional air pollution, noise and light pollution from less sensitive employment uses such as logistics, which may be less suitable for nearby residential areas. In particular, less sensitive employment uses such as logistics at locations such as Handsworth could

exacerbate congestion in the local area and adversely affect air quality. This is a particular a concern under Options 5 and potentially significant under Option 6, where the higher levels of growth are likely to require the use of the Handsworth site and several others.

Natural Resources and Pollution	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
Innovation District restricted uses	-	-	-	x?	x	x x
Innovation District opened-up to other uses	-	-	-	x	x x	x x x?

Climate Change Mitigation and Resource Efficiency

Restricted uses in the Innovation District

Growth will have some adverse effects on climate change mitigation due to the increased emissions associated with vehicular traffic, construction activities and embodied carbon and energy use when development is operational. This will result in an increased carbon footprint. Employment development will also lead to the generation of waste during construction and the operation of the development, although large scale developments may provide some opportunities to incorporate efficiency measures to minimise waste generation.

All options involve growth in the urban area. This will support the use of brownfield land and provide some opportunities for positive effects where growth supports the intensification or expansion of existing employment areas such as those in the Don Valley, which already benefit from good access to transport (including sustainable transport) and services. This could help mitigate some of the emissions associated with growth.

Restricting uses in the innovation district ought to be positive under all scales of growth, as it helps to support high quality employment opportunities and sectors that involved in climate change mitigation and resource efficiency.

The scale of growth under Option 1 can be accommodated in the urban area (including the AMID). This option is predicted to have a **neutral effect**, as the amount of growth is unlikely to have significant cumulative adverse effects or result in more dispersed patterns of travel. This option should derive some positive effects from the urban location of sites through accessible employment and making use of existing infrastructure. However, the use of brownfield and some sites with contamination may reduce some opportunities for sustainable design if cost is an issue.

Options 2 and 3 involve further growth which will require some use of sites outside the urban area. Growth on sites outside the urban area is likely to derive higher per capita emissions due to likely higher carbon emissions related to transport and higher embodied carbon. However, development on less constrained greenfield sites also provide opportunities to incorporate sustainable design measures such as rainwater harvesting and incorporate greater amounts of green infrastructure to help mitigate the effects of climate change. Overall, these options are likely to derive **minor negative effects**.

Option 4 involves additional growth, which would likely further increase emissions from traffic, construction and operation of logistics. As with options 2 and 3 (but to a greater extent), the creation of new employment premises of a higher quality should be beneficial for resource efficiency in the longer term as buildings will be more efficient than current stock. On balance **minor negative effects** are predicted.

Option 5, and to a greater extent Option 6, require higher levels of growth including substantially higher amounts of land for logistic use. Whilst emissions from road transport are likely to reduce in the long term through improvements in technology, logistic development is likely to substantially increase local transport emissions in the short term and potentially also in the long term. Furthermore, these options would also be more likely to involve the use of some sites that are less favourably served by sustainable transport modes. Option 6 would further require Green Belt sites with more significant constraints such as change in land levels which may require more comprehensive site clearance and levelling works, potentially exacerbating construction-related emissions and reducing the viability to incorporate low carbon technologies and sustainable design measures. Overall, these options are predicted to lead to **moderate negative effects**.

Innovation District opened-up to other uses

An unrestrictive approach to employment development in the Innovation District is likely to somewhat undermine the growth of advanced manufacturing and other technologically advanced industries including green technologies and low carbon industries. Indirectly, this could be detrimental to climate change mitigation efforts, but these effects are uncertain. Therefore, the effects are predicted to be broadly the same as discussed above.

Climate Change Mitigation and Resource Efficiency	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
Innovation District restricted uses	-	x	x	x	xx	xx
Innovation District opened-up to other uses	-	x	x	x	xx	xx

Appendix L: Policy Screening Matrix

The matrix below presents the output of a policy screening exercise (undertaken at Pre-Submission stage), identifying the broad nature of effects that each policy is likely to have. No conclusions on significance are made for each policy, as this should be determined in the context of the plan viewed 'as a whole'. The purpose of the screening exercise is to identify areas that should be a focus of discussion for each SA topic when undertaking the Plan appraisal. The likely nature of effects are presented as follows:

