ARCADIS Design & Consultancy for natural and built assets

LANCASTER CITY COUNCIL
Promoting City, Coast & Countryside

SUSTAINABILITY APPRAISAL SCOPING REPORT

BAILRIGG GARDEN VILLAGE AREA ACTION PLAN

FINAL – UPDATED FOLLOWING SCOPING CONSULTATION COMMENTS

MAY 2018

Incorporating
EC HARRIS BUILT ASSET CONSULTANCY
Hyder

CONTACTS

BEN TWISS
Environmental Consultant

E: ben.twiss@arcadis.com

Arcadis.
401 Faraday Street
Birchwood Park
Warrington
WA3 6GA
United Kingdom

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CONTENTS

APPENDICES

Appendix A - Review of the Relevant Plans and Programmes

Appendix B - Baseline Data

ABBREVIATIONS

Abbreviation	Definition
AMR	Annual Monitoring Report
AONB	Area of Outstanding Natural Beauty
AQMA	Air Quality Management Area
BAP	Biodiversity Action Plan
BHS	Biological Heritage Site
cSAC	Candidate Special Area of Conservation
DCLG	Department of Communities and Local Government
DECC	Department for Energy and Climate Change
Defra	Department for the Environment, Food and Rural Affairs
DPD	Development Plan Document
EA	Environment Agency
ESDP	European Spatial Development Perspective
FRA	Flood Risk Assessment
FLL	Functionally Linked Land
GCSE	General Certificate of Secondary Education
GIS	Geographical Information Systems
GP	General Practitioner
GVA	Gross Value Added
HED	Housing and Economic Development
HRA	Habitats Regulations Assessment
ICT	Information and Communication Technology
IMD	Indices of Multiple Deprivation
LCC	Lancashire County Council
LDF	Local Development Framework
LDS	Local Development Scheme
LNR	Local Nature Reserve
LSOA	Lower Super Output Area
NNR	National Nature Reserve
NPPF	National Planning Policy Framework
NVQ	National Vocational Qualification
NWDA	North West Regional Development Agency

Abbreviation	Definition
ODPM	Office of the Deputy Prime Minister
ONS	Office for National Statistics
OS	Ordnance Survey
PAYE	Pay As You Earn
PPG	Planning Policy Guidance
pSPA	Potential Special Protection Area
RIGS	Regionally Important Geological/Geomorphological Site
RSPB	Royal Society for the Protection of Birds
SA	Sustainability Appraisal
SAC	Special Area of Conservation
SEA	Strategic Environmental Assessment
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
SuDS	Sustainable Drainage Systems
VAT	Value Added Tax

1. Introduction

1.1 Purpose of this Scoping Report

This Scoping Report has been prepared by Lancaster City Council (LCC) as part of the Sustainability Appraisal (SA) and Strategic Environmental Assessment (SEA) of the Bailrigg Garden Village Area Action Plan (AAP). LCC have identified a broad location for growth for Bailrigg Garden Village, allocated as a policy (SG1/SG3) within the emerging update of the Lancaster City Council Local Plan which is due to be adopted in 2019. The Garden Village is to comprise a major mixed-use development which focuses on the delivery of at least 3,500 new houses, with a number of opportunities for employment and economic growth including the delivery of Lancaster University Innovation Park. The AAP's purpose is to set the full planning framework for the Garden Village and allocate land for development. Section 1.3 of this report provides further information about the background to and the development of the AAP.

SA is a legally required process for assessing the social, economic and environmental impacts of a plan and aims to ensure that sustainable development is at the heart of the plan-making process. This 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 an SA Framework, consisting of sustainability objectives and indicators, against which the emerging AAP can be assessed.

The SA is being produced in accordance with the SEA Directive[1] which is transposed directly into UK law through the SEA Regulations[2]. This requires the authority preparing the plan to consult the Consultation Bodies[3] on the scope and level of detail of the SA. The preparation of a Scoping Report provides the most effective means of undertaking this consultation by providing the consultees with a document upon which they can make comments.

1.2 Background to the Broad Area of Growth

The Bailrigg Garden Village (the site) is situated south of Lancaster City with the general area being predominantly rural. The site 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 site 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 immediately to the north of the site with the village of Galgate immediately to the south.

The site in general comprises large amounts of greenfield agricultural land with small settlements (including Bailrigg village) and isolated farm houses around the periphery. The focal point of the site is the location of Lancaster University occupying the area of space between the M6 and A6 corridors. The Lancaster Canal falls in the north west area of the site and forms the south western boundary of the site. The Forest of Bowland Area of Outstanding Natural Beauty (AONB) is also close by to the east of the site boundary.

