Lancaster South Area Action Plan - Topic Papers

Interim Sustainability Appraisal Report

NOVEMBER 2022

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Interim Sustainability **Appraisal Report**

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Contents

Acronyms

AAP	Area Action Plan
ANGSt	Access to Greenspace Standards
AONB	Area of Natural Beauty
AQMA	Air Quality Management Area
BGV	Bailrigg Garden Village
BNG	Biodiversity Net Gain
BREEAM	Building Research Establishment Environmental Assessment Method
CELPR	Climate Emergency Local Plan Review
DPD	Development Plan Document
GBI	Green and Blue Infrastructure
KUL	Key Urban Landscape
LAEP	Local Area Energy Planning
LETI	London Energy Transformation Initiative
NPPG	National Planning Practice Guidance
PPG	Planning Practice Guidance
SA	Sustainability Appraisal
SAB	SUDs Approval Body
SUDS	Sustainable Drainage Systems
SEA	Strategic Environmental Assessment
SFRA	Strategic Flood Risk Assessment
USLs	Urban Setting Landscape
WCML	West Coast Main Line

1 Introduction

1.1 Background to the Adopted Local Plan, the Local Plan Review, and the Lancaster South Area Action Plan

1.1.1 The Lancaster South Broad Location for Growth, which will include Bailrigg Garden Village, is situated south of Lancaster City with the general area being predominantly rural. The area of growth is intersected by the M6 motorway and the A6 both running north-south through the site. The West Coast Main Line (WCML) rail link also transects the area of growth north-south running parallel to the A6 with the closest train station being Lancaster Station in the city centre. The suburb of Scotforth is located to the north of the area of growth with the village of Galgate to the south.

1.1.2 In July 2020, Lancaster City Council formally adopted its Local Plan, which comprises the Strategic Policies and Land Allocations DPD[1] and Review of the Development Management DPD[2]. The Adopted Lancaster Local Plan will guide development in the Lancaster District for the next 10 years. It includes the need to plan for the new housing, employment, open spaces, shops and community facilities necessary to create places people want to live, work and do business.

1.1.3 The Broad Location for Growth has been brought forward as part of the Strategic Policies & Land Allocations DPD, through Policy SG1. Policy SG1 identifies a Broad Location for Growth in South Lancaster (see Box 1: Policy SG1). Policy SG1 sets out a general plan for the Location for Growth and how it is to be delivered in a further DPD – the Lancaster South Area Action Plan (AAP).

Box 1: Policy SG1 from the Adopted Lancaster Local Plan

POLICY SG1: LANCASTER SOUTH BROAD LOCATION FOR GROWTH (INCLUDING BAILRIGG GARDEN VILLAGE)

The Council has identified a broad location for growth in South Lancaster, including for the development of the Bailrigg Garden Village, on the Local Plan Policies Maps. This will be a major mixed-use development which focuses on the delivery of at least 3,500 new houses, a number of opportunities for employment and economic opportunities including the delivery of Lancaster University Health Innovation Campus and wider University related expansion.

Key Growth Principles for Development in the Broad Location for Growth

The Council has defined a range of principles which will be at the very core of the planning and development in South Lancaster and for the Garden Village. These will be explored in more detail via the forthcoming Lancaster South Area Action Plan DPD for this area. These principles include:

1. Involving local communities in pro-active consultation about the creation of new development.
2. Securing high-quality urban design which promotes sustainable, attractive places to live, defining a sense of place and creates a sense of community for its new residents.
3. Seeking a modal shift in local transport movements between South Lancaster, the Garden Village, Lancaster University Campus and Lancaster City Centre and beyond into the employment areas of

[1] Local Plan Part One: Strategic Policies & Land Allocations DPD. Available at: http://www.lancaster.gov.uk/planning/planning-policy/land-allocations-dpd [Accessed: 07/10/22]
[2] Local Plan Part Two: Development Management DPD. Available at: http://www.lancaster.gov.uk/planning/planning-policy/development-management-dpd [Accessed: 07/10/22]

Morecambe and Heysham through the delivery of a Bus Rapid Transit System and Cycling and Walking Superhighway network.

4. Delivering a wide range of market and affordable housing, in terms of type and tenure to ensure that opportunities to live in the Garden Village are available to all sections of the community and contribute significantly to the creation of cohesive, balanced communities and thereby assist the district in meeting its evidenced housing needs within the Local Plan period.

5. Ensuring that the necessary infrastructure to achieve sustainable growth is delivered in the right place, at the right time, to address strategic constraints to the delivery of future development in the South Lancaster area.

6. The creation of sufficient areas of high quality open spaces to provide a distinct sense of place and deliver a network of green corridors and walking and cycling routes across the South Lancaster area to the benefit of the local environment and residents. The delivery of such spaces and routes should make for distinct areas of separation between the new development and the urban edge of Lancaster, Bailrigg Village and Galgate and give potential to bring forward a new country park.

7. Development proposals will need to take account of the recommendations for mitigating harm and/or maximising enhancements as set out in the Council's Heritage Impact Assessment for this area.

8. The creation of healthy and cohesive communities through the delivery of high quality development and the correct levels of services, open space and infrastructure which is provided in safe and accessible locations.

9. The sympathetic masterplanning of new facilities and growth within the campus of Lancaster University for a range of educational facilities, student accommodation, visitor accommodation and ancillary uses located primarily at the Bailrigg Campus, the Lancaster University Health Innovation Campus and in appropriate locations within the wider University estate in the context of its sensitive landscape setting.

10. Safeguarding Lancaster University's Bailrigg Campus, by ensuring that development in South Lancaster and for the Bailrigg Garden Village is well planned and does not have an adverse impact on the University Campus and its setting.

11. Taking proper account of the need to design new development to minimise its contribution to, and the impacts of, Climate Change and to ensure that new development is resilient and adaptable to the effects of Climate Change.

12. Managing water and run-off to safeguard development, assuring public safety and amenity with active measures within new development to reduce flood risk downstream for both existing and new residents and businesses.

13. Offering opportunities for national housebuilders to work alongside local construction firms and encourage training opportunities for local people, particularly through the construction phases of the development. The Garden Village should also include opportunity for the provision of self-build and custom-build properties.

14. To ensure innovative urban design both in terms of the layout and density of new development and the specific design of new buildings. This should include the application of appropriate new technologies for buildings and transport where possible. Proposals should investigate opportunities for localised heating systems in the South Lancaster area.

15. Addressing longstanding constraints and capacity issues in the strategic and local road network through improvements to traffic management and physical interventions to increase network capacity and advantage sustainable travel. This will involve the re-configuration of Junction 33 of the M6 to afford direct motorway access into the South Lancaster area and remove traffic from Galgate which is currently designated as an Air Quality Management Area (AQMA).

To support the delivery of growth in the South Lancaster area, including development of the Bailrigg Garden Village, there will be a requirement for a wide range of both locally important and strategically important

infrastructure, including new highways, public transport network, education provision, new local centre(s), open spaces and green network. These are set out in Policy SG3 of this DPD and will be addressed in more detail through the preparation of the Lancaster South Area Action Plan DPD.

Proposals will need to demonstrate that no Internationally designated sites would be adversely affected by development either alone or in combination with other proposals, as per the requirements of Policy EN7 of this DPD. In view of the potential for likely significant effects as a result of this allocation, development proposals must accord with the requirements of Appendix D of this DPD.

Mechanism for Delivery of Growth in South Lancaster, including Bailrigg Garden Village

The Council will prepare and implement a specific Development Plan Document (DPD) for this broad location for growth, entitled the 'Lancaster South Area Action Plan DPD'. The purpose of the forthcoming DPD will be as follows:

A. To provide additional detail on how the Key Growth Principles set in this policy will be delivered;

B. To set out a Spatial Development Framework as a basis for further masterplanning, to help guide the preparation of future planning applications and against which future development proposals and planning applications will be assessed; and

C. To facilitate and support the co-ordination and timely delivery of the infrastructure necessary to facilitate growth in this location.

Development within the broad location for growth in advance of the Lancaster South Area Action Plan DPD will be permitted provided that:

1. There would be no prejudice to the delivery of the wider Bailrigg Garden Village (including its infrastructure requirements) and would not undermine the integrated and co-ordinated approach to the wider Bailrigg Garden Village development; and

2. That the development would conform with and further the Key Growth Principles described in Policy SG1; and

3. That the opportunities for sustainable transport modes have been fully considered and that the residual impacts upon the transport network will not be severe.

The potential for the future re-configuration of Junction 33 of the M6 and highway network improvements in South Lancaster will be an integral part of this forthcoming DPD.

To ensure the timely delivery of the Bailrigg Garden Village, work on the wider DPD has already commenced and is anticipated to be ready for adoption within the first five years of the plan (i.e. before 2022).

1.1.4 In January 2019, Lancaster City Council declared a climate emergency and committed action to mitigate damage to the climate and help communities adapt to the effects of the climate crisis. This declaration specifically committed the council to ensuring that the organisation reaches net zero emissions by 2030 for its own activities and leads the way in helping other organisations in the district to reach the same. Whilst the Adopted Local Plan does seek to address climate change, it was too far advanced in the plan preparation process to incorporate some of the actions and directions of the climate emergency declaration. The Council have therefore begun a Local Plan Review, to ensure that the aspects of this important agenda are adequately considered and include the necessary mitigation and adaption measures to address the climate emergency. Stages completed as part of the predation of the Local Plan Review include scoping consultation (September to November 2020), Regulation 18 consultation (23rd July to 17th September 2021) and Regulation 19 consultation (31st January to 14th March 2022). The Local Plan Review was submitted to the Secretary of State for independent examination on the 31st

March 2022. The hearing sessions concluded on 7th October 2022. The Council are in the process of preparing proposed modifications, as part of this process.

1.2 Purpose of this Report: Appraisal of the AAP Topic Papers

1.2.1 This SA Report has been prepared by Arcadis Consulting (UK) Ltd. on behalf of Lancaster City Council, as part of the combined Sustainability Appraisal (SA) and Strategic Environmental Assessment (SEA) (hereinafter referred to as SA) of the emerging AAP. The background to and purpose of the SA is outlined in the SA Scoping Report, dated July 2021[3]. In summary, SA is a process of appraising the social, environmental and economic effects of a plan and its alternatives, as it is developed.

1.2.2 The SA is being undertaken by independent consultants, who can provide feedback and recommendations to the plan-makers during the appraisal process, in order to enable the plan to be amended, with the intention of contributing to the achievement of more sustainable development. The SA is being produced in accordance with the SEA Directive[4] which is transposed directly into UK law through the SEA Regulations[5]. This requires the authority preparing the plan to consult the consultation bodies[6] on the scope and level of detail of the SA.

1.2.3 This Report provides a further interim assessment of the development of the AAP. The current stage of assessment relates to options for the plan, as a precursor to the development of detailed policies. In order to develop detailed policies for the AAP, the plan-making team at Lancaster City Council has developed a series of Topic Papers, exploring policy and strategic options. The Council will be publishing 6 topic papers in all which relate to the following matters:

- Establishing a Development Strategy for Growth in South Lancaster;
- Travel, Transport and Securing Modal Shift;
- Addressing the Climate Emergency & Community Resilience;
- Securing Blue & Green Infrastructure and Biodiversity Net-Gain;
- Water Management; and
- Creation of Sustainable Places and Communities.

1.2.4 The SA seeks to provide an assessment, including recommendations, to direct policy makers to the most sustainable options available. It is noted that at this stage of the SA, there is no statutory requirement for public consultation. The comments and responses provided to the topic papers will be considered and used as the Council seeks to prepare a draft Area Action Plan, which will be subject to a further appraisal process. This will be then subject to another public consultation in early 2023.

3 Available at: https://www.lancaster.gov.uk/assets/attach/11292/PP4.3_Sustainability-Scoping-Report-July-2021-.pdf [Accessed: 08/11/22]
[4] Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32001L0042 [Accessed: 09/08/22]
[5] The Environmental Assessment of Plans and Programmes Regulations 2004. Available at: https://www.legislation.gov.uk/uksi/2004/1633/contents/made [Accessed: 09/08/22]
[6] Natural England, Environment Agency, Historic England

2 Approach to the SA

2.1 Stages in the SA process

2.1.1 The ODPM's Practical Guide[7] and the National Planning Practice Guidance (NPPG) subdivides the SA process into a series of stages. While each stage consists of specific tasks, the intention should be that the process is iterative. Table 2-1 presents the key stages in the SA process and indicates where specific tasks have been addressed to date. The table also demonstrates how each of the SA stages are linked to the preparation and development of the AAP.

Table 2-1: Stages in the SA process

SA Stage	Section of the Report (where applicable)	Application to the AAP
Stage A: Setting the context and objectives, establishing the baseline and deciding on the scope		
A1: Identifying other relevant policies, plans and programmes and sustainability objectives	This was outlined within the SA Scoping Report (July 2021).	Stage A corresponds to the scoping stage of the SA. The findings of this stage were presented in the SA Scoping Report, issued for consultation to statutory consultees (Natural England, the Environment Agency and Historic England).
A2: Collecting baseline information		
A3: Identifying sustainability issues and problems		
A4: Developing the SA Framework		
A5: Consulting on the scope of the SA		
Stage B: Developing and Refining Options and Assessing Effects		
B1: Testing the AAP objectives against the SA Framework	This report documents the assessment of the AAP vision and objectives and the initial SA assessments of the AAP policy themes.	Stage B of the SA process is linked to the overall production of the AAP which includes the development of options and the selection of the preferred options. There should be a considerable degree of interaction between the plan-making and SA teams during this stage in the process to enable potential adverse effects of the AAP to be avoided/minimised and potential sustainability benefits maximised.
B2: Developing the AAP Options		
B3: Predicting the effects of the AAP		
B4: Evaluating the effects of the AAP		
B5: Considering ways of mitigating adverse effects and maximising beneficial effects	Will be documented in the SA Environmental Report.	
B6: Proposing measures to monitor the significant effects of implementing the AAP		
Stage C: Preparing the SA Report		
C1: Preparing the SA Report	This will result in a SA Report documenting the effects of the AAP and will also include an assessment of the options considered during the AAP's development.	The proposed submission AAP will be prepared ready for consultation.

[7] ODPM (2005) A Practical Guide to the SEA Directive. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7657/practicalguidesea.pdf [Accessed: 09/08/22]

SA Stage	Section of the Report (where applicable)	Application to the AAP
Stage D: Consultation on the Proposed Submission AAP and the SA Report		
D1: Public participation on the proposed submission AAP	-	The SA Report and the proposed submission AAP will be consulted upon in accordance with the Regulation 13 of the Environmental Assessment of Plans and Programmes Regulations (2004).
D2: Appraising significant changes resulting from representations	-	Following the receipt of representations, the SA Report may need to be updated to reflect comments received. It will be essential for the SA Report and the AAP to remain consistent.
D3: Making decisions and providing information	-	
Stage E: Monitoring the significant effects of implementing the AAP		
E1: Finalising aims and methods for monitoring	Monitoring will commence once the AAP has been adopted.	Monitoring undertaken for the SA process should feed into the Authority's Monitoring Report.
E2: Responding to adverse effects		

2.2 Scoping

2.2.1 The SA Scoping Report represents the initial stage in the SA process for the emerging AAP and sets the scope for the remainder of the process. Its purpose is to:

- Set the scope and level of detail of the SA;
- Identify relevant plans, policies, programmes and initiatives that will inform the SA process and the AAP;
- Identify relevant baseline information;
- Identify key sustainability issues and problems; and
- Present a SA Framework, consisting of sustainability objectives and indicators, against which the emerging AAP can be assessed.

2.2.2 A review of other plans and programmes that may affect the preparation of the AAP was undertaken in order to contribute to the development of both the SA and the AAP. This included:

- Identification of any external social, environmental or economic objectives, indicators or targets that should be reflected in the SA process.
- Identification of any baseline data relevant to the SA.
- Identification of any external factors that might influence the preparation of the document, for example sustainability issues.
- Identification of any external objectives or aims that would contribute positively to the development of the AAP.
- Determining whether there are clear potential conflicts or challenges between other identified plans, programmes or sustainability objectives and the emerging AAP.

2.2.3 The review included documents prepared at international, national, regional (sub-regional) and local scale. European Directives were transposed into national legislation, which are still of relevance in the

UK. Therefore, there should be a trickle-down effect of the key principles and an application to the relevant national, regional and local circumstances in other planning documents. The Framework sets out planning policies for England and how they are expected to be applied. Plans produced at the local level specifically address issues relating to the economy; health; safety; sustainable communities; housing and employment. The AAP and the SA should draw from these documents and transpose their aims in their policies and proposals where appropriate.

2.2.4 Characterising the environmental and sustainability baseline, issues and context is an essential part of developing the SA Framework. It comprises the following key elements:

- Characterising the current state of the environment of the site and the surrounding areas including social and economic aspects; and
- Using this information to identify existing problems and opportunities that could be considered in the AAP.

2.2.5 A number of key issues and opportunities have been identified, including opportunities to reduce the need to travel and therefore the number of cars on local roads, but there are limited public rights of way across the east of the AAP area. This would be particularly beneficial for students at the University of Lancaster, who make up a key demographic within the AAP area. The high student population also presents a challenge, as the temporary residents dramatically alter population characteristics of the area during the University term time. It will be important to consider how development within the AAP area will create tension with existing permanent populations and service provision within Galgate and Scotforth. Similarly, the introduction of a new population could provide new targets for crime, although crime within the area is generally below the national average.

2.2.6 Development within the AAP area presents a number of environmental challenges, including around the sustainable management of water, mitigating air and noise pollution associated with new construction and risks to biodiversity as a result of developing greenfield land. The AAP has the opportunity to build a Garden Village that respects the local area and integrates sustainable building practices and design a settlement that minimises nuisance. Additionally, development could affect views across the Forest of Bowland AONB and the nearby coastline, and it is important that development does not significantly alter views and works with the surrounding landscape character.

2.2.7 Waste and recycling is also a potential challenge for the AAP. The major strategic landfill site is within a neighbouring authority, and therefore Lancaster is a net exporter of waste. Lancaster University is the largest producer of waste within the AAP area, and new development would add to this volume of waste. Opportunities for recycling, composting, and waste minimisation should be taken and designed into any development.