Broadly positive  **Broadly negative**  **Broadly neutral** 

Policy reference and title	Economy	Housing	Health	Transport	Soil	Historic environment	Landscape	Biodiversity	Climate resilience	Natural Resources	Resource efficiency
SP1: Overall Growth Plan / SP2: Spatial Strategy / SP3: Hierarchy of Centres / H1: Scale and Supply of New Housing	✓	✓	✓	✓	✓	✗	0	0	✗	✗	0
SA1: Central / Sub-Area	✓	✓	✓	✓	✓	0	0	0	0	✓	0
CA1: Kelham Island, Neepsend, Philadelphia, Woodside	✓	✓	✓	✓	0	✓	0	0	✓	✓	0
CA1A: Priority Location in Neepsend	✓	✓	✓	✓	0	✓	0	✓	✓	✓	0
CA1B: Catalyst Site Between Penistone Road, the River Don, and Rutland Road	0	✓	0	0	0	✓	0	0	0	0	0

Policy reference and title	Economy	Housing	Health	Transport	Soil	Historic environment	Landscape	Biodiversity	Climate resilience	Natural Resources	Resource efficiency
CA2: Castlegate, West Bar, The Wicker, Victoria	✓	✓	0	✓	0	✓	0	0	0	0	0
CA2A: Priority Location in Castlegate	✓	✓	✓	✓	0	✓	0	✓	✓	✓	0
CA2B: Priority Location in Wicker Riverside	✓	✓	✓	✓	0	✓	0	✓	✓	✓	0
CA3: St Vincent's, Cathedral, St George's, University of Sheffield	✓	✓	✓	✓	0	0	0	0	0	✓	0
CA3A: Priority Location in Furnace Hill	✓	✓	✓	✓	0	✓	✓	0	✓	✓	0
CA3B: Catalyst Site at the Gateway between Scotland Street, Smithfield, and Snow Lane	0	✓	✓	0	0	✓	0	0	0	0	0
CA4: City Arrival, Cultural Industries Quarter, Sheaf Valley	✓	✓	✓	✓	0	✓	0	0	0	0	0
CA4A: Part of Priority Location and Catalyst Site at Moorfoot - Land between Eyre Street, St Mary's Road, and Jessop Street	✓	✓	✓	✓	0	0	0	0	0	✓	0
CA5: Heart of the City, Division Street, Springfield, Milton Street, The Moor, and Hanover Street	✓	✓	✓	✓	✓	✓	0	0	0	✓	0
CA5A: Priority Location in Moorfoot	✓	✓	✓	✓	✓	✓	0	✓	✓	✓	0
CA5B: Catalyst Site at the Junction between St Mary's Gateway, The Moor Street, and London Road	0	✓	✓	✓	✓	✓	0	0	0	✓	0

Policy reference and title	Economy	Housing	Health	Transport	Soil	Historic environment	Landscape	Biodiversity	Climate resilience	Natural Resources	Resource efficiency
CA6: London Road and Queen's Road	0	✓	✓	✓	0	✓	0	0	✓	✓	0
SA2: Northwest Sheffield Sub-Area	✓	✓	✓	✓	0	0	0	✓	✓	✓	0
SA3: Northeast Sheffield Sub-Area	✓	✓	✓	✓	0	0	0	0	0	0	0
SA4: East Sheffield Sub-Area	✓	✓	✓	✓	0	0	0	0	0	0	0
SA5: Southeast Sheffield Sub-Area	✓	✓	✓	✓	0	0	0	0	0	0	0
SA6: South Sheffield Sub-Area	0	✓	✓	✓	✓	0	0	0	0	0	0
SA7: Southwest Sheffield Sub Area	✓	✓	✓	✓	0	0	0	0	0	✓	0
SA8: Stocksbridge/Deepcar Sub-Area	✓	✓	✓	✓	0	0	0	0	0	0	0
SA9: Chapeltown/High Green Sub-Area	✓	✓	✓	✓	0	0	0	0	0	0	0
T1: Enabling Sustainable Travel	✓	✓	✓	✓	0	0	0	0	0	0	0
BG1: Blue & Green Infrastructure	0	0	✓	0	0	0	✓	✓	✓	✓	0
D1: Design Principles and Priorities	✓	0	✓	0	0	✓	✓	0	✓	✓	✓
IN1: Infrastructure Provision	✓	✓	✓	✓	0	0	0	0	✓	✓	✓
AS1: Development on Allocated Sites	✓	✓	0	0	0	0	0	0	0	0	0
ES1: Measures Required to Achieve Net Zero Carbon Emissions in New Development	0	0	✓	0	✓	0	0	✓	✓	✓	✓
ES2: Renewable Energy Generation	✓	0	✓	0	0	✓	✓	✓	✓	0	✓

Policy reference and title	Economy	Housing	Health	Transport	Soil	Historic environment	Landscape	Biodiversity	Climate resilience	Natural Resources	Resource efficiency
ES3: Renewable Energy Networks and Shared Energy Schemes	✓	0	✓	0	0	0	0	0	0	0	✓
ES4: Other Requirements for the Sustainable Design of Buildings	✓	0	✓	0	0	0	0	0	✓	✓	✓
ES5: Managing Air Quality	0	0	✓	✖	0	0	0	0	✓	✓	0
ES6: Contaminated and Unstable Land	0	0	✓	0	✓	0	0	0	0	✓	0
ES7: Safeguarding of Mineral Resources and the Exploration, Appraisal and Production of Fossil Fuels	✓	0	0	0	0	0	0	0	0	✖	✖
ES8: Use and Production of Secondary and Recycled Aggregates	✓	0	0	0	✓	0	✓	0	0	✓	✓
NC1: Principles Guiding the Development of Strategic Housing Sites	✓	✓	✓	✓	0	0	0	0	✓	✓	✓
NC2: Development in the Residential Zones	✓	✓	✓	0	0	0	✓	0	0	✓	0
NC3: Provision of Affordable Housing	✓	✓	✓	0	0	0	0	0	0	0	0
NC4: Housing for Independent and Supported Living	0	✓	✓	✓	0	0	0	0	0	0	0
NC5: Creating Mixed Communities	0	✓	✓	0	0	0	0	0	0	0	0
NC6: Purpose-Built Student Accommodation	0	✓	✓	0	0	0	0	0	0	0	0
NC7: Criteria for Assessing New Gypsy and Traveller and Travelling Showpeople Sites	0	✓	✓	✓	0	0	0	0	0	0	0

Policy reference and title	Economy	Housing	Health	Transport	Soil	Historic environment	Landscape	Biodiversity	Climate resilience	Natural Resources	Resource efficiency
NC8: Housing Space Standards	0	✓	✓	0	0	0	0	0	0	0	0
NC9: Housing Density	✓	✓	✓	✓	✓	0	✓	0	0	0	✓
NC10: Development in District and Local Centres	✓	✓	✓	0	0	0	0	0	0	0	0
NC11: Access to Key Local Services and Community Facilities in New Residential Developments	0	✓	✓	✓	0	0	0	0	0	0	0
NC12: Hot Food Takeaways	x	0	✓	0	0	0	0	0	0	0	0
NC13: Safeguarding Local Services and Community Facilities	✓	✓	✓	0	0	0	0	0	0	0	0
NC14: Safeguarding Sensitive Uses from Noise, Odours and other Nuisance	x	0	✓	0	0	0	0	0	0	0	0
NC15: Creating Open Space in Residential Developments	0	0	✓	0	0	0	✓	✓	✓	0	0
NC16: Development in Flexible Use Zones	✓	✓	✓	0	0	0	0	0	0	0	0
NC17: Development in the Hospital Zones	✓	✓	✓	0	0	0	0	0	0	0	0
EC1: Development in the Advanced Manufacturing Innovation District (AMID)	✓	✓	✓	x	0	0	0	0	0	0	0
EC2: Development in the City Centre Office Zones	✓	✓	0	0	✓	✓	0	0	0	0	0