2.3 SA Framework

2.3.1 The SA Framework underpins the assessment methodology and comprises a series of Sustainability Objectives (covering social, economic and environmental issues) that are used to test the performance of the plan being assessed.

2.3.2 The Sustainability Objectives previously developed for the SA of the Lancaster Local Plan have been modified where necessary to suit the assessment approach taken for the AAP. The original SA Objectives and Sub-Objectives were generated by using the review of other relevant plans, programmes and environmental objectives, the baseline data and the key issue and opportunities of the Local Plan SA.

2.3.3 The SA Objectives have been reviewed to ensure they are relevant to other relevant plans, programmes and environmental objectives, the baseline data and the key issues and opportunities of the AAP and what the AAP can achieve. The modifications are only relatively minor to ensure consistency with the SA for the Local Plan as a whole. Overall, the headline SA Objectives have remained largely unchanged although the sub-objectives have been amended to better reflect the AAP.

2.3.4 Table 2-2 presents the SA Framework that will be used in the assessment of the AAP. Each of the Sustainability Objectives is supported by a series of sub-objectives to add further clarity and to assist the assessment process.

Table 2-2: SA Framework

SA Objective	Sub-Objectives
1. To ensure there is housing to meet all needs	• To provide new housing to contribute towards the District's housing targets. • To ensure a wide range of decent housing is provided to meet housing needs including affordable housing.
2. To improve physical and mental health for all, encourage community cohesion, reduce health inequalities and reduce exposure to hazards	• To ensure the health and wellbeing needs of all sectors of society are addressed. • To improve access to health and social care services. • To promote healthy lifestyles. • To ensure there is access to greenspace, public spaces, rights of way and play areas. • To ensure there are cultural /social/ community facilities and activities for people to enjoy / participate in. • To encourage the development of strong and cohesive communities. • To reduce exposure to noise disturbance and limit impacts upon Noise Important Areas. • To ensure instances of crime and fear of crime are minimised. • To help reduce/avoid levels of anti-social behaviour and violent crime. • To encourage safety by design. • To improve the provision of natural greenspace within the AAP area. • To protect and enhance green infrastructure.
3. To encourage lifelong learning	• To ensure there is access to primary, secondary and further educational opportunities for new residents.
4. To improve sustainable access to basic goods, services and amenities for all groups	• To ensure public transport services (bus and train) meet peoples' needs. • To ensure highways infrastructure serves peoples' transportation needs (including for private vehicular travel, walking and cycling). • To ensure buildings and public spaces are readily accessible. • To promote the use of more sustainable modes of transport and reduce dependence on the private car. • To improve access to cultural and leisure facilities. • To maintain and improve access to essential services and facilities. • To improve access to basic goods, services and amenities.
5. To encourage thriving local economies, ensure key economic drivers are strong, and encourage economic inclusion	• To create new and diverse employment opportunities. • To encourage economic growth. • To encourage inward investment. • To ensure sufficient land, buildings and premises are available to accommodate for businesses. • To ensure Infrastructure (including transportation) meets the needs of business. • To ensure local centres are strong and vibrant. • To ensure higher education sector remains vibrant. • To ensure the knowledge economy is strengthened. • Ensure the labour supply meets local economic needs. • To improve physical accessibility to jobs for those in greatest need. • To contribute to self-containment and a reduction in commuting.

SA Objective	Sub-Objectives
6. To limit and adapt to climate change and increase energy efficiency	• To ensure greenhouse gas emissions are minimised. • To ensure new development is low carbon and energy efficient. • To promote the use of more sustainable modes of transport and reduce dependence on the private car. • To ensure new developments are able to withstand extreme weather events and are resilient to the future long-term changes in climate. • To encourage energy efficiency measures. • To increase the use of renewable energy.
7. To ensure the sustainable use of natural resources, minimise waste and increase recycling	• To ensure the use of best and most versatile agricultural land is avoided. • To ensure that contaminated land will be guarded against. • To encourage development of brownfield land where appropriate. • To encourage sustainable use of water resources. • To ensure important mineral resources are not sterilised. • To encourage waste recycling and re-use and other forms of sustainable waste management. • To promote the use of recycled and secondary materials.
8. To protect and enhance biodiversity	• To protect and enhance designated sites of nature conservation importance. • To protect and enhance wildlife especially rare and endangered species. • To protect and enhance habitats and wildlife corridors. • To provide opportunities for people to access wildlife and open green spaces.
9. To protect and enhance landscape and townscape character and quality	• To ensure places and views, whether urban or rural, are of distinctive character and quality. • To ensure light pollution is minimised. • To promote sensitive design in development • To ensure strategic views are maintained. • To ensure views from the AONBs are not significantly harmed.
10. To protect and enhance the historic environment and heritage assets	• To protect and enhance heritage assets and their settings. • To protect and enhance the historic environment. • To protect and enhance the historic character of the local landscape/ townscape through maintaining and strengthening local distinctiveness and sense of place.
11. To protect and improve air quality	• To protect and improve local air quality. • To avoid worsening of AQMAs.
12. To reduce or manage flooding and enhance the quality of water resources	• To ensure the management of flood risk to people and property. • To seek to reduce flood risk overall, either on the development site or elsewhere. • To ensure watercourses and impounded waters (including canals) are clean and unpolluted. • To ensure groundwater is clean and unpolluted. • To protect and enhance the river corridor environment. • To improve existing water quality.

2.4 AAP Spatial Options

2.4.1 In 2018, three spatial options and four Bailrigg Garden Village centre options were considered in the 'Bailrigg Garden Village Area Action Plan - Issues and Options Paper'[8] and were appraised in the associated SA[9]. The 2018 SA Report assessed these options against a slightly different SA Framework to that used in this SA Report, which were based on the adopted Local Plan SA Framework (the most

[8] Lancaster City Council (2018) Bailrigg Garden Village Area Action Plan, Issues and Options Paper. Available at: https://www.lancasterandfleetwoodlabour.org/wp-content/uploads/sites/56/2021/08/Bailrigg-Garden-Village-Issues-and-Options-Paper-May-2018-part-1-compressed.pdf [Accessed: 07/09/22]
[9] Arcadis (2018) Bailrigg Garden Village Area Action Plan, Sustainability Appraisal of Spatial Options. Available at: https://www.lancaster.gov.uk/assets/attach/11291/PP4.4_Sustainability-Appraisal-Options-Report-Sept-21-.pdf [Accessed: 08/11/22]

relevant SA Framework at that time). The SA Framework presented in the 2021 SA Scoping Report reflects some of the changes made as part of the Local Plan Review and associated SA process, which focuses on the recently declared climate emergency. Therefore, the assessments set out in this SA Report set out an updated assessment of the previously considered options against the latest SA Framework.

2.4.2 In the 2021 assessment, the Council presented four spatial options for development within the AAP boundary. Options 1, 2 and 3 were carried over from the previous SA Options Report prepared in 2018. The assessment of these three options was updated as part of the 2021 assessment to reflect the latest available information and the updated SA Framework. A further option, Option 3a, was also presented. This represented an evolution of Option 3, reflecting the same area, but providing more detail in relation to the work being undertaken on the masterplan of Bailrigg Garden Village. Option 3a was assessed in the same way as Option 1, 2 and 3.

2.4.3 Major positive effects were identified for Options 2, 3 and 3a for housing as the options would be expected to deliver a significant number of new homes to the area. Major positive effects were also identified for all options in regard to transport, and Options 1, 2 and 3 are major positive in respect to education.

2.4.4 Major negative effects were identified for both Options 2 and 3 in relation to natural resources, biodiversity, landscape and historic environment. Option 3a was also identified as major negative for historic environment. All options were identified as having uncertain effects in relation to flood risk.

2.4.5 In conjunction with the four spatial options, the Council also put forward four Bailrigg Garden Village centre options:

- A: University Focussed
- B: Burrow Heights
- C: A6
- D: Polycentric with University Centre

2.4.6 These options were assessed in 2018 and reviewed in the 2021 Spatial Options SA Report. Option B was expected to result in greatest positive effects in relation to the social, environmental and economic SA Objectives, and was the only option to have an overall positive effect in relation to the combined SA Objectives.

3 Appraisal of Topic Papers

3.1 Compatibility Methodology

3.1.1 At this stage of the AAP-making process, the topic papers set out broad themes for the development of the AAP without setting out the detail of policies. As such, this stage of the SA seeks to provide compatibility assessments of the broad themes against the SA Framework, rather than appraising the policy detail, which will be carried out when the preferred policies have been prepared.

3.1.2 This stage of the SA process provides an opportunity for the policy makers to understand the potential compatibilities and incompatibilities of the proposed policy themes against the SA Objectives, as well proposing recommendations to help guide the development of draft policies and potential policy options.

Compatible	
Incompatible	
Neutral	**O**
Uncertain	**?**

3.2 Topic Paper 1: Establishing a Development Strategy for Growth in South Lancaster

Vision

A Vision for Bailrigg Garden Village & South Lancaster
Future growth in South Lancaster will be focused on the delivery of a new Garden Village, creating a new community which achieves high-quality, affordable homes which are available to all. The Garden Village, along with any other development proposed in the Area Action Plan, will seek to deliver high standards of innovation in terms of construction and design and achieve positive integration with the local environment through well thought out layout, design and the creation of a blue and green infrastructure network. This will provide the opportunity to create a distinct sense of place, offering benefits to the natural environment whilst creating healthy places for recreation, relaxation and social interaction. Development in South Lancaster will create a sustainable place for people to live and work, it will seek to support innovation through the use of new technologies, providing an attractive location to both live and work and support the delivery of low-carbon living through design, construction and energy generation. It will seek to create a place which is resilient, both in terms of mitigating and adapting to our changing climate, but also through community resilience opportunities to forge strong social networks through local wealth building and local food production. The necessary and appropriate infrastructure will be delivered in the right place and at the right time to facilitate new homes and businesses, this includes the creation of new schools, community facilities and healthcare necessary to create an inclusive and cohesive community. The Council will seek to promote modal shift, where possible encouraging local journeys to be made by more sustainable forms of travel, such as cycling, walking or public transport rather than simply by private car. Supporting such a shift will involve the creation of new cycling and walking networks within South Lancaster and also through improving connectivity to other areas of Lancaster and surrounding areas.

3.2.1 This vision sets out a clear strategy to develop the AAP's housing, infrastructure, economic growth and environmental protection in a sustainable way. By pursuing this vision, the Council has placed sustainable development at the core of the AAP development process. It is expected that this will help to ensure the Council's decision-making process seeks out and maximises opportunities for protecting and enhancing the natural environment, economic growth and social cohesion. This will positively affect each SA Objective. The Vision could include 'learn' as part of the first sentence of the third paragraph: "*Development in South Lancaster will create a sustainable place for people to live, learn and work*". This could provide enhanced beneficial effects in relation to SA Objective 3. The Vision could include mention of the need to conserve and enhance the historic environment and landscape quality, as well as access to cultural facilities, as part of the development of a sense of place. Therefore, the Vision would be expected to result in a positive compatibility with all SA Objectives.

	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
Vision	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Objectives

Objective 1: Embedding the Natural Environment within New Development
• Retaining and Respecting Existing Landscape and Natural Features. The Lancaster South Area Action Plan will be landscape-led, working with the distinct drumlin landscape, watercourses and woodlands to create high-quality landscapes which frame and shape the proposed new development and place green and blue infrastructure at its heart. • Preserve and enhance the existing Blue / Green Infrastructure Network as Features and Connecting Corridors. Development will be defined by existing and new green and blue corridors, focused around the creation of a 'Green Halo' around the garden village. Hedgerows, woodland and watercourses will underpin this network, providing links to open space and wider leisure and recreational destinations, restoring connectivity and preventing habitat fragmentation as well as offering wider resilience to flooding and climate change. • Recognising and respecting the importance of the Burrow Beck Strategic Green and Blue Corridor. A key structuring element of the landscape and green and blue infrastructure vision of South Lancaster is the role of the Burrow Beck Valley. Running through the centre of the broad location Burrow Beck provides a key natural linear corridor connecting together existing features and providing an important ecological and drainage resource for the AAP area. • Supporting habitat preservation, restoration and creation across the SG1 area. Development will be required to enhance the natural environment providing opportunities for species and habitats to thrive and supporting biodiversity net gain across the area. • Recreational Resources for South Lancaster. Growth in South Lancaster will provide the opportunity to create new recreational and educational resources such as a new Country Park, recreational spaces, sports pitches and cycling / walking routes. • Securing stewardship of the natural environment. Through the AAP the Council will look to create a lasting legacy of environmental enhancements with mechanisms put in place to secure the long-term delivery and maintenance of the environmental enhancements.
Objective 2: Creating neighbourhoods which are Well-Connected and Well-Integrated
• Improved connectivity and integration with surrounding Settlements. Developments in South Lancaster, including Bailrigg Garden Village, will be designed to support the integrity of Lancaster, Galgate and Bailrigg Village. They will foster integration between the new and existing settlement areas through improved connectivity, including roads, pedestrian links, cycle paths and public transport. Connectivity to the M6 and the creation of a spine road will be important, as will the establishment of the Cycle Superhighway and Better Buses Project. • Delivering Walkable and Liveable neighbourhoods. Development will be designed to create easily understood and navigable neighbourhoods, routes and connections that prioritise and support

sustainable forms of travel. Key local services such as schools, healthcare, shops and jobs will be within easy walking distance of every home. Walkable and cyclable neighbourhoods within South Lancaster will be based on safe and attractive routes that intersect with public transport nodes.

- Supporting Digital Technology. Ensuring that new development in South Lancaster, whether it is residential or commercial has strong digital connections for both broadband and telecommunications so that it can be adaptable to evolving technologies.
- Promoting and Prioritising Modal Shift. Within South Lancaster, it will be easy and safe to make your way around and between streets, places, neighbourhoods, green spaces and community facilities. The design of new development will enable, promote and prioritise walking, cycling and public transport as the most attractive forms of travel for local journeys.
- Creating a hierarchy of road networks. A well-functioning road network, focused around a spine road whose role and function is proportionate to the scale of growth proposed in South Lancaster, will ensure that this is an attractive location for new development, minimising the impact on adjoining uses and providing sustainable development that benefits the wider community. This will be supported by a network of smaller streets designed to encourage sustainable movements and promote good design and legibility.

Objective 3: Fostering a Healthy Community

- Supporting and Creating New Community Networks. Provision of a range of community services and facilities through development across South Lancaster that can help to serve the needs of the whole community, including sports, education, health, community facilities and local service provision.
- Co-ordinating the timely delivery of services, facilities and Infrastructure. Key community buildings, including the provision of schools, healthcare provision, sports / leisure facilities, technology, community buildings and public open pace should be delivered in step with housing development, alongside measures for local solutions to long-term management and stewardship roles for the community.
- Promoting Healthy Lifestyles. Opportunities will be provided for formal and informal activity and leisure, including the provision of a new recreational hub for a range of sporting activities integrated within the community that will encourage and promote healthy lifestyles across all ages and abilities. The creation of new open spaces will be based on a range of active design principles that will look to encourage and promote sport and physical activity. The promotion and prioritisation of active forms of travel will also promote the use of healthier travel choices by creating cycling and walking routes for recreation and local journeys.
- Securing Local Food Production. The Garden Village will provide community allotments and orchards and give residents the chance to grow their own produce within a productive farming landscape, providing learning experiences and community interaction and cohesion as well as self-sufficiency for residents.
- Utilising the National Environment. By embedding the countryside within new the AAP will provide access residents to green and blue infrastructure, landscapes and parks. This will facilitate active lifestyles and importantly enjoyment of peace and tranquillity.
- Creating Lifetime Homes. The design and layout of new development in South Lancaster will look to provide homes which are flexible and adaptable to all, providing safe places for residents to experience health and independence throughout their lives.

Objective 4: Creating Distinctive Places through Good Design

- Establish a clear distinctive and local identity – The AAP will deliver clear separation between the Garden Village and the existing settlement to provide a self-sufficient and vibrant community. This will be achieved through the creation of green gaps between South Lancaster and Galgate.
- Using Design and Materials which reflect the Local Character. Development across South Lancaster will have a coherent architectural theme. The Area Action Plan will set a series of design principles which should be adhered to by all developers throughout all phases of development. It will provide a clear understanding over the level of detail expected to ensure the creation of distinctive buildings, spaces and places.
- Ensuring that development is integrated with its Surroundings. Development in South Lancaster will be characterised by well-designed, energy efficient homes and businesses which work with the landscape, not against. In embedding the countryside within new development, including the retention of important trees, hedgerows and other important landscape features, the AAP will create a distinctive and unique place which makes a positive contribution to the District.
- Maintaining and enhancing the character and heritage of the area. Heritage features are important to the design of new development and key to creating a ‘sense of place’ for South Lancaster and the Garden

Village. Design should ensure these assets and their settings are enhanced, so that they can continue to be enjoyed by this and future generations.

- Creating safe and accessible Neighbourhoods for all. The layout, legibility and accessibility of development across South Lancaster will ensure it is a safe and accessible place that can accommodate the needs of people of all ages, including small children, those with mobility issues and elderly persons requirements.
- Maximising the Role of Public Realm. Public spaces in South Lancaster will be useable by residents and members of the public of all ages for a range of leisure and recreational activities in a safe social environment. Public spaces will be carefully designed and landscaped, incorporating bespoke street furniture and locally sourced public art to create attractive, useable and social spaces.
- Supporting Diversity and Innovation. Development across South Lancaster will welcome and encourage new forms of architecture and building, making use of local material and seeking to reduce carbon emissions from the construction process. Innovative designs and alternative construction models will be encouraged for enhanced delivery whilst achieving the expectations of high-quality design. Opportunities for Custom / Self Build housing will be supported. Building on the expectations of the Council's Climate Emergency Review, low carbon buildings should aim to maximise use of the building fabric to achieve energy efficient homes with energy prioritised from renewable sources.

Objective 5: Building High-Quality, affordable, Low Carbon, Energy Efficient Homes to meet the changing needs of the population and deliver the housing requirements of the district

- Promoting Well-Designed and Well-Built Homes. New homes in South Lancaster will have a clear identity, reflecting the local vernacular and making use of the design coding set out in this Area Action Plan. Homes will make the most of new technologies and innovations in construction and design, particularly in order to lower carbon emissions from new development.
- Providing a Mix of Character, Types, Density and Tenure. A mixed and balanced community will be created through the delivery of a wide choice of homes to meet local demands and needs in terms of housing types and tenure. Homes will be accessible and adaptable to people's need over the course of their lifetimes.
- Promoting Local Opportunities. New homes in South Lancaster will be delivered by a range of housing providers, with opportunities provided to smaller developers and individuals to build new homes. Support will be given to community groups, such as Community Land Trusts, to deliver housing which is genuinely community led.
- Creating Housing which is Sustainable and Resilient in both Construction and Use. The creation of highly efficient homes will make use of the latest construction techniques, reflecting the fabric first approach taken in Partial Review of the Local Plan. Consideration will be given to community renewable energy solutions, particularly the creation of local heating / cooling networks. Homes will be accessible and adaptable to people's changing needs over time, providing flexible spaces to live and work at home.
- Energy Security, Low Carbon Emissions and Fuel Poverty. New development will promote low carbon and energy positive construction and explore the potential for community energy schemes, such as district heating and cooling networks, to give fuel certainty and security and reduce the environment impact of development.
- Promoting Self-Build and Custom-Build Homes. Bailrigg Garden Village will provide opportunities for custom build and self-build development for those who wish to construct their own home. A proportion of housing plots within Bailrigg Garden Village will be serviced and available to self-builders or those wishing to buy a customised home, for example modular homes built off-site to a customer specification.
- Delivering Resilient Homes. Provide future proofed communities designed to be resilient places that allow for changing demographics which are adaptable to the changing needs of the population

Objective 6: Encouraging and Supporting Economic Prosperity

- Economic Prosperity for all. South Lancaster will provide a wide-range of business and employment spaces, from business hubs to supporting small and start-up businesses and facilitating the growing trends for remote and home-working. Employment development will look to provide flexible business spaces to provide opportunities for businesses to relocate to the district and provide local businesses the opportunities to expand and grow.
- Digital Connectivity. Development will have access to innovative digital technology and high-speed fibre broadband across South Lancaster providing the digital connections necessary to fulfil their business ambitions.
- Making the links to Education. Building on the Council's ambitions in relation to local skills and training initiatives, development in South Lancaster will seek to support local apprenticeships and training

through the construction of new development. Economic development should look to foster linkages with Lancaster University, building on the successes of Lancaster University Health Innovation Campus. • Supporting the Green Economy. The Council wish to support economic prosperity through championing the Green Economy, which captures a range of economic activities which have the common objective of providing goods and services in a sustainable way, reducing the impact on the environment. Focusing on the Green Economy provides the opportunity to deliver high-quality jobs, champion innovation and emerging technologies and provide the necessary flexibility to adapt to future changes in the economy. • Creating the Space and Place. Development in South Lancaster will provide a high-quality environment in which to live, and work will be essential to attract the right type of business and investment to the area. New businesses will be physically located with good access to public transport and will be linked to existing and proposed residential areas through attractive cycling and walking routes.
Objective 7: Delivering on the Objectives and Creating Community Stewardship
• Efficient and Effective Delivery. Development will be phased to ensure timely delivery of physical infrastructure to meet the new community's needs. An effective rate of development will ensure that development is viable, and infrastructure is accessible when practically required. Development will have multiple opportunities for residential commercial developers (large and small) to create new developments, thereby increasing the rate of development and provide a speed which is necessary to establish a sense of place. • Establishing a Long-Term Management / Stewardship Strategy. These will be developed early in the development process and put into place to ensure that new development continues to flourish and meet the needs of residents. The stewardship approach for South Lancaster will look to establish management of open spaces, community facilities. The strategy will explore the most appropriate vehicles to establish long-term stewardship within the community.

3.2.2 Objective 1 seeks to protect the natural environment. Key aims of the objective include improving local biodiversity; water quality and flood risk; landscape character; health and wellbeing; as well as resilience to climate change. Enhancements to the green infrastructure network would also be expected to lead to improvements in air quality, carbon sequestration and protecting soil resources, as well as protecting the historic environment. This would be expected to lead to positive compatibility with SA Objectives 2, 6, 7, 8, 9, 10 11 and 12. Objective 1 would provide educational and recreational resources, encompassing new active travel routes, and would therefore also have a positive compatibility with transport and education; SA Objectives 3 and 4. Neutral compatibility would be expected between AAP Objective 1 and SA Objectives 1 and 5.

3.2.3 Objective 2 will seek to ensure settlements will be well integrated and connected to surrounding existing settlements. This aims to improve local connectivity through enhanced roads, pedestrian links, cycle paths and public transport networks. The AAP Objective will promote sustainable transport modes over private car use, which will help reduce air pollution and carbon emissions. Promoting active travel and the interconnectivity of communities will also have benefits to physical and mental wellbeing. The improved transport routes will seek to connect local services such as schools, healthcare, shops, community facilities, open spaces and employment opportunities. By supporting active travel, the AAP Objective will reduce reliance on private vehicles and would therefore have a positive effect on air quality and biodiversity, as emissions would be reduced. Improved digital connectivity will also support local economic growth. Improved connectivity would be likely to have benefits in relation to community cohesion. Overall, this AAP Objective would be expected to lead to positive compatibility with SA Objectives 2, 4, 5, 6, 8 and 11.

- **Recommendation:** the intention behind the differences between AAP Objective bullets 1 and 6; and 2 and 4, could be made clearer, or the bullets rationalised, as they repeat some of the same intentions.
- **Recommendation:** the use of GI as part of the integrated walking and cycling network could be mentioned here.

3.2.4 Objective 3 aims to facilitate healthy communities. Good access to a range of community services and facilities will support community cohesion with benefits to mental wellbeing, with access to sporting and health care facilities benefiting physical health. Creating walking and cycling routes will also improve local access and supporting healthy lifestyles. This objective also seeks to promote blue and green infrastructure and open spaces and providing space for orchards and allotments, helping to enhance local biodiversity, which could also have other environmental benefits including for air quality and flood risk. Improved access to parks and seeking to retain peace and tranquillity would also benefit the local landscape character. Objective 3 aims to provide homes that are suitable for all, intending to create housing that is adaptable and supports independent living. The timely delivery of infrastructure, including leisure facilities and schools, would provide educational opportunities within the AAP area and improve quality of life for residents. Overall, AAP Objective 3 would be expected to have positive compatibility with SA Objectives 1, 2, 3, 4, 8, 9, 11 and 12.

3.2.5 Objective 4 seeks to ensure new development within the AAP area corresponds to good design and creates a distinctive sense of place. By ensuring separation between the new settlement and existing settlements, local landscape character would be protected. The retention of trees and hedgerows will help screen development, but also support local biodiversity. Heritage assets will be protected and enhanced and used to guide design in the area. Energy efficient and low carbon homes will be encouraged through design principles, helping reduce carbon emissions and flood risk. Homes will be designed and built to meet the needs of residents. Access across the neighbourhood will be designed to be safe and attractive for all users, including children, those with mobility issues and older people, benefiting the wellbeing of the wider community. AAP Objective 4 would be expected to be positively compatible with SA Objectives 1, 2, 6, 8, 9, 10 and 12.

- **Recommendation:** the final bullet point of the AAP Objective could include the need for buildings and their surroundings to include design to mitigate the effects of climate change. The requirement for the inclusion of SUDs and multifunctional open spaces (for example, as flood storage and recreational space) could be included as a requirement under the design codes and within this Objective.

3.2.6 The aim of AAP Objective 5 is to deliver a range of character, types, densities and tenure of housing to meet the needs of local residents. A range of homes are also proposed to be accessible and adaptable to the population future needs, ensuring homes are available for older people or those with restricted mobility, with benefits to wellbeing, as well as supporting community cohesion and socialisation. The AAP Objective also seeks to ensure new homes are low carbon and energy efficient and seeks to promote the use of heating or cooling networks to support local resilience to climate change, resulting in a reduction of emissions and flood risk. This AAP Objective would be expected to have a positive compatibility with SA Objectives 1, 2, 6 and 12.

- **Recommendation:** some of the elements comprising Objectives 4 and 5 could be refined as they repeat each other, such as the need for energy efficient building design and the encouragement of self-building.
- **Recommendation:** Objective 5 could be strengthened to include recommendations for the inclusion of flood storage facilities and SUDs under the creation of housing that is sustainable and resilient.

3.2.7 Objective 6 aims to support local economic prosperity. This will be through supporting a wide range of business and employment opportunities, as well as supporting remote and home working. This economic growth will be maintained through local skills and training initiatives and local apprenticeships and developed through links with Lancaster University. All educational or economic opportunities shall be accessible by good public transport services, as well as walking and cycling routes, improving accessibility, but also encouraging modal shift away from private car use, with benefits to physical

health, carbon emissions and air pollution. This may also support the viability of public transport within the AAP area. Therefore, AAP Objective 6 would be expected to result in a positive compatibility to SA Objectives 2, 3, 4, 5, 6 and 11.

3.2.8 Objective 7 seeks to ensure effective and efficient delivery of infrastructure across the AAP area to meet the community's needs. It also seeks to establish management of open spaces and community facilities to help support community cohesion and mental wellbeing, resulting in a positive effect on health and wellbeing. The efficient and effective delivery of infrastructure would ensure educational and community facilities are created and support the needs of the residents. This may, along with the opportunities for residential and provide additional job and educational opportunities, supporting the local economy. Overall, this AAP Objective will have a positive compatibility with SA Objectives 2, 3 and 5.

- **Recommendation:** the timely delivery of infrastructure is repeated across several objectives. It is suggested that this could be rationalised.

Objective	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
1	O	✓	✓	✓	O	✓	✓	✓	✓	✓	✓	✓
2	O	✓	✓	✓	✓	✓	O	✓	✓	O	✓	✓
3	✓	✓	✓	✓	O	O	O	✓	✓	O	✓	✓
4	✓	✓	O	✓	O	✓	O	✓	✓	✓	O	✓
5	✓	✓	O	O	O	✓	O	O	O	O	O	✓
6	O	✓	✓	✓	✓	✓	O	O	O	O	✓	O
7	O	✓	✓	O	✓	O	O	O	O	O	O	O

Geographic Scope

Approach A:	That the geographic scope of the Area Action Plan should be tied to the 'Broad Location for Growth', as identified in Policy SG1 of the Strategic Policies and Land Allocations DPD.
Approach B:	That the geographic scope of the Area Action Plan should be tied to the JTP masterplan for the Garden Village.
Approach C:	That a new geographic scope should be considered for the Area Action Plan which is yet to be defined.

3.2.9 The scope of the AAP cannot be judged through an appraisal against the SA Framework, and therefore the compatibility of these three Approaches against the SA Objectives has not been carried out. It is considered that the AAP should be in line with adopted planning policy, which is the Strategic Policies and Land Allocations DPD.

Timescales

Approach A:	That the Area Action Plan should follow the timescales of the currently adopted Local Plan, therefore having a lifespan which ends in 2031.
Approach B:	That the Area Action Plan should consider National Planning Guidance and be prepared for a timescale of no less than 15 years and no more than 20 years, therefore having a lifespan which end at some point in the 2040s.
Approach C:	That the Area Action Plan should consider long-term development and infrastructure needs and be considered over a long timeframe of up to 50 years, therefore having a lifespan which ends at some point in the 2070s.

3.2.10 The timescale of the AAP cannot be effectively judged through an appraisal against the SA Framework, and therefore the compatibility of these three Approaches against the SA Objectives has not been carried out. It is noted that the AAP needs to be in conformity with national planning guidance and, thus, any alternative to that is not considered to be 'realistic'. However, it is also noted that longer timescales could assist with the delivery of infrastructure over the long term, and that an infrastructure delivery plan could aid in informing the development of the AAP.

Quantum of development

3.2.11 Policy SG1 states that the AAP area will deliver at least 3,500 new houses as part of the mixed-use development. This indicates that a higher quantity of development may be considered across the area. The number of houses that could be developed within the AAP area will be identified taking into consideration how much land is available for development, taking account of constraints and the achievement of development principles and at what residential density the different areas of land to be allocated should be developed.

3.2.12 The development of 3,500 homes, as well as the consideration of other appropriate housing numbers, were appraised as part of the SA Spatial Option Report (September 2021). The SA concluded that all approaches would provide a significant quantum of housing to meet local housing needs. The sustainability performance of the approaches varied, with typically the more housing proposed to be delivered, the greater benefits to population and housing, but likely adverse effects on the local environment, and the approaches for the least housing proposed, vice versa. As such, no further assessment of the quantum of development is necessary at present.

Density of Development

Approach A:	That the Area Action Plan should maximise opportunities to boost development densities across the 'Broad Location for Growth' to increase opportunities for place-making, sustainability of services and create a diversity in terms of housing mix.
Approach B:	That the Area Action Plan should look toward a balance of high and low density development across the 'Broad Location for Growth' which seek to achieve the positive benefits described in Approaches A and C.
Approach C:	That the Area Action Plan should look towards low density development across the 'Broad Location for Growth' which would reduce the quantum of development which could be achieved but would increase space for Green and Blue Infrastructure.

3.2.13 Approach A would result in more higher density development, Approach C would result in the most low-density development, and Approach B would result in a mix of high- and low-density developments. High housing densities would be likely to benefit the housing provision in Lancaster by increasing the opportunity to deliver more housing over the AAP period. This would help to limit the permanent and irreversible loss of agriculturally and ecologically valuable soils caused by development delivered through the AAP. This also has the potential to reduce adverse landscape effects in terms of the quantity of greenfield land required for development. High density developments could also help to reduce vegetation cover lost to development. It is unclear at this stage, what the comparative land-takes would be between the three approaches. Should the lower density development require the same amount of land, but consisting of low-rise developments, this could have more positive effects on the landscape. However, there is potential that all the housing needs for the area would not be met through this approach.

3.2.14 Overall, positive compatibility would be expected for Approaches A and B against SA Objective 1, but neutral for Approach C. Positive compatibility is also expected for SA Objectives 7, 8, 9, 10 and 11 for Approach B and C, with neutral compatibility for Approach A. Compatibility is identified as uncertain for all three approaches in relation to SA Objectives 2, 3, 4, 5, 6 and 12.

Option	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	✓	?	?	?	?	?	O	O	O	O	O	?
B	✓	?	?	?	?	?	✓	✓	✓	✓	✓	?
C	O	?	?	?	?	?	✓	✓	✓	✓	✓	?

Identifying Land for Development Purposes

3.2.15 The masterplanning process identified parcels of land for potential development which is used as a starting point when considered land for development. The Council will assess the developmental potential of land within the AAP area. This assessment process will consider constraints within the area, consider the key planning policy principles, and take into account local evidence to help refine the areas that are most suitable for development.

3.2.16 The SA process will support this assessment of land for development, and therefore, this topic will be considered further in the next iteration of the SA Report.

Creating a Distinct and Separate Settlement

Approach A:	Do not identify areas of separation within the AAP and instead rely on a criteria-based approach to control development within these locations. In exploring Approach A, the Council would be keen to understand what criteria should be included to protect these areas within the policy.
Approach B:	Allocate areas of separation to the north and south of the Garden Village providing clear boundaries which prohibit development within them which would impact on the ability to maintain a physical and visual separation from existing settlements and the Garden Village. In exploring Approach B, the Council would be keen to understand from consultees how these

	areas should be identified and what factors should be used to determine appropriate boundaries.
Approach C:	No need for an Area of Separation

3.2.17 Principle 6 of Policy SG1 of the Lancaster Local Plan seeks to ensure that the AAP provides distinct sense of place and maintains distinctive separation between the new settlement, Lancaster, Bailrigg and Galgate.

3.2.18 The identification of areas of separation would prevent urban sprawl, which would be beneficial for landscape by preserving settlement boundaries as well as protecting and enhancing the historic environment in these areas. These areas could also help support the green infrastructure network, having benefits in relation to biodiversity condition across the AAP area, and having indirect benefits in regard to filtering air pollutants, reducing flood risk, protecting soils and helping adapt to climate change. The areas of separation would be expected to be accessible open and natural space with public access, helping support physical and mental wellbeing.

3.2.19 By identifying areas of separation in the AAP, there is the risk that land suitable for development is no longer available and the number of houses able to be delivered in the area may be reduced.

3.2.20 Approaches A and B both seek to identify areas of separation as part of planning principles for development within the AAP. Approach A would lead to a more flexible approach to areas of separation, guided by criteria that seeks to identify the area. Approach B would see areas to the north and south of the proposed Garden Village allocated as areas of separation. This would help prevent urban sprawl between the new settlement, Galgate and the south of Lancaster. This approach would be likely to give more certainty of the positive effects of the areas of separation compared to Approach A, however, this approach does not leave any flexibility to ensure the areas of separation are appropriate to the type of development that comes forward through the AAP.

3.2.21 With no area of separation as under Approach C, it is uncertain how the new settlement would interact with surrounding settlements, and could lead to urban sprawl, coalescence and would risk the alteration of the local landscape and townscape character of existing settlements. If these changes would be positive or negative is uncertain at this stage.

3.2.22 Overall, positive compatibility has been identified for Approaches and B against SA Objective 2, 6, 7, 8, 9, 10, 11 and 12. Neutral compatibility is identified for all three approaches in relation to SA Objectives 3, 4 and 5, and for Approach C in relation to SA Objective 1. Compatibility has been identified as uncertain for Approaches A and B in relation to SA Objective 1, and for Approach C for SA Objective 2, 6, 7, 8, 9, 10, 11 and 12.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	?	✓	O	O	O	✓	✓	✓	✓	✓	✓	✓
B	?	✓	O	O	O	✓	✓	✓	✓	✓	✓	✓
C	O	?	O	O	O	?	?	?	?	?	?	?

Identifying Land for Urban Extension

3.2.23 By directing residential development towards urban extensions, the AAP has the opportunity to situate new residents and businesses near existing services such as public transport services and education facilities in Lancaster. This would help ensure sustainable access to the new development. Positive compatibility has therefore been identified in relation to SA Objectives 1, 2, 3, 4, 5 and 6.

Urban Extensions	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
	✓	✓	✓	✓	✓	✓	O	O	O	O	O	O

The Phasing of Development and Implementation and Delivery

3.2.24 The phasing of development in the AAP area will help to ensure the relevant supporting infrastructure and services are in place alongside residential development. The phasing will also consider how the new settlement will evolve: from the centre outwards or other alternatives.