Policy reference and title	Economy	Housing	Health	Transport	Soil	Historic environment	Landscape	Biodiversity	Climate resilience	Natural Resources	Resource efficiency
EC3: Development in General Employment Zones	✓	✗	0	✓	✓	0	0	0	0	0	0
EC4: Development in Industrial Zones	✓	0	0	✓	✓	0	0	0	0	0	0
EC5: Assessment of Proposals for Commercial, Business and Service Uses, Retail Warehouse Clubs and Leisure Development outside Centres	✓	0	0	✓	0	0	0	0	0	0	0
EC6: Economic Development and Sensitive Uses	✓	✗	✓	0	0	0	0	0	0	0	0
EC7: Promoting Local Employment in Development	✓	0	✓	0	0	0	0	0	0	0	0
EC8: Development in University/College Zones	✓	✓	✓	0	0	0	0	0	0	0	0
VC1: Commercial, Business and Service Uses and Leisure Developments in the City Centre Primary Shopping Area	✓	✓	0	✓	0	0	0	0	0	0	0
VC2: Development in the Cultural Zones	✓	0	✓	✓	0	✓	0	0	0	0	0
VC3: Development in the Central Area Flexible Use Zones	✓	✓	✓	✓	0	0	0	0	0	0	0
CO1: Development and Trip Generation	0	0	✓	✓	0	0	0	0	0	✓	✓
CO2: Parking Provision in New Development	0	0	✗	✓	0	0	0	0	0	✓	✓

Policy reference and title	Economy	Housing	Health	Transport	Soil	Historic environment	Landscape	Biodiversity	Climate resilience	Natural Resources	Resource efficiency
CO3: Broadband and Telecommunications	✓	0	✓	✓	0	0	✓	0	0	0	✓
GS1: Development in Urban Green Space Zones	0	✗	✓	0	0	0	✓	✓	0	✓	0
GS2: Development in the Green Belt	0	0	0	0	0	0	✓	0	0	0	0
GS3: Landscape Character	0	0	0	0	✓	0	✓	0	0	0	0
GS4: Safeguarding the Best and Most Versatile Agricultural Land	✓	0	0	0	✓	✓	✓	0	0	0	0
GS5: Development and Biodiversity	0	0	✓	0	✓	0	✓	✓	✓	✓	0
GS6: Biodiversity Net Gain	0	✗	✓	0	0	0	0	✓	✓	✓	0
GS7: Trees, Woodland and Hedgerows	0	0	✓	0	0	0	✓	✓	✓	✓	0
GS8: Safeguarding Geodiversity	✓	0	0	0	0	✓	✓	✓	0	0	0
GS9: Managing Flood Risk	0	✓	✓	0	✓	0	0	0	✓	✓	0
GS10: Protection and Enhancement of Water Resources	0	0	0	0	0	0	0	✓	✓	✓	0
GS11: Sustainable Drainage Systems	0	0	0	0	0	0	0	✓	✓	✓	0
DE1: Local Context and Development Character	0	0	0	0	0	✓	✓	0	0	0	0
DE2: Design and Alteration of Buildings	0	0	✓	0	0	✓	0	✓	0	0	✓
DE3: Public Realm and Landscape Design	0	0	✓	✓	0	✓	✓	✓	✓	✓	0

Policy reference and title	Economy	Housing	Health	Transport	Soil	Historic environment	Landscape	Biodiversity	Climate resilience	Natural Resources	Resource efficiency
DE4: Design of Streets, Roads and Parking	0	0	✓	✓	0	0	0	0	0	0	0
DE5: Design of Shop Fronts	0	0	0	0	0	✓	0	0	0	0	0
DE6: Design of Tall Buildings and Protection of Views in the City Centre	✓	0	0	0	0	✓	✓	0	✓	0	0
DE7: Advertisements	✓	0	0	0	0	✓	✓	0	0	0	0
DE8: Public Art	0	0	✓	0	0	✓	0	0	0	0	0
DE9: Development and Heritage Assets	✓	0	✓	0	0	✓	0	0	0	0	0
DC1: The Community Infrastructure Levy (CIL) and other Developer Contributions	✓	0	✓	✓	0	0	0	0	✓	0	0

Appendix M: Summary of post Reg19 updates

Log of notable changes to the IIA Report in the Post Reg 19 update

Updates made	Document reference	Why?
General / Miscellaneous		
Integration of separate Council Equality Impact Assessment into the IIA.	Throughout the appraisal findings.	For clarity that the IIA satisfies the requirements of equality impacts.
Introductory paragraph to the purpose of the IIA Report Updates.	Page 1	For context.
Update to the plan making timeline to discuss Reg19 stage and Examination	Pages 4-7	For context.
IIA Framework updated to include full appraisal criteria	Pages 10 – 17	To avoid the need to refer to scoping report for detailed assessment criteria.
Updated diagram explaining options considered post Reg19	4.1.7 Figure 4.2	To summarise key elements of work undertaken post Reg19.
Employment		
Figure 7.7 updated to include additional strategic locations	Page 48	To include four new reasonable alternatives.
Discussion of additional strategic site options for employment	Section 7.2	Appraisal updates.
Discussion of employment growth strategy options	Section 8.2	In response to Inspectors requests / consultation feedback on the lack of strategy options at Reg19 stage.