3.2.25 By creating a plan for the phasing of development, the AAP is likely to result in benefits in terms of population and community wellbeing, ensuring services are available and seeking to reduce the disruption of the earlier residents to the new settlement. By ensuring essential services are provided alongside the first areas of residential development will help encourage active travel and reduce reliance on private vehicles, as well as supporting the growth of the local economy from the outset.

3.2.26 Therefore, positive compatibility has therefore been identified in relation to SA Objectives 1, 2, 3, 4, 5 and 6.

Phasing & Implementation	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
	✓	✓	✓	✓	✓	✓	O	O	O	O	O	O

3.3 Topic Paper 2: Travel, Transport and Securing Modal Shift

Roads

3.3.1 The AAP will seek to re-configure M6 Junction 33 to serve Lancaster South, including Lancaster University and Galgate, as well as rural areas of Forton and Garstang. This would help capacity issues identified at the junction during peak times. This re-configuration would also help to reduce through traffic in Galgate, which already has capacity issues in the town centre. The proposed road reconfiguration could help to alleviate traffic congestion and reduce transport-related carbon emissions, as well as air and noise pollution, which is especially important due to the declaration of Galgate AQMA. Improving air quality would also have benefits to human health. However, there is some concern that increasing road capacity could lead to increased transport-associated emissions in the long-term.

3.3.2 The proposed road configurations could help to improve access to essential services and amenities in and around the AAP area and subsequently support the local economy. This would also include improved access to the university, helping to support educational growth.

3.3.3 The AAP will also seek to develop a new spine road to run through the AAP area. This will improve accessibility to local services, shops and education facilities, which could lead to the generation of benefits to the local economy and supporting educational growth.

- **Recommendation**: justification for increasing road capacity should be further explored so key issues can be identified and considered before key policy decisions are made.
- **Recommendation**: new road infrastructure should be integrated with the green infrastructure network.

3.3.4 Overall, positive compatibility would be expected in relation to SA Objectives 3, 4, and 5, and uncertain compatibility in respect to SA Objectives 2, 6 and 11.

Roads	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
	O	?	✓	✓	✓	?	O	O	O	O	?	O

Public Transport

Approach A:	The Action Plan will seek to advance proposals which promote the role of public transport in various forms, particularly focusing on the role of buses which provide direct, regular and high-quality services between South Lancaster and Lancaster City Centre. This will primarily focus on the delivery of the necessary infrastructure through new development to facilitate access to the existing bus network.
Approach B:	That the Action Plan will seek to advance proposals which promote the wider role of public transport across South Lancaster, as described in Approach A. The Plan should however also consider improvements not only through new development but also to secure wider network improvements to enhance linkages around key corridors such as the A6 and A588 into Lancaster City Centre.
Approach C:	The Action Plan should look to address the expectations of Approaches A and B but should also continue to pursue investigations of potential rail links into South Lancaster.

3.3.5 By improving public transport services, more people may choose buses as a transport approach, leading to fewer people choosing private vehicles and ultimately fewer vehicles on the roads. A shift from the use of the private car to using public transport would lead to benefits for reducing the effect of transport-related greenhouse gas emissions as well as noise, light and air pollution. Reductions in air and other forms of pollution may have beneficial impacts on biodiversity and the natural environment.

3.3.6 A reliable public transport network will reduce inequalities in access to health or social care facilities and would be expected to lead to improved connectivity between communities. Improved public transport networks would also facilitate access to the university, benefitting educational growth.

3.3.7 The AAP will seek to ensure public transport hubs are easily accessible by walking and cycling, which will encourage integrated travel to reduce private car use and encourage physical exercise.

3.3.8 Improvements in fare and ticketing, establishing a more integrated approach across public transport services, as well as more reliable, frequent and attractive services would encourage increased use of public transport across the AAP area.

3.3.9 All of the approaches in relation to public transport would be expected to result in various benefits to the local community and environment. Approach A seeks to promote the development of public transport infrastructure in the AAP area, with connections to Lancaster City Centre. Approach B could potentially lead to more benefits by connecting the AAP area to the wider Lancaster community, rather than just the city centre. Approach C would result in the same benefits as Approaches A and B but would also encourage further investigation of a rail links to the AAP area which would have further benefits in relation to access and transportation. All three approaches would be expected to result in positive compatibility in relation to SA Objectives 2, 3, 4, 5, 6, 8 and 11.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	O	✓	✓	✓	✓	✓	O	✓	O	O	✓	O
B	O	✓	✓	✓	✓	✓	O	✓	O	O	✓	O
C	O	✓	✓	✓	✓	✓	O	✓	O	O	✓	O

Cycling

Approach A:	Provision of shared ped/cycle paths in new development but not necessarily forming part of a coherent network.
Approach B:	Ensure high quality provision of cycling infrastructure as part of new development including cycle parking, low traffic neighbourhoods, segregated cycle routes and the development of a strategic cycle network that links to the existing surrounding network.
Approach C:	As for Approach B but also ensure that the surrounding network is upgraded and includes a segregated route between the BGV and the city centre.
Approach D	As for Approach C but also includes the provision of no car development within the AAP area and other measures to encourage cycling such as subsidised e-bikes.

3.3.10 Increased cycling path provision across the AAP would encourage physical exercise, benefiting human health and wellbeing. It would also encourage active travel over private car use, reducing transport-related carbon emissions, as well as air, noise and light pollution. Reductions in air and other forms of pollution may have beneficial impacts on biodiversity and the natural environment.

3.3.11 Cycling routes proposed within the AAP would be expected to improve access to services in the AAP area, but also to existing services to the south of Lancaster and in Galgate, supporting educational and economic growth.

3.3.12 Under Approach A, shared pedestrian and cycle paths would be delivered in the AAP area, and these combined routes may reduce safety of these paths over separated routes, as there may be more

incidents between pedestrians and cyclists. This approach may not lead to the development of a coherent network, and such, seamless cycling across the AAP area may not be possible and not all services may be accessible.

3.3.13 Approaches B, C and D would propose separate pedestrian and cycle paths, developing an integrated strategic active travel network. Approach B would seek to ensure an integrated network is implemented, alongside new cycling infrastructure in and around the AAP area. Under Approach C, these developments would also be proposed, as well as improving the surrounding cycling network, including cycling routes to the city centre.

3.3.14 Furthermore, Approach D would also encourage the use of e-bikes, which may further encourage the uptake of active travel over private car use, having greater benefits on the environment, however, the proposed 'no car development' may limit some resident's ability to access out of AAP area for employment opportunities and other services.

3.3.15 Overall, positive compatibility would be expected in respect to SA Objectives 2, 6, 8 and 11 for all approaches. Positive compatibility would also be expected in relation to Approaches B, C and D against SA Objectives 2 and 3, and for Approaches B and C against SA objective 5. Uncertain compatibility has been identified for Approach A against SA objectives 2, 4, and 5, and for Approach D against SA Objective 5.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	O	✓	?	?	?	✓	O	✓	O	O	✓	O
B	O	✓	✓	✓	✓	✓	O	✓	O	O	✓	O
C	O	✓	✓	✓	✓	✓	O	✓	O	O	✓	O
D	O	✓	✓	✓	?	✓	O	✓	O	O	✓	O

Walking

Approach A:	Provision of footways on the highway network ensuring safe routes between residential areas and local services but not necessarily forming part of a coherent network or walkable neighbourhood.
Approach B:	To ensure provision of walking infrastructure is prioritised within new development. Development, particularly within the BGV is based on the principle of 10-minute neighbourhoods where a mix of uses is delivered. Paths will form part of a strategic network that links to the existing surrounding network.
Approach C:	As for Approach B but also ensure that the surrounding network is upgraded and includes direct links to the Lune Estuary footpath and improved walking routes to the city centre and the University.
Approach D:	As for Approach C but also includes the provision of wider measures to discourage car use such as 'no car' development within the AAP area, and enhanced routes to the University including the provision of a footbridge across the A6.

3.3.16 Increasing provision of footways throughout the AAP area would encourage physical exercise and therefore benefit health and wellbeing. Mental wellbeing specifically is also likely to improve through an increase in social interaction. Enabling walking as a mode of transport as well as for leisure use may encourage active travel over the private car, reducing the AAP's contribution to climate change through vehicle-related emissions, as well as minimising air, noise and light pollution, which could have cumulative health benefits. Reductions in air and other forms of pollution would also have beneficial impacts on biodiversity and the natural environment.

3.3.17 Under Approach A, walking routes would be provided, but these would be limited to the existing highways and may not be the most direct or safest route. The provision of the walking routes would encourage some increase in physical exercise, and could improve access to services, however, the lack of a coherent network would mean that this approach is unlikely to lead to a significant change in transport approaches in the AAP area.

3.3.18 By prioritising walking infrastructure in new developments under Approach B, access to services will be improved, which will likely have a positive effect on health and wellbeing by improving access to health and education facilities, which could have increased benefits when compared to Approach A. Approach C would further expand walking infrastructure, and may therefore have a more positive impact on each of the Objectives than Approach B.

3.3.19 Approach D may have a more positive effect on air quality, as by creating a 'no car' development within the AAP emissions of pollutants would be prevented in that area. The provision of a footbridge over the A6 may additionally encourage a greater uptake of active travel, particularly with its proximity to the University, however, the proposed 'no car development' may limit some residents' ability to access out of AAP area for employment opportunities and other services. If public transport and active travel routes are developed effectively, particularly around key employment areas, and would support all users, it is likely that Approach D would be the most compatible and beneficial Approach.

3.3.20 Overall, the compatibility is uncertain for Approach A in relation to SA Objectives 3, 4, 5, 6, 8 and 11, as it is uncertain if positive effects would arise in relation to these objectives is a coherent pedestrian network is not developed. Positive compatibility has been identified for all four approaches in respect to SA Objective 2, and Approaches B, C and D are positively compatible with SA Objectives 3, 4, 6, 8 and 11. Uncertain compatibility has also been identified for Approach D against SA Objective 5.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	O	✓	?	?	?	?	O	?	O	O	?	O
B	O	✓	✓	✓	✓	✓	O	✓	O	O	✓	O
C	O	✓	✓	✓	✓	✓	O	✓	O	O	✓	O
D	O	✓	✓	✓	?	✓	O	✓	O	O	✓	O

Vehicle Parking

Approach A:	To use the vehicle parking standards set out in Appendix E of the adopted Development Management DPD as the baseline for standards within the Broad Location for Growth.
Approach B:	To re-investigate vehicle parking standards to look at improving opportunities for vehicle parking within the 'Broad Location for Growth' for both residential and employment development.
Approach C:	To re-investigate vehicle parking standards to look at opportunities to reduce vehicle parking within the 'Broad Location for Growth', along with other improvements to sustainable travel measures, to promote a modal shift towards alternative forms of transport to the private car, particularly for local journeys.
Approach D:	To progress with the approach set out in Approach C, but to also explore opportunities around the role of car free development with the 'Broad Location for Growth' in order to promote higher levels of modal shift.

3.3.21 Each of the Approaches would improve access to facilities and amenities and would therefore aid economic growth within the AAP area. Approaches A and B would provide car parking spaces within the AAP area to the current standards or higher, encouraging residents of the AAP area and wider to drive to access services and facilities. This would increase the likelihood of air pollution and the release of greenhouse gases from new development, resulting in worsening air quality, which can further adversely impact biodiversity and climate change. Deterioration of air quality can additionally be harmful to health. The provision of car parking spaces to the current standards within the Development Management DPD would ensure access to employment and education for those with access to a car.

3.3.22 Approach C would reduce vehicle parking while simultaneously providing alternative forms of transport. This would likely result in a reduction of private vehicles on the road network, reducing traffic and associated air pollution. Improvements in air quality would also be beneficial to health and wellbeing, biodiversity and climate change. Approach D would provide these same benefits but may have a more positive effect on air quality and health within the car free development. However, until public transport and active travel routes are well-developed, the introduction of a car-free development may impact some residents' ability to access employment opportunities and key services.

- **Recommendation**: Approach C could provide clarity around some of the other anticipated improvements to sustainable travel, incorporating electric vehicle charging points within parking infrastructure to promote modal shift.

3.3.23 Approaches A and B would be expected to be incompatible with SA Objectives 2, 6, 8 and 11. These two approaches would be compatible with SA Objectives 3, 4 and 5. Approaches C and D would be expected to be positively compatible with SA Objectives 2, 3, 4, 5, 6, 8 and 11.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	O	✗	✓	✓	✓	✗	O	✗	O	O	✗	O
B	O	✗	✓	✓	✓	✗	O	✗	O	O	✗	O
C	O	✓	✓	✓	✓	✓	O	✓	O	O	✓	O
D	O	✓	✓	✓	?	✓	O	✓	O	O	✓	O

Modal Shift

Approach A:	That no modal shift targets / ambitions are included in the Area Action Plan and, in terms of movements in the local area, primacy is given to the role of private vehicles (either combustion or EV).
Approach B:	That the Area Action Plan seeks to set minimal standards for modal shift towards more sustainable forms of travel. Investigation of these will be undertaken through the Sustainable Travel Strategy. The Plan will recognise the value of public transport, cycling, walking and other sustainable modes of travel but will reflect low ambitions in terms of moving to these modes of travel from private vehicles.
Approach C:	That the Area Action Plan seeks to investigate opportunities for more ambitious levels of modal shift through infrastructure and innovative place-making. Investigation of these will be undertaken through the Sustainable Travel Strategy. The Plan will recognise the value of public transport, cycling, walking and other sustainable modes of travel and will reflect higher ambitions in terms of moving to these modes of travel from private vehicles.

3.3.24 Each of the Approaches would provide access to the AAP area, which would further improve access to education, amenities and opportunities for employment.

3.3.25 By giving priority to private vehicles within the AAP area as in Approach A, residents and visitors would not be encouraged to take up active travel opportunities. This approach would not be expected to improve local air pollution within the AAP area, with potential adverse indirect effects in relation to health, biodiversity and climate change. However, this is unclear, as some of the vehicle growth could be through an uptake of electric vehicles.

3.3.26 Approach B would encourage the uptake of active travel, which would increase physical activity in the residents of the AAP area and improve physical and mental health. Increasing provision of public transport would reduce the number of private vehicles on the road network, which would improve air quality and limit the emission of greenhouse gases. Approach C would result in the same benefits, but due to the more ambitious targets, would likely result in a more positive effect.

3.3.27 Recommendation: Approaches B and C could include provision for electric vehicle charging points to be located throughout the AAP area to support modal shift and reduce pollution and emission levels throughout the AAP area.

3.3.28 The compatibility of Approach A against SA Objectives 2, 6, 8 and 11 is uncertain. Positive compatibility would be expected for this approach against SA Objectives 3, 4 and 5. Positive compatibility has been identified for Approaches B and C in relation to SA Objectives 2, 3, 4, 5, 6, 8 and 11.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	O	?	✓	✓	✓	?	O	?	O	O	?	O
B	O	✓	✓	✓	✓	✓	O	✓	O	O	✓	O
C	O	✓	✓	✓	✓	✓	O	✓	O	O	✓	O

3.4 Topic Paper 3: Addressing the Climate Emergency and Community Resilience

Energy Efficiency (Fabric First Approach)

Approach A:	The AAP does not set out higher energy efficiency standards. Energy efficiency standards in line with National building regulations.
Approach B:	No further energy efficiency standards are delivered above that set out in the CELPR.
Approach C:	Energy efficiency targets focus on regulated energy use. Energy use intensity targets and space heating demand limits set. Overheating risk limitation is set above that in the building regulations. Renewable energy is delivered at a rate which matches modelled energy consumption. All buildings net zero emissions for regulated energy.
Approach D:	As outlined in C but includes flexible demand and supply (electric and/or thermal energy storage).
Approach E:	Energy efficiency targets focus on operational energy use (regulated and unregulated energy). Energy use intensity targets and space heating demand limits set. Overheating risk limitation is set above that in the building regulations. Renewable energy is delivered at a rate which matches modelled energy consumption. All buildings net zero emissions for regulated energy. Includes flexible demand and supply (electric and/or thermal energy storage).

3.4.1 As Approach A seeks to remain in line with National building regulations, the compatibility for SA Objectives 2, 6, 8 and 11 is likely to be positive, although the significance as to how this will be achieved is unknown at this stage. The Future Homes Standard sets out plans to radically improve the energy performance of new homes, with all homes to be highly energy efficient, with low carbon heating and be zero carbon ready by 2025. The Future Homes Standard consultation proposed new energy efficiency measures through changes to Part L of the Building Regs (which took effect in June 2022) and covered the wider impacts of these changes for new homes, including changes to Part F, O and S[10].

3.4.2 The energy efficiency standards as set out in the adopted Local Plan require measures to reduce energy consumption, seek opportunities for alternative energy supplies and community-led energy opportunities, and the reuse of existing resources. As Approach B would not seek to promote energy efficiency standards above that proposed in the adopted Local Plan, the compatibility for SA Objectives 2, 6, 8 and 11 is uncertain, as the plan was developed before the declaration of the climate emergency and therefore may not achieve high energy savings to the level required to achieve net zero in all new dwellings by 2028.

3.4.3 Approach C would seek to propose higher energy efficiency targets, including space heating demand limits, renewable and overheating risk limitation. These methods would reduce energy use and, as such, reduce greenhouse gas emissions in the AAP area. Approach D would include the same benefits as Approach C, but proposes a flexible demand and supply energy system, which would be expected to lead to more positive effects in relation to climate change resilience than Approach C due to the capacity of the network to meet demand through thermal and electric storage.

[10] https://www.futurehomes.org.uk/future-homes-standard

3.4.4 Approach E would be likely to result in a combination of the benefits of Approach A, taking requirements beyond buildings regulations, as well as the benefits of Approach D. This could lead to significant positive effects, should this approach be carried forward.

3.4.5 Overall, positive compatibility would be expected with SA Objectives 2, 6, 8 and 11 with respect to Approaches A, C, D and E.

- **Recommendation**: the approaches or policy make it clear that this approach refers to the development of dwellings only.
- **Recommendation**: renewable energy creation need not only match modelled energy consumption, and that the AAP area could become a net exporter of renewable energy back to the grid, which would help other areas with their supply of energy from renewable sources.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	O	✓	O	O	O	✓	O	✓	O	O	✓	O
B	O	?	O	O	O	?	O	?	O	O	?	O
C	O	✓	O	O	O	✓	O	✓	O	O	✓	O
D	O	✓	O	O	O	✓	O	✓	O	O	✓	O
E	O	✓	O	O	O	✓	O	✓	O	O	✓	O

Design of Buildings

Approach A:	Within the Area Action Plan area, there would be no further climate focused design explored beyond that in the local plan.
Approach B:	The Action Plan sets out broad design policies and indicative direction for climate focused development. These will be centred on general sustainable and good design principles and themes which have general climate outcomes.
Approach C:	The Action Plan looks to ensure that development in the context of South Lancaster, particularly that in the Bailrigg Garden Village, should deliver residential and non-residential development which represents best practice for climate focused design and concretely delivers design which improve climate outcomes. This would support applicants in bringing forward proposals which help achieve national and local policy requirements from carbon and energy balance to biodiversity net gain as well as delivering climate adapted buildings for communities today and future generations.

3.4.6 Under Approach C, best practice climate-focused design would be promoted through the AAP which seeks to further progress the AAP area's ability to be resilient to climate change, and subsequently have positive effects in relation to air quality, with indirect benefits to human health and biodiversity. Approach C may therefore be compatible with SA Objectives 2, 6, 8 and 11.

3.4.7 Approach B could also be likely to have a positive compatibility against SA Objectives 2, 6, 8 and 11, but to a lesser degree compared to Approach C, as policies would be more general, and unlikely to require 'best practice' and the need to improve climate outcomes.

3.4.8 As Approach A would not seek to promote further climate or carbon reducing design principles as part of the AAP, beyond that in the Local Plan, which was adopted prior to the declaration of the climate emergency, the compatibility for SA Objectives 2, 6, 8 and 11 is uncertain.

- **Recommendation:** that it is made clear that this section refers to the refurbishment of existing buildings.
- **Recommendation:** the text accompanying this section explains further in relation to what measures will be taken to ensure that the refurbishment of existing buildings reflects the need to be resilient to climate change and minimise contributions to greenhouse gas emissions. This might include the removal of planning requirements for certain types of improvements, or the availability of funding for renewable energy generating infrastructure or EV charging points.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	O	?	O	O	O	?	O	?	O	O	?	O
B	O	✓	O	O	O	✓	O	✓	O	O	✓	O
C	O	✓	O	O	O	✓	O	✓	O	O	✓	O

Carbon Offsetting

Approach A:	Carbon offsetting will not be included in meeting net zero as part of the Area Action Plan.
Approach B:	Offsetting will be included in meeting net zero but will be delivered wholly within the 'Broad Location for Growth' though renewable energy projects and landscape sequestration solutions.
Approach C:	Offsetting will be included in meeting net zero and is achieved through Area Action Plan area renewable energy projects, landscape sequestration solutions and contributions to an acceptable local carbon offsetting fund.

3.4.9 By not including carbon offsetting as part of the proposed policy, as in Approach A, the AAP area would not provide opportunities for carbon sequestration. This may be preferable, as the approach may encourage the achievement of net zero targets as part of development including net zero buildings, grid decarbonisation and local renewable energy projects. However, the extent to which this is achievable is not yet known, particularly as the AAP area will have a large spine road constructed within it. It is therefore uncertain as to how Approach A would affect Objective 6. It is also possible that by not including carbon offsetting, it may take longer to achieve net zero than by including requirements for offsetting within the policy. It is likely that some offsetting will be required, if this is to include the overall carbon emissions from the development, including roads and traffic, not just from the built development itself. Reducing carbon emissions can have positive effects on natural resources, as fossil fuels would no longer be required, and on biodiversity and flood risk, where a reduction in carbon dioxide emissions could reduce local effects associated with climate change. The extent of these effects is currently unknown, and uncertain compatibility is predicted with respect to SA Objectives 2, 6, 7, 8, 11 and 12.

3.4.10 Landscape sequestration solutions, as incorporated within Approach B, would go some way to reduce emissions of carbon dioxide within the AAP area, resulting in a reduced contribution to climate change. By combining landscaping and sequestration, areas within the AAP can become multifunctional, providing opportunities for biodiversity alongside enhancing the local landscape and increasing resilience to the effects of climate change. Renewable energy projects could similarly reduce reliance

on natural resources. Landscaping can provide additional benefits including improvements to air quality, as the vegetation may act as a buffer to pollution and can have further secondary benefits to human health and wellbeing. Similarly, to Approach A, it is unclear to what extent this is feasible, particularly if the calculations for offsetting include the whole development, including that from the new road and associated traffic.

3.4.11 Approach C would result in a similar effect as Approach B but to a greater extent, as the offsetting will be focused to within the AAP area. The inclusion of donations to a local carbon offsetting fund would similarly provide opportunities for bespoke offsetting solutions, including targeted landscaping and additional sequestration measures.

- **Recommendation:** the calculations for offsetting of carbon emissions take into account the entirety of the development proposed, include the new road and associated traffic. Following that, the feasibility of offsetting within the AAP area be explored, with the maximum available offsetting be done within the local area. Following that, any residual requirements could be done through an offsetting fund, if all emissions aren't able to be offset within the AAP plan area.

3.4.12 Overall, positive compatibility would be expected for Approaches B and C in relation to SA Objectives 2, 6, 7, 8, 9, 11 and 12.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	O	?	O	O	O	?	?	?	O	O	?	?
B	O	✓	O	O	O	✓	✓	✓	✓	O	✓	✓
C	O	✓	O	O	O	✓	✓	✓	✓	O	✓	✓

Embodied Carbon

Approach A:	Within the Area Action Plan, embodied carbon will not be includedas a metric for net zero.
Approach B:	Within the Area Action Plan, embodied carbon targets will be suggested and encouraged. Full lifecycle carbon assessments will be required at application stage with indications of how proposals have sought to reduce emissions. Ambitious proposals can opt into offsetting their embodied emissions in meeting net zero and is achieved though AAP area renewable energy projects, landscape solutions and contributions to an acceptable local carbon offsetting fund.
Approach C:	Within the Area Action Plan, design codes which support reduction in embodied carbon targets will be brought forward. Full lifecycle carbon assessments will be required at application stage with indications of how proposals have sought to reduce emissions. Embodied carbon targets will be suggested and encouraged. Ambitious proposals can opt into offsetting their embodied emissions in meeting net zero and is achieved though AAP area renewable energy projects, landscape solutions and contributions to an acceptable local carbon offsetting fund.
Approach D:	Within the Area Action Plan, design codes which support reduction in embodied carbon targets will be suggested and encouraged. Full lifecycle carbon assessments will be required at

	application stage with indications of how proposals have sought to reduce emissions. The requirement for offsetting will also be included. Ambitious proposals can opt into offsetting their embodied emissions in meeting net zero and is achieved though AAP area renewable energy projects, landscape solutions and contributions to an acceptable local carbon offsetting fund.

3.4.13 By not including embodied carbon as a metric for net zero as in Approach A, the AAP could encourage the extraction of carbon-intensive raw material and the use of inefficient construction techniques. This could result in additional emissions from embodied carbon within the AAP area. This may result in development not reaching net zero within the chosen timescales. Negative compatibility is therefore predicted with respect to SA Objectives 6 and 7.

3.4.14 While Approach B would encourage embodied carbon targets, these would remain optional and may still result in the extraction of raw materials. The introduction of lifecycle assessments would encourage design for deconstruction, creating opportunities for recycling raw materials and reducing reliance on raw materials, although the benefits of this may not be realised within the AAP timescales. Development within the AAP that reduce emissions would likely be better insulated than similar stock within the wider area, and therefore may have positive effects on housing and natural resources.

3.4.15 The introduction of design codes that encourage reducing embodied carbon in Approach C would ensure that any new development maximises opportunities for reducing reliance on raw materials and indirect emissions of carbon. The design code could provide a clearer understanding of the level of detail expected to ensure the creation of distinctive, resilient buildings and neighbourhoods. The effects of Approach C would likely be similar to those of Approach B. Positive compatibility is therefore predicted for SA Objectives 1, 6 and 7 for each of Approaches B and C.

3.4.16 Approach D would support the creation of design codes and enable carbon reduction from the conception of the masterplan. By introducing lifecycle assessments, the opportunities for recycling and reuse at the end of the life cycle of the development would be maximised. Requirements for offsetting would reduce the AAP's contribution to climate change by encouraging sequestration through renewable energy projects, landscaping solutions and contributions to a local offsetting fund, ensuring projects remain local to the AAP area and benefit the local community. Approach D would therefore also have positive effects on landscaping and biodiversity. Positive compatibility is predicted for SA Objectives 1, 6, 7, 8 and 9.

3.4.17 The option to offset embodied carbon emissions under Approaches B, C and D would lead to further benefits in relation to SA Objective 6, however, as this is an additional option, it is uncertain how many schemes would take this forward.

- **Recommendation:** the design codes could include provision for reducing emitted carbon during the operational phase of the development.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	O	O	O	O	O	✗	✗	O	O	O	O	O
B	✓	O	O	O	O	✓	✓	O	O	O	O	O
C	✓	O	O	O	O	✓	✓	O	O	O	O	O
D	✓	O	O	O	O	✓	✓	✓	✓	O	O	O

Commercial Development and BREAAM

Approach A:	Within the Area Action Plan area there will be no additional requirements for non-residential development beyond the most up to date building regulations.
Approach B:	Within the Area Action Plan area there will be no additional requirements for non-residential development in terms of meeting net zero outside Local Planning policy of BREEAM Excellent for some non-residential use classes.
Approach C:	Within the Area Action Plan area, non-residential development will be expected to meet BREEAM Excellent and additional measures for delivering net zero carbon buildings.
Approach D:	Within the Area Action Plan area, non-residential development will be expected to meet key performance indicators for sustainable buildings per typology (such as that set out in the LETI Climate Emergency Design Guide).

3.4.18 Under Approach A, positive effects may be achieved, as the building regulations for non-residential buildings were updated in June 2022. However, the significance of this effect is unclear.

3.4.19 Under Approach B, commercial development would be required to meet BREAAM excellent standards. The standards reflect on energy use, biodiversity, water usage, pollution, health and wellbeing, materials and waste, transport and ongoing management. BREEAM excellent would require an overall score of >70%. Development within the AAP area would therefore have to have a positive effect in each of these categories. It is expected that, in combination with statutory building regulations requirements, that this approach would achieve more significant benefits than Approach A alone.

3.4.20 Approach C would require development within the AAP area to meet net zero targets, perhaps requiring additional optional BREEAM credits. This would further minimise the AAP area's contribution to climate change. Approach C would likely have the same positive effects as Approach B due to requiring the same BREEAM excellent targets.

3.4.21 The effects of Approach D are unclear, as it is uncertain what the key performance indicators would include, and which typologies would be measured. As such, the compatibility for this approach is uncertain in relation to SA Objectives 2, 4, 6, 7, 8 and 11.

3.4.22 Positive compatibility would be expected in relation to SA Objectives 2, 4, 6, 7, 8 and 11 for Approaches A, B and C.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	O	✓	O	✓	O	✓	✓	✓	O	O	✓	O
B	O	✓	O	✓	O	✓	✓	✓	O	O	✓	O
C	O	✓	O	✓	O	✓	✓	✓	O	O	✓	O
D	O	?	O	?	O	?	?	?	O	O	?	O

Water Resilience

Approach A:	Within the Area Action Plan area there will be no additional requirements for water resilience outside that in the local plan.
Approach B:	Within the Area Action Plan area, opportunities for local water resilience within the 'Broad Location for Growth' be included in both policy and design coding.

3.4.23 By not requiring any additional measures for water resilience, the Approach A would not improve water resilience within the AAP area. The area would therefore not be protected from future water scarcity or improve flood resilience. Negative compatibility is predicted for SA Objectives 7 and 12.

3.4.24 Approach B would require small-scale water retention measures, including water butts and landscape irrigation. This would help to conserve water for times of high water stress, and by introducing multipurpose landscaping, could mitigate potential flood events. The landscaping for cooling would similarly have a positive effect on climate change by minimising heat events and could improve the visual amenity of the area. This would additionally have a positive effect on health and wellbeing by minimising stress and improving quality of life. Positive compatibility is expected for SA Objectives 7, 9 and 12.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	O	O	O	O	O	O	✗	O	O	O	O	✗
B	O	O	O	O	O	O	✓	O	✓	O	O	✓

Construction Practices

Approach A:	Within the Area Action Plan area, no additional requirements will be sought beyond those set out in Policy DM30c in the Climate Emergency Local Plan Review.
Approach B:	Development in the Area Action Plan area will deliver higher levels of sustainable construction, beyond those in the Climate Emergency Local Plan Review, being conscious of conservation of resources, and climate adaptation and mitigation.

3.4.25 Approach A, by relying on the actions set out within Policy DM30c, would require developers to produce a full lifecycle assessment, including lifecycle emissions, provide space for biodiversity, aid resilience to climate change and evidence this through a sustainable design statement. Approach A would therefore have a positive effect on biodiversity and improve the resilience to climate change. The introduction of vegetation through green walls/roofs may also improve local air quality, as it would act as a buffer to absorb pollutants. Approach A, by aligning with Policy DM30c would similarly require the use of local suppliers and materials where possible, which would support local businesses and provide employment within the wider area. By designing for demolition and ensuring materials are reused and recycled where possible, the Policy would have a positive effect on natural resources.

3.4.26 Approach B would have similar effects, but to a greater degree by strengthening these measures and creating higher standards. Overall, positive compatibility would be expected in relation to SA Objectives 5, 6, 7, 8 and 11.for both Approaches A and B.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	O	O	O	O	✓	✓	✓	✓	O	O	✓	O
B	O	O	O	O	✓	✓	✓	✓	O	O	✓	O

Fossil Fuel Free Development

Approach A:	Within the Area Action Plan area, fossil fuel usage associated with stationary energy will be phased out in line with national timelines.
Approach B:	Within the Area Action Plan area, the expansion of fossil fuel powered stationary energy will not be supported.

3.4.27 By phasing out gas grid connections in line with national standards, the AAP area would continue to contribute to the area's emissions, and therefore have a negative effect on climate change and natural resources by supporting the use of fossil fuels. There may also be future retrofitting costs for homeowners, and the burning of natural gas can contribute to poor air quality. Negative compatibility is therefore predicted for SA Objectives 1, 5, 6, 7, and 11.

3.4.28 Approach B would not support the expansion of fossil fuel energy within the AAP, which would result in a reduction of onsite emissions and reduce the extraction of natural resources. Overall, positive compatibility is expected for SA Objectives 1, 5, 6, 7, and 11.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	✗	O	O	O	✗	✗	✗	O	O	O	✗	O
B	✓	O	O	O	✓	✓	✓	O	O	O	✓	O

Local Area Energy Approach

Approach A:	Across the Area Action Plan area, there will be no overall co-ordinated approach for energy infrastructure and energy planning.
Approach B:	Across the Area Action Plan area, energy infrastructure is planned for in light of expected energy demand and focused on delivery of a modern and flexible energy grid compatible with renewable energy generation and storage.

3.4.29 Approach A would not require a coordinated approach to energy infrastructure, which could result in energy inefficiencies and a piecemeal approach to development, which could negatively affect quality of life and climate change, where some developments within the AAP are still reliant on fossil fuels. However, the extent of this is not known at this stage. Uncertain compatibility is therefore predicted for SA Objectives 2 and 6.

3.4.30 Under Approach B, the AAP area would coordinate energy infrastructure and focus on providing a flexible energy grid that can meet demand, with capacity for renewable generation and EV charging infrastructure. This would minimise reliance on fossil fuels and natural resources and reduce the AAP area's contribution to climate change. Overall, a positive compatibility is predicted for Objectives 4, 6 and 7.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	O	?	O	O	O	?	O	O	O	O	O	O
B	O	O	O	✓	O	✓	✓	O	O	O	O	O

Heat Networks

Approach A:	Heat network deployment in the 'Broad Location for Growth' relies on developers bringing proposals forward. Heat network delivery within the Area Action Plan area will not be coordinated or planned for at even high levels.
Approach B:	The Area Action Plan will include exploring the feasibility of heat network delivery in the 'Broad Location for Growth' and high-level planning will be outlined in line with the LAEP.
Approach C:	The Area Action Plan will include exploring the feasibility of heat network delivery in the 'Broad Location for Growth' and high-level planning will be outlined along with the LAEP in addition to typology mix of development and parcels optimised for heat network delivery.

3.4.31 Approach A would rely on developers bringing in their own proposals for heat networks, which could result in piecemeal applications and an overall reliance on gas-powered heating. It is therefore uncertain how this would affect the climate change and natural resource objectives.

3.4.32 Approach B would incorporate high-level planning of heat networks and would ensure that any development opting to use heat networks would be in line with the LAEP. This could also result in the AAP area not having a cohesive strategy to heating, although some areas of the AAP may minimise their fossil fuel use. The compatibility of Approaches A and B against Objectives 6 and 7 is expected to be positive.

3.4.33 Approach C would select areas of the AAP area that are most appropriate for heat networks and optimise the delivery. This would support housing development by integrating heat networks early within the delivery and ensure that development of domestic and commercial properties are using appropriate technologies. Positive compatibility is expected for Approach C against Objectives 1, 6 and 7.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	O	O	O	O	O	?	?	O	O	O	O	O
B	O	O	O	O	O	?	?	O	O	O	O	O
C	✓	O	O	O	O	✓	✓	O	O	O	O	O

Harnessing Community Energy

Approach A:	Within the Area Action Plan, support for community energy will remain at the level set out in the Climate Emergency Local Plan Review DM53.
Approach B:	Within the Area Action Plan, options will be explored for land allocations for appropriate community energy projects across the 'Broad Location for Growth'.
Approach C:	The Area Action Plan will set specific targets for local investment and/or provision of contributions to a local community benefit fund for all renewable energy schemes across the 'Broad Location for Growth'.
Approach D:	Both Approaches B and C will be included in the Area Action Plan.

3.4.34 Policy DM53: Renewable and Low Carbon Energy Generation of the Climate Emergency Local Plan Review seeks to maximise renewable and low carbon energy generated in Lancaster. This will have positive effects in relation to reducing greenhouse gas emissions produced through the use of fossil fuels, and will subsequently improve local air quality, with benefits to human health and local biodiversity assets. Policy DM53 requires any renewable or low carbon energy developments to protect the landscape character, biodiversity, water quality, flood risk and historic assets of the local area. By retaining Policy DM53, Approach A would be expected to have positively compatibility in relation to SA Objectives 6, 8, 9, 10, 11 and 12. This approach would not facilitate community energy coordination.