Summary of employment strategy options appraisals	Section 8.2	Updated appraisal
Full appraisal of employment site options	Appendix H	Updated appraisal
Full appraisal of employment strategy options	Appendix K	Updated appraisal
Housing strategy		
Appraisal of Green Belt site options	Section 9.2 Appendix J	To respond to Inspectors request / feedback in relation to the need to consider dispersed green belt development as a spatial option.
Discussion of new housing strategy options	Section 8.1	
Summary of work undertaken for Gypsy and Traveller site options and travelling show people sites	Section 9.3 Appendix N	For completeness
Appraisal of the Plan and reasonable alternatives		
Economy - <i>Key paragraphs in relation to new alternatives</i>	10.2.22 – 10.2.29	Key appraisal updates
Housing - <i>Key paragraphs in relation to new alternatives</i>	10.3.27 – 10.3.33	Key appraisal updates
Health and Wellbeing - <i>Key paragraphs in relation to new alternatives</i>	10.4.16 – 10.4.26	Key appraisal updates
Transport and Accessibility - <i>Key paragraphs in relation to new alternatives</i>	10.5.18 - 10.5.22	Key appraisal updates
Soil and Land - <i>Key paragraphs in relation to new alternatives</i>	10.6.18 – 10.6.21	Key appraisal updates

Historic Environment - <i>Key paragraphs in relation to new alternatives</i>	10.7.43 – 10.7.49	Key appraisal updates
Landscape and Townscape - <i>Key paragraphs in relation to new alternatives</i>	10.8.22 – 10.8.26	Key appraisal updates
Biodiversity and Geodiversity - <i>Key paragraphs in relation to alternatives</i>	10.9.29 – 10.9.33	Key appraisal updates
Climate change resilience - <i>Key paragraphs in relation to alternatives</i>	10.10.25 – 10.10.26	Key appraisal updates
Natural resources - <i>Key paragraphs in relation to alternatives</i>	10.11.37 – 10.11.40	Key appraisal updates
Climate change mitigation - <i>Key paragraphs in relation to alternatives</i>	10.12.27 – 10.12.36	Key appraisal updates
Updated summary of appraisal findings – <i>new alternatives</i>	Table 10.1 10.12.2 10.13.12 10.13.13 10.13.15	Key appraisal updates
Additional paragraph explaining how additional spatial options will be considered before finalising the plan.	10.14.14	To clarify how the IA Report update will be taken into consideration prior to the Plan being finalised. To summarise next steps.

Increased explanation of the nature of effects in terms of their characteristics (i.e. secondary / cumulative / synergistic / timeframe)	Throughout Section 10 and all appraisal appendices as necessary and appropriate.	To clarify and demonstrate that the appraisal satisfies the requirements set out in Annex 2 of the SEA Regulations.
Policy screening matrix	Appendix L	To provide additional context for the whole plan appraisal.
Mitigation and Enhancement		
Expanded text to explain measures taken at different stages of plan making	Section 11	To clarify how mitigation measures have been considered at each stage with examples.

Appendix N: Gypsy and Traveller Site Assessment Matrix

SiteRef	Address	Suitability for employment	Potential to support the viability of the Central Area	Proximity to incompatible uses	Education capacity	Availability of local facilities	Potential to provide affordable housing	Potential to provide specialist housing	Potential to provide family housing	Potential to be beneficial to disadvantaged communities	Loss of Open Space	Sufficient existing Open Space in the surrounding area	Local Green Spaces	Loss of community/leisure /recreation facilities	Access to active travel/cycle network	Distance to core public transport network	Potential to increase the viability of public transport	Contribution to housing led regeneration	Use of Previously Developed Land (PDL)	Loss of best and most versatile agricultural land	Impact on heritage assets	Archaeology constraints	Impact on rural landscape character	Impact on ecology/local nature recovery networks	Impact on geology	Flood Risk	Impact on air quality	Proximity to hazardous installations or closed landfill sites	Proximity to regulated waste sites	Likelihood of existing land contamination
S00084	Ritz Social Club, Southey Green Road, Sheffield S5 8GX	N/A	-	YY	N	YY	NN	-	Y	Y	YY	NN	YY	YY	-	YY	-	N	Y	YY	Y	-	YY	Y	Y	YY	N	Y	Y	N
S00196	Working Mens Club, 2 Dara Street, Sheffield, S9 1NY	N/A	-	Y	Y	YY	NN	-	YY	Y	YY	YY	YY	YY	YY	Y	-	N	Y	YY	Y	-	YY	Y	Y	Y	N	Y	Y	N
S00275	Land Adjacent To 474 Manor Lane Sheffield	N/A	-	YY	YY	YY	N	-	Y	Y	-	YY	YY	YY	YY	YY	-	N	N	YY	Y	-	YY	Y	Y	YY	NN	Y	N	Y
S00838	Site of Former 169 Upper Hanover Street and Land Rear of 194-198, Broomhall Street, Sheffield	N/A	-	YY	N	YY	NN	-	Y	-	YY	NN	YY	YY	YY	YY	-	N	Y	YY	NN	-	YY	Y	Y	Y	NN	Y	Y	N
S00991	Site of Darnall Medical Aid Society, Fisher Lane, Sheffield, S9 4RP	N/A	-	YY	N	YY	NN	-	Y	Y	YY	NN	YY	YY	YY	YY	-	N	Y	YY	Y	-	YY	Y	Y	YY	NN	Y	Y	Y

SiteRef	Address	Suitability for employment	Potential to support the viability of the Central Area	Proximity to incompatible uses	Education capacity	Availability of local facilities	Potential to provide affordable housing	Potential to provide specialist housing	Potential to provide family housing	Potential to be beneficial to disadvantaged communities	Loss of Open Space	Sufficient existing Open Space in the surrounding area	Local Green Spaces	Loss of community/leisure /recreation facilities	Access to active travel/cycle network	Distance to core public transport network	Potential to increase the viability of public transport	Contribution to housing led regeneration	Use of Previously Developed Land (PDL)	Loss of best and most versatile agricultural land	Impact on heritage assets	Archaeology constraints	Impact on rural landscape character	Impact on ecology/local nature recovery networks	Impact on geology	Flood Risk	Impact on air quality	Proximity to hazardous installations or closed landfill sites	Proximity to regulated waste sites	Likelihood of existing land contamination
S01002	Land At Rear Of 8-26 Pleant Road Sheffield	N/A	-	YY	YY	YY	Y	-	Y	-	YY	NN	YY	YY	-	YY	-	N	Y	YY	-	-	YY	Y	Y	Y	N	Y	Y	Y
S01143	Land at Southey Green Road, S5 8HB	N/A	-	YY	N	YY	N	-	Y	Y	NN	NN	YY	YY	-	YY	-	N	N	YY	Y	-	YY	Y	Y	YY	N	Y	Y	Y
S01442	Firs Hill Sheltered Scheme, Firshill Crescent S4 7BS	N/A	-	YY	Y	YY	NN	-	Y	-	YY	YY	YY	YY	-	YY	-	Y	Y	YY	Y	-	YY	Y	Y	YY	N	Y	Y	Y
S02229	Land Adjacent Trident House Baxter Road Sheffield	N/A	-	-	N	YY	NN	-	Y	-	YY	NN	YY	YY	Y	YY	-	N	Y	YY	Y	-	YY	Y	Y	YY	N	Y	Y	N
S03309	Land Between 35 And 37 And At Rear Of 37 High Street Beighton Sheffield S20 1EE	N/A	-	YY	YY	Y	Y	-	YY	-	YY	YY	YY	YY	YY	N	Y	Y	Y	YY	Y	-	YY	Y	-	N	N	N	Y	Y
S03379	Land At Rear Of Veterinary Surgery Sheffield Road Hackenthorpe Sheffield S12 4LR	N/A	-	YY	YY	YY	YY	-	Y	-	YY	YY	YY	YY	-	YY	-	N	N	-	NN	-	YY	Y	Y	YY	N	Y	Y	Y
S03842	Curtilage Of Rushley Cottage Rushley Road Sheffield S17 3EH	N/A	-	Y	N	YY	N	-	Y	-	YY	YY	YY	YY	Y	Y	-	N	N	YY	Y	-	YY	Y	Y	YY	N	Y	Y	Y