3.4.35 Approach B would have similar effects as Approach A, but the assessment of sites for energy projects would ensure that suitable land for housing is not disrupted by energy projects. The selection of land for energy would be based on key objectives, and minimise impacts on flood risk, the historic environment and biodiversity. By exploring parcels of land, the implementation of community energy would be well coordinated, and result in the maximum benefits for each site. Positive compatibility is expected against SA Objectives 1, 6, 8, 9, 10, 11 and 12.

3.4.36 Approach C would support the development of community energy schemes by securing the funding required for each project. The projects would be more likely to succeed and would therefore provide the energy required to minimise the use of fossil fuels and reduce pressure on natural resources. It is expected that Approach C would result in positive compatibility against Objectives 6, 7, 8, 9, 10, 11 and 12.

3.4.37 Approach D would secure funding for energy projects and select the most appropriate sites for the schemes. This Approach would therefore result in each of the positive effects as described within Approaches B and C. Positive compatibility is therefore expected in relation to SA Objectives 1, 6, 7, 8, 9, 10, 11 and 12.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	O	O	O	O	O	✓	O	✓	✓	✓	✓	✓
B	✓	O	O	O	O	✓	O	✓	✓	✓	✓	✓
C	O	O	O	O	O	✓	✓	✓	✓	✓	✓	✓
D	✓	O	O	O	O	✓	✓	✓	✓	✓	✓	✓

Local Food Production

Approach A:	The Area Action Plan should look to investigate micro-opportunity for local food production within the 'Broad Location for Growth', including considering how food production can be established through positive design and layout of buildings and through the provision of adequate garden plots.
Approach B:	The Area Action Plan will focus on investigating larger scale food growing enterprises, consider the role of allotments and community gardens to increase the scale of opportunity and provide wider social benefits within the new community.
Approach C:	The Action Plan looks to focus on both micro and larger opportunities for local food production across the 'Broad Location for Growth' which seeks to provide wider sustainability benefits and provide the opportunity to foster new social linkages with the community.

3.4.38 Local food production provides an opportunity for communities to work together to produce food sustainably and improve food security. Local food production would improve the health of the local residents by providing access to natural and healthy food approaches. This opportunity would enhance the relationship between local agriculture and the landscape character. In addition, food growing can provide opportunities to integrate education and employment skills to local residents.

3.4.39 Under Approach A, the AAP will investigate 'micro-opportunities' for local food production. This option will lead to some of the benefits as listed above, but only on a small-scale. Approach B would seek to deliver larger scale local food production opportunities, including allotments and community gardens. As such Approach B would be expected to lead to greater community benefits than Approach A. Approach C would seek for the AAP to deliver micro and larger food production opportunities, leading to a wide range of benefits at a range of scales.

3.4.40 Overall, positive compatibility would be expected for all three approaches in relation to SA Objectives 2, 3, 5, 6 and 7.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	O	✓	✓	O	✓	✓	✓	O	O	O	O	O
B	O	✓	✓	O	✓	✓	✓	O	O	O	O	O
C	O	✓	✓	O	✓	✓	✓	O	O	O	O	O

Local Community Wealth Building

3.4.41 Opportunities for community wealth building will be explored in the AAP. This would be expected to support local economic resilience and reduce the knock-on effects of major economic turmoil, as seen through the COVID-19 pandemic. Opportunities will seek to enhance local employment and educational skills, support the district's Green Economy and seek to increase climate change resilience of the local economy. By creating a resilient and inclusive local economy, the AAP would be expected to have benefits to community cohesion and economic growth. As such, positive compatibility would be expected in relation to SA Objectives 2, 3, 5 and 6.

Local Community Wealth	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
	O	✓	✓	O	✓	✓	O	O	O	O	O	O

3.5 Topic Paper 4: Securing Green & Blue Infrastructure and Biodiversity Net Gain

3.5.1 South Lancaster is prone to significant flooding events, and it is therefore essential that the Strategy seeks to address blue infrastructure as well as green infrastructure in order to minimise the risk of flooding. However, given the importance of water management within the AAP, specific policy approaches in relation to Water Management will be explored in more detail through Topic Paper 5. Similarly, given the significance of transport issues within the South Lancaster area, Active Travel approaches will be covered in further detail within Topic Paper 2, and recreational and accessible green spaces have also been discussed in more detail within Topic Paper 6. Issues relating to each of these key themes will not be explored further through this paper.

The Historic Environment

3.5.2 The consideration of the historic environment within the AAP, including the Lancaster Canal and the potentially significant archaeological sites, would aim to ensure that the heritage assets are protected for future generations. The investigation of these assets as the plan progresses would identify areas that require protection or preservation, which should be specified within the AAP. The protection of heritage assets and the historic environment may also preserve the setting of these assets by safeguarding the surrounding landscape character.

3.5.3 The consideration of the historic environment and its assets within the wider GBI Strategy could provide synergistic benefits for the historic environment and education. Assets such as the Lancaster Canal and its listed bridges could form an integral part of the network, creating opportunities for educational elements along the routes. As part of the GBI network, the conservation of these features would also likely create benefits for health and wellbeing (through active travel networks and the resulting physical and mental benefits of exercise as well as cleaner air and increased tranquillity); biodiversity (through increased habitat and habitat connectivity); and mitigating the effects of climate change (through SUDs and the urban cooling effects of vegetation). The routes for active travel could also reduce the potential contributions to climate change, through encouraging a modal shift to walking and cycling, creating further cumulative benefits.

3.5.4 As a result, positive compatibility would be expected in relation to SA Objectives 9 and 10.

Historic Environment	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
	O	O	O	O	O	O	O	O	✓	✓	O	O

Landscape

3.5.5 The Bailrigg Garden Village Masterplan (2019-2022) was developed from earlier optioneering work, undertaken in 2018. It has been designed around eight landscape-led principles, which sought to build on the existing settlements whilst creating a distinctive local feel. The design principles set out within the masterplan provide a strong foundation for development, by highlighting the importance of green and blue infrastructure and emphasising the need to respond sensitively to existing dwellings. Although developed for the masterplan area, the topic paper highlights the need for these principles to be applied across the AAP area. This would be beneficial to local community health and wellbeing, by maintaining boundaries between settlements to strengthen communities and by providing new and improved green infrastructure, which can have positive impacts on mental and physical wellbeing.

3.5.6 The focus on connecting existing woodland in the 'Green Halo', and providing a more varied landscape, would be beneficial for biodiversity and could have additional positive flood mitigation and air quality effects. This may additionally improve resilience to climate change. By securing access to public footpaths and promoting east-west travel connections as recommended by the Landscape Sensitivity Assessment, the proposals within the AAP would seek to provide new opportunities for active travel and positively contribute to the health and wellbeing of residents. Similarly, the inclusion of a broad landscape buffer between the new settlement and the M6 would reduce the risk of poor air quality around residential developments by the vegetation filtering pollutants, thus resulting in positive effects for air quality.

3.5.7 By respecting the existing settlement edges, protecting views and increasing the proportion of green infrastructure, the AAP would deliver new development that respects the existing communities surrounding the AAP area, and would enhance and expand existing green and blue infrastructure assets, resulting in positive effects for biodiversity, air quality and health and wellbeing.

3.5.8 Positive compatibility would therefore be expected in relation to SA Objectives 2, 6, 7, 8, 9, 10, 11 and 12.

Landscape	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
	O	✓	O	O	O	✓	✓	✓	✓	✓	✓	✓

Areas of Separation

3.5.9 Principle 6 of Policy SG1 of the Lancaster Local Plan ensures that the AAP seeks to creates new high-quality open spaces and green corridors to facilitate new walking and cycling routes, which would result in positive effects for transport. The creation of these routes would provide opportunities for active travel which is beneficial to health and wellbeing by encouraging physical exercise over private car use. The policy states that the delivery of these spaces and routes should maintain distinctive separation between Lancaster, Bailrigg and Galgate, which would derive positive effects for landscape by reducing urban sprawl and preserving settlement boundaries, whilst reducing the loss of open space.

3.5.10 The areas of separation, where they reduce built infrastructure, can be beneficial for air quality and flood risk by absorbing pollutants and intercepting rainwater to minimise surface water flooding. With climate change likely to increase the prevalence of flooding, the buffer zones may also provide some

resilience to the effects of climate change. The scale of separation, as to be decided within the AAP, would determine how positive the contribution would be. Therefore, positive compatibility has been identified in relation to SA Objectives 2, 4, 6, 9, 11 and 12.

Areas of Separation	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
	O	✓	O	✓	O	✓	O	O	✓	O	✓	✓

Green Halo

Approach A:	To not explore the concept of a 'Green Halo' and subsequently provide no direction on where a Green Halo could be located within the AAP.
Approach B:	Identify a Green Halo which focuses upon the landscape value that can be provided (as its one of the landscape-led principles set out within the Masterplan).
Approach C:	Identify a Green Halo which is multifunctional and provides an array of benefits (i.e. not just landscape).

3.5.11 The creation of a Green Halo would connect areas of woodland and provide ecosystem connectivity, which would generate positive effects for biodiversity. The introduction of new vegetation and forestry would enhance existing carbon sinks and could offset some of South Lancaster's contribution towards the causes of climate change.

3.5.12 Each of the approaches would minimise development impact on the landscape by ensuring boundaries between settlements are respected and a degree of separation is maintained. The Green Halo would go some way to protecting greenfield sites and protect settlements from the impacts of surrounding light, air and noise pollution, resulting in positive effects for air quality, and may reduce stress in the communities, creating positive effects for health and wellbeing.

3.5.13 Approach A would not further the concept of a Green Halo, and therefore does not guarantee any of the benefits. This approach would potentially provide flexibility over the location of new green infrastructure and connectivity. However, there is a risk that under Approach A that adequate and appropriate opportunities will not be developed, and without provision in the AAP to create a Green Halo, the benefits it may provide would likely be lost.

3.5.14 Approach B would focus primarily on the landscape benefits, with potential additional unintentional benefits for biodiversity and flood risk.

3.5.15 By identifying a Green Halo that is multifunctional, the eventual design of Approach C could provide multiple benefits. This approach would be more likely to guarantee benefits to biodiversity, air quality, flood risk and health and wellbeing, as the breadth of the Halo can be designed to suit the needs to the community.

3.5.16 As a result, positive compatibility would be expected for Approach C in relation to SA Objectives 2, 6, 8, 9, 11 and 12. For Approach B, positive compatibility was identified in relation to SA Objective 9, but uncertain in respect to SA Objectives 2, 6, 8, 11 and 12. Approach A would be expected to have neutral compatibility against all SA Objectives.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	O	O	O	O	O	O	O	O	O	O	O	O
B	O	?	O	O	O	?	O	?	✓	O	?	?
C	O	✓	O	O	O	✓	O	✓	✓	O	✓	✓

Identification of Areas of Local Landscape Value

Approach A:	Using the already established USL and KUL definitions identify whether areas located within the broad location boundary should be designated.
Approach B:	In addition to assessing whether USL or KUL areas should be identified investigate the need for an additional local landscape designation for the broad location. This would allow areas which do not meet the KUL or USL definition above to be identified and protected. In considering this approach the Council would be keen to understand what this local designation might be and what areas of the broad location should be designated.
Approach C:	Do not identify any local landscape designations and instead rely on a criteria-based approach to control development within potentially sensitive landscape locations. In exploring approach 3 the Council would be keen to understand what criteria should be included to protect these areas within policy.

3.5.17 Key Urban Landscape (KULs) and Urban Setting Landscape (USLs) would provide protection to townscapes and landscapes. They would preserve existing heritage assets and their settings and USLs would aid in the protection of open spaces. They would therefore also preserve the existing landscape and townscape by limiting development or ensuring development conforms to the existing form of the settlement. By preserving open spaces and landscape, there may additionally be positive effects for health and wellbeing from each of the approaches, as the open spaces would provide opportunities for recreation.

3.5.18 Approach A would identify any areas within the boundary that meet the existing criteria. This would enable the protection of high-quality urban landscapes and settings but would limit the number of locations that would be eligible.

3.5.19 Approach B could expand the criteria for the protection of landscapes and settings and generate other types of landscape categorisation. This has the potential to protect more locations but could limit further development within the newly designated land. The creation and protection of new landscape classifications would provide an opportunity to provide a more bespoke protection to the local landscape.

3.5.20 Approach C may not be as strong in its approach to protection as Approaches A and B but would likely still result in the protection of some heritage assets on a case-by-case basis. However, without a set of spatially specific criteria, it is possible that a piecemeal approach to development will be introduced, resulting in a reduction in landscape value over time. With the Council to decide on the criteria for designations, the Approach could be beneficial to any of the Objectives.

3.5.21 Positive compatibility has been identified in relation to SA Objectives 2, 9 and 10 for Approaches A and B. For Approach C, these SA Objectives have been identified as having an uncertain compatibility.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	O	✓	O	O	O	O	O	O	✓	✓	O	O
B	O	✓	O	O	O	O	O	O	✓	✓	O	O
C	O	?	O	O	O	O	O	O	?	?	O	O

Protection of Existing Habitat Areas

Approach A:	Identify and designate key wildlife habitats for protection within the AAP establish.
Approach B:	Do not identify any habitat designations and instead rely on a criteria-based approach to control development within potentially sensitive locations.

3.5.22 Approach A would seek to designate some parcels of land within the AAP area, which would strengthen ecological connectivity and could lead to the improvement of some low-value ecological land. The protection of habitats within the AAP provides opportunity for recreation and leisure, while the protected areas can also improve poor air quality around residential developments, as the vegetation would filter pollutants, although the degree to which this is achieved will depend on the species of plants and trees used. The protection of habitat areas within the AAP may also provide additional benefit to climate change resilience and go some way to provide additional flood risk mitigation.

3.5.23 It is likely that Approach B would not provide the same protection to as many potential habitat areas. The criteria-based approach may be less spatially based and holistic, and therefore may not provide as many potential benefits andnot provide as much certainty to developers.However, it is suggested that a blend of the two approaches may bring the maximum benefit.

3.5.24 For Approach A, positive compatibility would be expected in relation to SA Objectives 2, 6, 8, 9, 11 and 12. For Approach B, and uncertain compatibility would be expected in relation to these SA Objectives.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	O	✓	O	O	O	✓	O	✓	✓	O	✓	✓
B	O	?	O	O	O	?	O	?	?	O	?	?

Biodiversity Net Gain

Approach A:	Rely on the mandatory 10% BNG target.
Approach B:	Adopt a higher percentage BNG target for the AAP area.

3.5.25 The mandatory 10% biodiversity net gain (BNG) target would improve biodiversity across the Plan area and increase habitat and ecosystem connectivity. Improvements in biodiversity have also been linked to reduced risk of flooding, improved resilience to climate change and benefits to local air quality.

3.5.26 The provision of 10% BNG as Approach A within the AAP would provide additional opportunity for recreation and leisure, while the protected areas can also improve poor air quality around residential developments, as the vegetation would filter pollutants. The protection of habitat areas within the AAP may also increase resilience to climate change and provide additional flood risk mitigation.

3.5.27 Approach B, the adoption of a higher percentage of BNG, would provide all of the same benefits as Approach A, but to a greater extent. However, the requirement for more BNG could limit opportunities for development and investment, as less area could be available for built development. Opportunities, however, for enabling both to be achieved through, for example, the use of green roofs and walls, could be explored.

3.5.28 Overall, both approaches would be expected to be positively compatible in relation to SA Objectives 2, 6, 8, 9, 11 and 12.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	O	✓	O	O	O	✓	O	✓	✓	O	✓	✓
B	O	✓	O	O	O	✓	O	✓	✓	O	✓	✓

Biodiversity Net Gain Delivery

Approach A:	Provide no direction on how and where BNG should be delivered and allow individual proposals to determine how they would like to deliver BNG.
Approach B:	Establish in policy a requirement for BNG to be delivered on site within the individual development parcels with alternative off-site approaches only considered where this has been shown not to be possible.
Approach C:	Using the evidence base identify areas for enhancement to establish a habitat bank for the South Lancaster area. This would allow landowners to make improvements to their land in line with the recommendations of the evidence base and then sell the BNG credits created back to developers in exchange for payment.
Approach D:	Using the evidence base the AAP actively seeks to identify and designate habitat areas within the AAP area for enhancement through net-gain delivery. This would make it clear where off-site delivery within the AAP area should be targeted.
Approach E:	Off-site delivery is not restricted to just the AAP area with provision possible on land outside of the AAP boundary.

3.5.29 The delivery process of BNG will be crucial to the effectiveness of the AAP. The provision of onsite BNG would bring the most benefits to local people, particularly those who live within the AAP area. Improvements in biodiversity and the provision of BNG can further increase resilience to climate change and a reduction in risk of flooding. Improving biodiversity is connected to improvements in health and wellbeing, by creating new opportunities for recreation, which has positive effects for mental and physical wellbeing. Each of the five approaches would go some way to achieving increases in biodiversity and providing the associated benefits.

3.5.30 Approach A would give developers the flexibility to choose to design BNG into their development site. This could provide BNG within the area of the AAP and would have tangible benefits to the local community. However, the developers would also have the option to provide BNG offsite, which would not provide the same local benefits. By allowing developers to determine how they provide BNG, areas within the AAP could be maximised for residential development, providing more housing and commercial opportunities, resulting in positive effects for housing growth.

3.5.31 The establishment of a policy to deliver BNG onsite in Approach B would ensure that the local communities receive the benefits from improving biodiversity wherever possible. By mandating that the BNG should be delivered within the development parcel, local opportunities for recreation are provided, which would improve local health and wellbeing. The provision of biodiversity enhancements within the development area would also improve the quality of homes by delivering nearby habitat improvements.

3.5.32 Approach C would allow landowners to make improvements to their land and sell the BNG credits to developers. This would provide the benefits of improving biodiversity and create more opportunities for improving biodiversity over a wider area, by allowing BNG to be created or improved off the development site. This would enable the maximisation of the development site for housing. This approach may also encourage more efficient and sustainable use of land in the habitat bank. However, the climate resilience and flood risk benefits may not be received by the local communities.

3.5.33 Approach D would ensure that biodiversity improvements are secured within the AAP area. This would allow for cohesion during the masterplanning stages to balance development with BNG and maximise the potential benefits. It would also allow for the creation of SUDS and multifunctional spaces. By identifying these habitat creation areas within the AAP area, the benefits will positively impact local communities and new development in the South Lancaster area. Enhancement within the AAP area would provide local opportunities for recreation and provide high-quality housing as a result.

3.5.34 Approach E would not restrict delivery to the AAP area, and therefore BNG may be provided outside the target area. This would not ensure developments deliver local and relevant net biodiversity gains but would contribute to BNG within the wider council area.

3.5.35 All five approaches would be expected to result in positive compatibility in relation to SA Objective 8. For Approach A, positive compatibility has been identified in relation to SA Objectives 1 and 8, with uncertain results for SA Objectives 2, 6, 9, 11 and 12. For Approaches B and D, positive compatibility has been identified in respect to SA Objectives 1, 2, 6, 8, 9, 11 and 12. For Approach C, positive compatibility would be expected for SA Objectives 6, 8 and 9, with uncertain compatibility with respect to SA Objectives 2, 11 and 12. For Approach E, uncertain compatibility would be expected in relation to SA Objectives 2, 6, 9, 11 and 12.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	✓	?	O	O	O	?	O	✓	?	O	?	?
B	✓	✓	O	O	O	✓	O	✓	✓	O	✓	✓
C	O	?	O	O	O	✓	O	✓	✓	O	?	?
D	✓	✓	O	O	O	✓	O	✓	✓	O	✓	✓
E	O	?	O	O	O	?	O	✓	?	O	?	?

Soil Management

3.5.36 The adoption of the principles detailed within the report would emphasise the importance of soil to prioritise carbon storage and reduce the volume of CO^2 lost through development. This would minimise one element of South Lancaster's contribution to climate change.

3.5.37 By protecting soils, the AAP would successfully reduce surface water run off and reduce flood risk by increasing the stability of the soils and increasing water infiltration to the ground. Maximising the permeability of the ground by minimising soil sealed areas would similarly help to manage drainage and reducing flood risk.

3.5.38 Soil function is also positively tied to biodiversity, as healthy soils help to support flora and fauna. Additionally, healthy vegetation can have a positive effect on air quality, with the vegetation acting to filter the air and remove harmful pollution. This would have further positive effects for health and wellbeing.

3.5.39 Positive compatibility has bene identified in relation to SA Objectives 2, 6, 8 11 and 12.

Soil Management	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
	O	✓	O	O	O	✓	O	✓	O	O	✓	✓

Implementing the Findings of the Green and Blue Infrastructure Strategy

Approach A:	Provide no direction on how GBI should be implemented and allow individual proposals to determine how they would like to deliver GBI.
Approach B:	Establish a series of key design principles through policy within the AAP to set out how GBI should be delivered as part of any development proposal.
Approach C:	Identify key strategic green and blue corridors and chains on the Policies Map.
Approach D:	Identify specific GBI land allocations/designations, based upon the mapping produced as part of the GBI Strategy, on the Policies Map. For example, identifying areas specifically for food growing.
Approach E:	Based upon the evidence collated and existing standards/guidance available, the AAP will look to set specific GBI standards which will set thresholds that development proposals must meet.

	Whilst standards currently exist within the adopted Local Plan in relation to open space, the AAP could look to set additional GBI standards.

3.5.40 Approach A, where the AAP provides no direction on how the GBI Strategy should be implemented, could result in disconnected ecological systems. While there would likely be some benefit to biodiversity with individual proposals implementing their own GBI, the landscape and biodiversity improvements would likely be disjointed and not provide the maximum benefit.

3.5.41 It is expected that Approach B would result in more coherent implementation of GBI, with proposals required to design GBI in line with the key design principles. The design principles could include measures to ensure the multifunctionality of the GBI, which may have additional benefits for air quality and flood risk mitigation. However, the extent of this is not known at this stage.

3.5.42 The identification of strategic blue and green corridors, or specific land allocations, as outlined in Approaches C and D respectively, would provide ecosystem connectivity, and allow for more holistic planning. These approaches would provide structure to the developments and ensure targeted GBI is provided at designed locations. These Approaches would enhance the landscape by creating separation between settlements and could provide further benefits to air quality, as vegetation sequesters pollution, and flood risk, where flood storage is provided within the strategic GBI locations.

3.5.43 Approach E would provide similar benefits to Approaches C and D but would strengthen the provision of GBI within the AAP area. This would likely lead to stronger benefits to flood risk, biodiversity, air quality and health, as harmful pollutants are filtered from the air.

3.5.44 Approaches D and E may also have positive effects on the historic environment. The identification of land allocations as based on the GBI Strategy would allow for the protection and enhancement of Biological Heritage Sites and nationally or locally designated heritage infrastructure. Approach D would implement the findings of the mapping and would thus be robustly based on the evidence. Approach E may not implement all of the findings of the strategy but may utilise the existing evidence to produce proposals that set stronger targets for the coherence of GBI and heritage.

3.5.45 All five approaches have been identified as positively compatible in relation to SA Objective 8. It is uncertain as to how Approaches A and B would be compatible with SA Objectives 2, 6, 11 and 12, where each of Approaches C, D and E have been identified as positively compatible with these Objectives. It is uncertain how Approach A would be compatible with Objective 9, but the other approaches are expected to be compatible. Only Approaches D and E have been identified as compatible with Objective 10.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	O	?	O	O	O	?	O	✓	?	O	?	?
B	O	?	O	O	O	?	O	✓	✓	O	?	?
C	O	✓	O	O	O	✓	O	✓	✓	O	✓	✓
D	O	✓	O	O	O	✓	O	✓	✓	✓	✓	✓
E	O	✓	O	O	O	✓	O	✓	✓	✓	✓	✓

3.6 Topic Paper 5: Water Management

Identifying Flood Risk

Approach A:	Identify and protect areas at flood risk from development within policies, on the proposals map, the Drainage Strategy and incorporate them into the Blue and Green Infrastructure Strategy.
Approach B:	Identify all areas of flood risk within the evidence base and use these to avoid flood risk and influence development parcels but not to protect areas at flood risk from development within the policy documents.
Approach C:	Identify all areas of flood risk within the evidence base, use these to avoid the highest levels of flood risk and influence development parcels but allow for mitigation and development within policy documents.
Approach D:	Do not identify any areas of flood risk and instead rely on Environment Agency Maps and the SFRA to control development within areas of flood risk.

3.6.1 Areas of flood risk have been identified by the Environment Agency to the south of Lancaster and to the north of Galgate.

3.6.2 Approaches A, B and C would see AAP area specific surveys undertaken to identify areas of flood risk. Approach D would use nation-wide data identified by the Environment Agency. AAP-specific surveys would be expected to identify more up-to-date information on flood risk in the area and help predict changes in flood risk as a result of climate change.

3.6.3 Approach A would seek to prevent development in areas of flood risk through the AAP, the Drainage Strategy, and the Blue and Green Infrastructure Strategy. The Drainage Strategy would be expected to help protect and improve local water quality. Areas of flood risk would also be identified and incorporated into the Blue and Green Infrastructure Strategy. It is assumed that it is intended that areas would be created to hold flood waters during times of high flow, which would be expected to support local biodiversity, as well as help protect water quality by developing SuDS and helping prevent soil erosion. The Blue and Green Infrastructure Strategy would have benefits in relation to improving local air quality by filtering pollutants, improving the local landscape, benefiting mental wellbeing, and helping adapt to the effects of climate change including through creating a local micro-climate.

3.6.4 Approach B would seek to use the AAP-specific flood risk assessments to influence where development may be directed in the AAP area. Approach C would seek to use the AAP-specific assessments to identify the areas of land at highest risk of flooding and avoid development in these locations but allow mitigation measures to enable development in areas at lower flood risk, however, the detail of these mitigation measures is unknown at this stage.

3.6.5 Under Approach D, development control in relation to flood risk would be led by the Environment Agency national data, and therefore may not be AAP area specific. There is a risk of development allocations being located in flood risk areas not identified at a national level.

3.6.6 Overall, positive compatibility has been identified for all four approaches against SA Objective 12, as well as for Approach A against SA Objectives 2, 6, 7, 8, 9 and 11.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	O	✓	O	O	O	✓	✓	✓	✓	O	✓	✓
B	O	O	O	O	O	O	O	O	O	O	O	✓
C	O	O	O	O	O	O	O	O	O	O	O	✓
D	O	O	O	O	O	O	O	O	O	O	O	✓

Controlling Discharge Rates

Approach A:	Set out within policy and the Drainage Strategy a requirement for attenuation and peak surface water discharge rates based on national guidance, including an allowance for urban creep, climate change plus a higher attenuation requirement and a peak runoff rate below Q-bar or greenfield rates, which goes beyond national guidance.
Approach B:	Set out within policy and the Drainage Strategy a requirement for attenuation and peak surface water discharge rates based on national guidance, including an allowance for urban creep and climate change in line with policy DM34 of the CERLP.
Approach C:	Set out the required attenuation rates and acceptable peak surface water discharge rates within policy based on national guidance and the Drainage Strategy.
Approach D:	Refer to national guidance for attenuation rates and peak surface water discharge rates but not specify rates within policy.

3.6.7 The AAP will seek to reduce flood risk for new communities in the AAP area. The development of a Drainage Strategy as set out under Approaches A, B and C would be expected to help protect and improve local water quality and reduce flood risk, which would also lead to benefits for protecting public health. Detail within the Drainage Strategy would also be expected to have subsequent benefits in relation to climate change resilience.

3.6.8 Approach A would ensure that the AAP sets out more detail on controlling discharge rates and potentially seek to exceed national guidance, and therefore would be expected to result in the most benefits in relation to reducing flood risk and protecting local water quality. Approach C would ensure discharge rates are in line with national guidance and set out in the Drainage Strategy, which would help to provide locality-specific benefits, with Approach B also requiring discharge rates to be in line with the CERLP. Under Approaches B and D, attenuation rates and peak surface water discharge rates would be specified by national guidance, with Approach B also specifying accordance with the Local Plan and would therefore not be location specific but would still have some benefits in relation to water quality and health.

3.6.9 Overall, positive compatibility would be expected for all four approaches in relation to SA Objectives 2, 7 and 12; with positive effects for Approaches A and C predicted against SA Objective 6.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	O	✓	O	O	O	✓	✓	O	O	O	O	✓
B	O	✓	O	O	O	O	✓	O	O	O	O	✓
C	O	✓	O	O	O	✓	✓	O	O	O	O	✓
D	O	✓	O	O	O	O	✓	O	O	O	O	✓

Flood Alleviation/ Mitigation

Approach A:	Identify and safeguard land which may provide for flood alleviation/mitigation for new and existing communities in association with development and for future flood alleviation/mitigation opportunities within policies, on the proposals map, in the Drainage Strategy and incorporate them into the Blue and Green Infrastructure Strategy.
Approach B:	Provide indicative areas for flood alleviation/mitigation for new and existing communities in association with development within the Drainage Strategy, set out requirements for flood alleviation to reduce overall flood risk in policies but not specifically identify and protect these areas on the allocation plan. Identify and safeguard land which may provide for future flood alleviation/mitigation to reduce flood risk opportunities within policies, on the proposals map, in the Drainage Strategy and incorporate them into the Blue and Green Infrastructure Strategy.
Approach C:	Do not specifically identify and safeguard land for flood alleviation/mitigation but refer to requirements within policy and in the Drainage Strategy.
Approach D:	Do not require any flood alleviation to reduce flood risk but require mitigation only within policy and in the Drainage Strategy.

3.6.10 The safeguarding of land for flood alleviation and mitigation would ensure the AAP area is increasing resilience to climate change. By safeguarding the land, as within Objective A and B, it is likely that development within the AAP area will be more adaptable to the effects of climate change. By incorporating flood mitigation onto the Blue and Green Infrastructure Strategy, the safeguarded land could provide habitat connectivity, creating positive effects for biodiversity and opportunities for recreation.

- **Recommendation:** flood alleviation and mitigation should be designed to have multifunctional benefits. Areas can be designed to improve biodiversity and act as buffer zones between settlement, thereby improving air quality.

3.6.11 Approaches C and D may have some positive effect on reducing flood risk and improving resilience to climate change, however these are not likely to be as strongly positive as for A and B. These two approaches may also lead to the piecemeal development of flood mitigation measures and not reflect the holistic requirements for the AAP area.

3.6.12 Overall, all four approaches would be expected to have positive compatibility in relation to SA Objective 12. Approaches A and B have also been identified as having positive compatibility against SA Objectives 2, 6 and 8.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	O	✓	O	O	O	✓	O	✓	O	O	O	✓
B	O	✓	O	O	O	✓	O	✓	O	O	O	✓
C	O	O	O	O	O	O	O	O	O	O	O	✓
D	O	O	O	O	O	O	O	O	O	O	O	✓

Sustainable Drainage Hierarchy

Approach A:	Revise the sustainable drainage hierarchy with CERLP policy DM34 to require the use of above ground multifunctional sustainable drainage systems.
Approach B:	Carry the CERLP policy DM34 forward into the AAP: i. Re-use and reduce surface water run-off /rainwater harvesting/green walls/roofs, ii. Attenuated source control such as infiltration through pervious surfaces, soakaways, rain garden, swales and trenches etc., iii. Attenuation and conveyance using above ground water features (including ponds, swales etc.) for gradual release into infiltration features and if this is not possible to a watercourse, iv. Treat, then attenuate, surface water via storage in tanks or sealed water features for gradual release into infiltration features and if this is not possible a water course, v. In exceptional cases, controlled discharge to a sewer or other drainage system, via above ground attenuation, and if this is not possible, underground attenuation.
Approach C:	Revert to the drainage hierarchy with the PPG: i. into the ground (infiltration); ii. to a surface water body; iii. to a surface water sewer, highway drain, or another drainage system; iv. to a combined sewer.

3.6.13 By following a drainage hierarchy, the AAP will seek to ensure development in the AAP area is at reduced risk of surface water flooding and helps protect local water quality.

3.6.14 Policy DM34 'Surface Water Run-Off and Sustainable Drainage' of the Local Plan sets out a sustainable drainage hierarchy to focus sustainable drainage in above ground systems which are integrated into blue and green infrastructure and provide for multifunctional benefits including, drainage, biodiversity and amenity enhancements and pollution control.

3.6.15 Approaches A and B would ensure that the sustainable drainage hierarchy is in line with the Local Plan Policy DM34. Both of these approaches would be expected to protect water quality and flood risk in the local area and set out local-specific mitigation measures to help achieve this. Approach A would seek to require the use of above ground multifunctional sustainable drainage systems and therefore may lead to more benefits in terms of water quality than Approach B.

3.6.16 Approach C would seek to ensure the AAP is in line with national guidance, which is not as detailed as the policy set out in the Local Plan, and therefore, this approach may not lead to as many benefits as Approaches A and B.

3.6.17 Positive compatibility has therefore been identified for Approaches A and B against SA Objective 6, 7, 8, 9, 11 and 12, and for Approach C against SA Objective 12.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	O	O	O	O	O	✓	✓	✓	✓	O	✓	✓
B	O	O	O	O	O	✓	✓	✓	✓	O	✓	✓
C	O	O	O	O	O	O	O	O	O	O	O	✓

Sustainable Drainage Components

Approach A:	Set out a range of acceptable sustainable drainage components within the Drainage Strategy and Design Code and refer to the requirements within policy.
Approach B:	Set out a range of acceptable sustainable drainage components within the Drainage Strategy as guidance but not to require them within policy.
Approach C:	Refer to national guidance for acceptable sustainable drainage components.
Approach D:	Do not refer to acceptable sustainable drainage components.

3.6.18 By including the sustainable drainage components within the Drainage Strategy, Design Code and policy, drainage would be designed to meet the needs of the AAP area and provide the multifunctional benefits required. The requirements within policy will ensure development is resilient to flood risks and will improve resilience to climate change. A targeted drainage strategy that includes SUDs would result in positive effects for biodiversity through improving ecological connectivity, and can have additional positive effects for housing, as infrastructure would not suffer from flooding as regularly.

3.6.19 Approaches B and C could have similar positive effects to Approach A, but without the requirement to incorporate sustainable drainage in policy, these effects are not guaranteed.

3.6.20 Approach D may not result in the inclusion of sustainable drainage within the AAP and would likely result in an incoherent approach to drainage between areas of the AAP. It is possible that Approach D would result in many of the same benefits as Approaches A, B and C, but this is unknown at this time.

- **Recommendation:** the drainage components should be designed to accommodate potential future increases to drainage requirements that may occur as a result of climate change.

3.6.21 Therefore, positive compatibility has been identified against all four approaches against SA Objective 12, as well as for Approach A against SA Objectives 1, 6 and 8. Compatibility has been identified as uncertain for Approaches B, C and D in relation to SA Objectives 1, 6 and 8. All other SA Objectives would be expected to be neutral in compatibility.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	✓	O	O	O	O	✓	O	✓	O	O	O	✓
B	?	O	O	O	O	?	O	?	O	O	O	✓
C	?	O	O	O	O	?	O	?	O	O	O	✓
D	?	O	O	O	O	?	O	?	O	O	O	✓

Management and Maintenance

Approach A:	Implementation of a SUDs Approval Body (SAB) which would adopt, manage and maintain systems.
Approach B:	Retain the existing system where developers have a choice of approaches

3.6.22 Under Approach A, the creation of a SAB would ensure that all drainage and SUDs is consistent and provides the correct level of protection. The maintenance of SUDs by a SAB is expected to provide a greater level of management than currently exists, and therefore would likely result in positive effects against flood risk, as the maintenance would reduce the risk of culverts blocking. The adequate maintenance of SUDs can similarly be beneficial for biodiversity and landscape by providing green solutions to drainage and creating buffers within built-up areas. SUDs can additionally provide filtration to surface water runoff and can therefore similarly be beneficial to natural resources such as water.

3.6.23 Approach B may not result in the same positive effects, as the existing system is maintained by multiple companies and operators. This can lead to a lack of coordination and joined up working, which may result in the infrastructure not operating effectively.