SiteRef	Address	Suitability for employment	Potential to support the viability of the Central Area	Proximity to incompatible uses	Education capacity	Availability of local facilities	Potential to provide affordable housing	Potential to provide specialist housing	Potential to provide family housing	Potential to be beneficial to disadvantaged communities	Loss of Open Space	Sufficient existing Open Space in the surrounding area	Local Green Spaces	Loss of community/leisure /recreation facilities	Access to active travel/cycle network	Distance to core public transport network	Potential to increase the viability of public transport	Contribution to housing led regeneration	Use of Previously Developed Land (PDL)	Loss of best and most versatile agricultural land	Impact on heritage assets	Archaeology constraints	Impact on rural landscape character	Impact on ecology/local nature recovery networks	Impact on geology	Flood Risk	Impact on air quality	Proximity to hazardous installations or closed landfill sites	Proximity to regulated waste sites	Likelihood of existing land contamination
S04461	Site Of Halfway House, Britannia Road, Sheffield S9 5JH	N/A	-	NN	Y	YY	NN	-	Y	Y	YY	YY	YY	YY	YY	YY	-	N	Y	YY	Y	-	YY	Y	Y	NN	NN	Y	Y	Y
S04555	Land Adjacent To 1 Orgreave Lane, Sheffield S13 9NE	N/A	-	YY	YY	YY	YY	-	Y	-	YY	YY	YY	YY	Y	YY	Y	N	N	YY	Y	-	YY	Y	Y	YY	NN	Y	Y	N
S04601	Kenilworth Place, Sheffield S11 8TT	N/A	-	YY	N	YY	Y	-	Y	-	YY	NN	YY	YY	Y	YY	-	N	Y	YY	-	-	YY	Y	-	YY	NN	Y	Y	Y
S04661	Land Between 48 And 50 Haywood Lane, Sheffield S36 2QF	N/A	-	YY	YY	YY	YY	-	YY	-	YY	NN	YY	YY	Y	Y	-	N	N	YY	Y	-	YY	Y	Y	YY	N	N	Y	Y
S04832	Curtilage Of 57 Snaithing Lane, Sheffield S10 3LF	N/A	-	YY	N	Y	YY	-	Y	-	YY	NN	YY	YY	-	YY	-	N	N	YY	-	-	YY	Y	Y	Y	N	Y	Y	Y
S04915	Land Adjacent 2 Moorbank Drive, Sheffield S10 5TH	N/A	-	Y	N	Y	YY	-	Y	-	YY	YY	YY	YY	-	YY	-	N	N	YY	Y	-	YY	Y	Y	YY	N	Y	Y	Y

Sites options for travelling show people

Site reference		Address	Suitability for employment	Potential to support the viability of the Central Area	Proximity to incompatible uses	Education capacity	Availability of local facilities	Potential to provide affordable housing	Potential to provide specialist housing	Potential to provide family housing	Potential to provide development that would be beneficial to disadvantaged communities	Loss of Open Space	Sufficient existing Open Space in the surrounding area	Local Green Spaces	Loss of community/leisure /recreation facilities	Access to active travel/cycle network	Distance to core public transport network	Potential to increase the viability of public transport	Contribution to housing led regeneration	Use of Previously Developed Land (PDL)	Loss of best and most versatile agricultural land	Impact on heritage assets	Archaeology constraints	Impact on rural landscape character	Impact on ecology/local nature recovery networks	Impact on geology	Flood Risk	Impact on air quality	Proximity to hazardous installations or closed landfill sites	Proximity to regulated waste sites	Likelihood of existing land contamination
S04639	Hesley Wood, north of Cowley Hill, S35 2YH	N/A	-	N	N	Y	YY	-	YY	-	YY	YY	YY	YY	Y	Y	-	-	NN	-	-	Y	N	N	Y	Y	NN	Y	Y	N	
S04632	Land to the east of Eckington Way, S20 1XE	N/A	-	-	YY	YY	YY	-	YY	-	Y	YY	Y	YY	-	Y	-	-	NN	N	Y	-	-	-	N	Y	NN	NN	Y	Y	