3.6.24 Both approaches would be compatible with SA Objective 12. Approach A would be compatible with Objectives 7, 8 and 9, whereas it is uncertain how Approach B would be compatible with these Objectives.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	O	O	O	O	O	O	✓	✓	✓	O	O	✓
B	O	O	O	O	O	O	?	?	?	O	O	✓

3.7 Topic Paper 6: Creation of Sustainable Places and Communities

Design Codes

Approach A:	Making use of the principles contained in the JTP Masterplan and National Design Guidance to provide a starting point to design which is both consistent with national direction on design but also locally specific. This will be expressed through a detailed Design Code which supports the Plan.
Approach B:	Making use of the principles contained in the JTP Masterplan and National Design Guidance to provide a starting point to design which is both consistent with national direction on design but also locally specific. This will be expressed through a specific design code policy in the Action Plan.
Approach C:	The Action Plan will not look to re-visit the direction of design and allow developers, through future planning applications to consider the matters of design against the relevant national design policy. As a consequence, there will be very limited direction in the Action Plan on matters of design.

3.7.1 Effective design codes can help to ensure new developments are integrated effectively into the local landscape, reinforcing local distinctiveness and conserving cultural and heritage assets. Good design can enhance the quality of life for residents, create a sense of place, improve the attractiveness of a location and create safer places to live and work. It can also ensure that new development minimises its effect on the environment, as well as adapting to a changing climate.

3.7.2 Approach A would lead to the development of a Design Code specific to the local area. The development of a Design Code would help to ensure development is in keeping with the local landscape and historic character on a site-specific basis whilst still providing some degree of flexibility on a site-by-site basis.

3.7.3 The development of a design policy as part of the AAP under Approach B would be expected to be similar to Approach A, but a design policy has the potential to be less specific in terms of design requirements than a Design Code, and there is a higher risk that some developers may interpret the design guidance differently and result in some development that discords with the local surroundings.

3.7.4 Approach C would provide flexibility for individual developments in terms of design; however, this approach could lead to risks of new development being discordant with the local character.

3.7.5 As all approaches would ensure development within the AAP follows the design requirements as set out in the Lancaster Local Plan, positive effects would be expected in relation to health and wellbeing, landscape and historic environment. However, Approach A would be expected to result in the greatest benefits in terms of appropriate design.

3.7.6 Overall, positive compatibility has been identified in relation to SA Objectives 2, 9 and 10 for all approaches, and SA Objective 6 for Approach A. Compatibility between Approaches B and C and SA Objective 6 is uncertain. All other SA Objectives are neutral against the three options.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	O	✓	O	O	O	✓	O	O	✓	✓	O	O
B	O	✓	O	O	O	?	O	O	✓	✓	O	O
C	O	✓	O	O	O	?	O	O	✓	✓	O	O

Infrastructure Delivery

3.7.7 The table below lists the infrastructure that is to be considered through the development of the AAP.

Highway Access & Capacity	Sustainable Drainage Systems	Open Space / Recreation
Education Provision	Cycling / Walking Network	Local Food Production
Water Supply	Public Transport	Energy Connections
Wastewater Network	Flood Defence	Renewable Energy
Healthcare Provision	Electric Vehicle Charging	Biodiversity Net Gain
Telecommunications	Local Centre Provision	Community Facilities

3.7.8 Healthcare facilities will be delivered within the AAP area to support increased population, including GP surgeries, dentists and pharmacies. The development of healthcare facilities will help ensure new residents have excellent access to health centres to support their physical wellbeing.

3.7.9 The AAP will also seek to deliver community facilities, such as meeting places, which seek to support community cohesion and provide spaces for residents to connect and gather. This will be expected to benefit mental wellbeing as well as helping support the local economy. The AAP will also support the development of open and recreational spaces, which may include allotments and outdoor sports facilities, to encourage outdoor exercise to improve physical and mental health. In addition, the AAP will seek to deliver biodiversity net gain and SuDS which will be beneficial in relation to biodiversity, ecology, flood risk and water quality. This would subsequently have benefits to the local landscape character.

- **Recommendation:** it is recommended that Natural England's emerging Green Infrastructure Framework[11] and Access to Greenspace Standards (ANGSt) are considered as part of the assessment of open space provision and green infrastructure[12].

3.7.10 Primary and secondary education facilities would be expected to be proposed as part of the AAP which will support education levels in the area and support employment prospects.

3.7.11 Furthermore, infrastructure related to telecommunications will be delivered and will support access to information and the growth of the local economy. Transport infrastructure will also be integrated into the AAP, promoting sustainable travel including walking, cycling and public transport, seeking to reduce the number of private cars on the roads, as well as electric vehicle charging points, with likely benefits in relation to transport, air quality, climate change, biodiversity, and human health.

[11] Natural England (2022) Introduction to the Green Infrastructure Framework - Principles and Standards for England. Available at: https://designatedsites.naturalengland.org.uk/GreenInfrastructure/Home.aspx https://designatedsites.naturalengland.org.uk/GreenInfrastructure/Home.aspx [Accessed: 04/10/22]

[12] Natural England (2003) Accessible Natural Green Space Standards in Towns and Cities: A Review and Toolkit for their Implementation (ENRR526). Available at: http://publications.naturalengland.org.uk/publication/65021 [Access 04/10/22]

3.7.12 As a result, positive compatibility has been identified in relation to SA Objectives 2, 3, 4, 5, 6, 8, 9, 11 and 12.

Infrastructure Delivery	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
	O	✓	✓	✓	✓	✓	O	✓	✓	O	✓	✓

Management of Places and Spaces

Approach A:	That places and spaces within the 'Broad Location for Growth' are managed and maintained by a Private Management Company.
Approach B:	That places and spaces within the 'Broad Location for Growth' are managed by some form of charitable trust which is accountable to the local community it serves.
Approach C:	That the places and spaces within the 'Broad Location for Growth' are managed, where it is appropriate to do so, by the City and County Council's.

3.7.13 Under Approach A, decisions would be made by private companies, whereas under Approach B, these places would be manged by a charitable trust and a community approach, indicating there would be more opportunities for the local community to influence decisions. Approach C is likely to be somewhere in between Approaches A and B in terms of community involvement.

3.7.14 There is a risk that Approach A would lead to poor management and maintenance, as the private companies may not have links to the local area with knowledge of key local issues, and management is unlikely to be undertaken by local residents. Approach A may have benefits in the short term, but the long-term stability of private companies is uncertain, and as such, community assets may be vulnerable in the future and there are no opportunities for community network benefits.

3.7.15 Under Approach B, local residents would pay for management and maintenance, but this contribution would go to local facilities, and as such, their money would benefit local economic prosperity. Although this approach may have long term security for community facilities, however, there may be short term logistical issues.

3.7.16 Under the council-led approach, due to limited council resources, there is a risk that some community facilities would not be efficiently managed or maintained. A local authority would have some understanding of the needs of the local area and would be able to manage and maintain facilities over the short, medium and long term.

3.7.17 Therefore, positive compatibility would be expected for SA Objective 2 against Approaches B and C, and SA Objective 5 for Approach B. Uncertain compatibility was identified for Approach A against SA Objective 2 and 5.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	O	?	O	O	?	O	O	O	O	O	O	O
B	O	✓	O	O	✓	O	O	O	O	O	O	O
C	O	✓	O	O	O	O	O	O	O	O	O	O

Employment Delivery/ Economic Prosperity

Approach A:	That no land should be specifically identified within the Area Action Plan process, with the Area Action Plan simply providing a flexible policy framework for employment development to be achieved within the development parcels identified.
Approach B:	That land should be allocated for shorter-term needs within the Area Action Plan up to 2031, with the requirements for further land to be addressed through a flexible policy framework which could be achieved within the development parcels identified.
Approach C:	That employment land is identified for the short / medium and long terms needs within the Area Action Plan, to be supported with supportive policy wording in the Plan which support further small scale growth within the development parcels identified.

3.7.18 The AAP is expected to promote economic prosperity through the delivery of mixed-use development, which will include residential, economic and retail uses.

3.7.19 Under Approach A, no specific land parcels will be allocated for economic development. This approach would provide flexibility over the location of new employment floorspace, enabling situating different types of employment opportunities in appropriate locations, and be able to consider accessibility, local need and overall sustainability. However, there is a risk that under Approach A sufficient employment opportunities within the area will not be developed to meet the needs of the new residents and economic prosperity may not be supported to enable local economic growth.

3.7.20 Approach B would ensure that in the short-term, sufficient employment development sites are allocated within the AAP area to meet the needs of local residents and ensure economic growth for the area. This option does have less flexibility than Approach A in terms of the quantity and location of employment land that will be developed in the early stages of developing the AAP area, however, it provides more flexibility than Approach C in terms of longer-term development requirements.

3.7.21 By setting out short, medium and long-term employment allocations for the AAP area, Approach C would be expected to ensure that the future economic prosperity of the area is secured, however, this approach does not provide any flexibility for changes in employment and economic behaviours in the future where the planned development may not be suitable.

3.7.22 All three approaches were identified as being positively compatible with SA Objective 5.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	O	O	O	O	✓	O	O	O	O	O	O	O
B	O	O	O	O	✓	O	O	O	O	O	O	O
C	O	O	O	O	✓	O	O	O	O	O	O	O

Housing Provision

3.7.23 By seeking to deliver 30% affordable housing across the AAP area, the Plan will support an appropriate mix of affordable housing that meets the varied needs of local communities. The AAP will also seek opportunities to deliver self-build and community-led allocations. This will have benefits by ensuring that new housing delivered across the AAP area can accommodate the diverse requirements of residents within Lancaster South. The AAP will explore the opportunity to allocate pitches and plots for Gypsy and Traveller accommodation in line with Policy DM9 of the Local Plan.

- **Recommendation**: it is recommended that a viability assessment be undertaken, in order to determine the potential of the site to deliver affordable housing, and whether some land parcels might have the potential to deliver a higher percentage.

3.7.24 In addition, the AAP will seek to deliver housing for vulnerable communities such as the elderly and those requiring specific care needs. As well as providing housing for all communities within the AAP area, this would have benefits on the health and wellbeing on the vulnerable communities in the area. A positive compatibility would be expected in regard to SA Objectives 1 and 2.

Housing Provision	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
	✓	✓	O	O	O	O	O	O	O	O	O	O

Provision of Local Services

Approach A:	The Area Action Plan should include provision for a local centre which is purely retail focused which provides for the local needs of residents and businesses in South Lancaster.
Approach B:	The Area Action Plan should include provision for a local centre which provides a greater diversity of uses which extends beyond simply retail, looking to include wider community uses – such as meeting spaces, education and healthcare which provides for the local needs of residents and businesses in South Lancaster.
Approach C:	The Area Action should include provision of a centre which provides the diversity set out in Approach B but looks to provide for a wider catchment area and have a greater functional role in the South of the District.

3.7.25 The development of local services will benefit the health and wellbeing of local residents, by providing opportunities for social interaction and helping support community cohesion. The local services will also

be beneficial to the local economy, supporting local businesses and providing employment opportunities for residents. It is expected that the AAP will deliver the appropriate types and quantity of services as is required to meet the needs of the number of new residents that will live in the AAP area.

3.7.26 The location of the new services will be dependent on the location of residential development and will take into consideration access via walking, cycling, public transport and private car use.

3.7.27 The local centres connections with local education and healthcare facilities will also be in order to support the development of meeting places and encourage social interaction, as well as seeking to reduce the number of trips required, with benefits to wellbeing due to time saving, but also GHG emissions and air quality, helping to reduce the number of vehicle trips taken. The appropriate scale of a future food store will be explored through the AAP.

3.7.28 Phasing through an Implementation Strategy will help to ensure the supporting infrastructure is in place alongside residential development, to ensure residents have access to these essential services from the day they move.

3.7.29 Approach A would lead to the development of a local centre which is retail focussed and would meet the needs of local residents and businesses. Under this approach, there is unlikely to be a connection between the retail space and the healthcare, education and transport services within the AAP area, and therefore this approach may not be as beneficial as other approaches in terms of integrated services, reducing trips required and encouraging social interaction, although positive overall effects will still be experienced.

3.7.30 Under Approach B, a diversity of local services uses including retail, education and healthcare would be directed to local centres. This would help to reduce private vehicle trips and help to support community cohesion.

3.7.31 As with Approach B, Approach C would deliver a range of essential services within the local centre but would seek for these services to meet the needs of residents outside of the AAP area and situated to the south of Lancaster. This may lead to a broader range of services being available within the AAP local centre which may help reduce outward trips for local residents, but this approach may also encourage out-of-town residents to enter the AAP area and may lead to transport-related issues.

3.7.32 Overall, positive compatibility would be expected in relation to SA Objectives 2 and 5 for all three approaches. Approach C has been identified as having uncertain compatibility with respect to SA Objectives 4, 6 and 11.

Approach	1: Housing	2: Health & Wellbeing	3: Education	4: Transport	5: Economy & Employment	6: Climate Change	7: Natural Resources	8: Biodiversity	9: Landscape	10: Historic Environment	11: Air Quality	12: Flood Risk
A	O	✓	O	O	✓	O	O	O	O	O	O	O
B	O	✓	O	O	✓	O	O	O	O	O	O	O
C	O	✓	O	?	✓	?	O	O	O	O	?	O

4 Conclusions and Next Steps

4.1 Conclusions

4.1.1 Each of the Topic Papers set out a series of approaches for policy areas that would help to guide development within the AAP. These approaches have been assessed against the SA framework at a high level, in order to establish their compatibility with the SA Objectives, and make recommendations, where relevant, in order to guide the development of more detailed policies, which will be assessed in the next iteration of assessment.

4.1.2 Topic Paper 1 sets out objectives and policies for Establishing a Development Strategy for Growth in South Lancaster. Where relevant for assessment, each of the proposed policy approaches score positively within the compatibility assessment, with some policies to have an uncertain outcome at this stage. This includes all approaches for the policy on the density of development against flood risk, health and wellbeing, education and climate change, as the developments are not yet designed, and it is therefore not possible to ascertain the scale of effect as this will depend on implementation.

4.1.3 Topic Paper 2 aims to address policies associated with travel, transport and securing modal shift. The introduction of public transport services and active transport approaches score positively within the compatibility assessment. However, Approaches A and B of the proposed vehicle parking policy score negatively for health and wellbeing, biodiversity, climate change and air quality as they would likely encourage private vehicle use. Approach A of the proposed modal shift policy scores uncertainly against each of the SA Objectives, as the Approach gives primacy to private vehicles over pedestrians and cyclists.

4.1.4 Topic Paper 3 generally scores positively within the compatibility assessment. Both proposed approaches for the design of buildings score uncertainly against four of the SA Objectives as at this stage of the SA process there is not yet enough detail. Approach A of the embodied carbon policy scores negatively on SA Objectives 6 and 7, as the AAP could encourage the extraction of carbon-intensive raw material and the use of inefficient construction techniques resulting in additional emissions from embodied carbon within the AAP area. Similarly, Approach A of the water resilience policy would not encourage the protection and preservation of water, and therefore also scores negatively.

4.1.5 Securing GBI and Biodiversity Net Gain within Topic Paper 4 scores positively against each of the relevant SA Objectives. The proposed policy on landscape in particular scores positively against all the SA Objectives, as the multifunctionality of the proposal would have many direct and indirect positive effects. Implementing sustainable drainage would additionally have multiple benefits, and therefore the policies score positively against the SA Objectives.

4.1.6 All of the approaches proposed within Topic Paper 5: Water Management score positively against the SA Objective 12, Flood Risk, showing that each of the policies would successfully mitigate flood risk within the AAP area, which is one of the primary aims of this Topic Paper.

4.1.7 Topic Paper 6: Creation of Sustainable Places & Communities generally also scores positively against the SA Objectives, although there are a number of uncertainties due to the early stages of the AAP. Infrastructure delivery scores particularly positively, as the phasing plan would support the cohesion of communities and allow for the provision of local services alongside the development.

4.2 Recommendations

4.2.1 Overall, throughout the topic papers there is a need to clarify some approaches to further rationalise the selection of some preferred approaches. In Topic Paper 1: Establishing a Development Plan, the timely delivery of infrastructure is repeated across a number of objectives. For simplicity, it is recommended that this is limited to only one of the objectives. Similarly, the intentions behind the differences between AAP Objective bullets 1 and 6; and 2 and 4, could be made clearer to reduce repetition.

4.2.2 Objective 5 within Topic Paper 1 could be expanded to include recommendations for the inclusion of flood storage facilities and SUDs under the creation of housing. This would improve resilience to climate change and have additional positive effects for biodiversity and minimising flood risk.

4.2.3 Topic Paper 2: Transport, Travel and Securing Modal Shift could be strengthened by improving the evidence base to support expanding road capacity. This would enable the underlying causes for a reliance on private vehicles to be identified and could strengthen the support for modal shift by highlighting key issues and allow for more targeted policy development. It is also recommended that any new road infrastructure should be integrated with the green infrastructure network to enhance biodiversity and ecological connectivity, as well as shield development from air pollution by providing a buffer zone. It is also recommended that provision for electric vehicle charging points is integrated into new parking infrastructure to promote and enhance modal shift.

4.2.4 Recommendations to support the development of Topic Paper 3: Addressing the Climate Emergency & Community Resilience, particularly the energy efficiency and design of buildings policy approaches should be edited for clarity, by making it clear that the approach refer only to dwellings, and the refurbishment of existing buildings respectively. Under energy efficiency, the policy should also include provision for renewable energy to not just match modelled energy consumption, and instead explore the approaches of becoming a net exporter of renewable energy. Carbon offsetting could also be enhanced by taking into account the entirety of the proposed development, including the new roads and associated traffic. The prioritisation of carbon offsetting measures should be developed and primarily should be explored within the AAP area. Following that, any residual requirements could be done through an offsetting fund, if all emissions aren't able to be offset within the AAP plan area.

4.2.5 Topic Paper 5: Water Management should highlight the multifunctional benefits of flood mitigation and alleviation. Similarly, drainage components should be designed to accommodate potential future requirements that may occur as a result of climate change.

4.2.6 Within Topic Paper 6, the recommendations include considering the emerging Natural England's Green Infrastructure Framework and Access to Greenspace Standards (ANGSt) to support development and ensure that open space provision is successful and targeted. Viability assessments should also be undertaken to determine the potential of the site to deliver affordable housing.

4.3 Next Steps

4.3.1 The next stage of the SA process will be to assess the site and policy options, once the direction of the AAP has been decided, following the consultation of the Topic Papers. These assessments will be presented in separate SA Reports. Following the assessment of options, the SA Environmental Report will be prepared.

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