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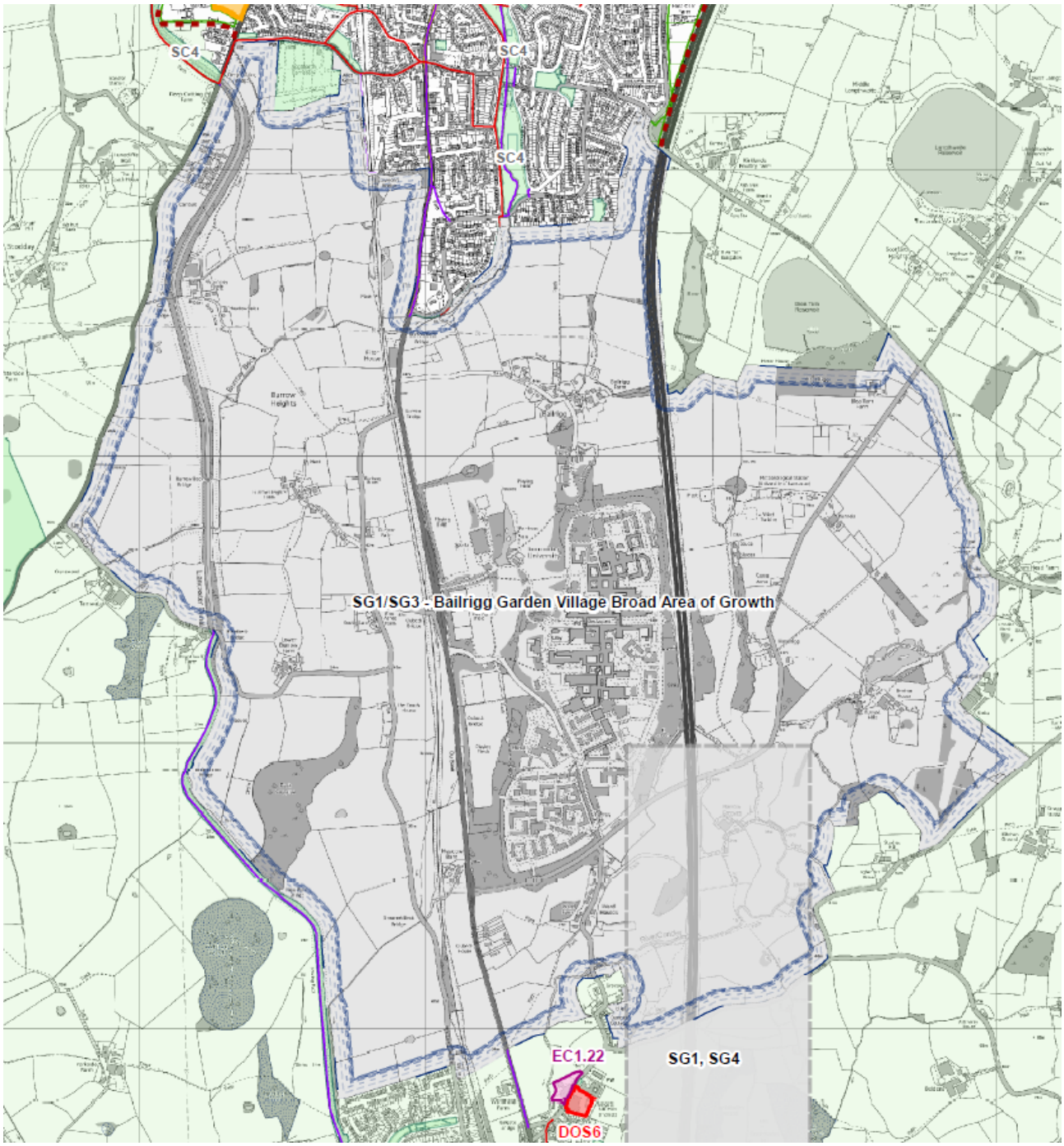
[1] Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment

[2] The Environmental Assessment of Plans and Programmes Regulations 2004

[3] Natural England, Environment Agency, Historic England

Figure 1-1 below, shows the location of the boundary of the site that is referred to in this Scoping Report.

Figure 1-1 *Location of the Bailrigg Garden Village (Source: Lancaster City Council)*



1.3 Background to the Local Plan and the AAP

Work is underway on an updated Local Plan which will shape the future of the Lancaster District. This updated Local Plan will guide development in the Lancaster District for the next 15 years. It will include 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.

The Council is preparing six separate Development Plan Documents (DPDs) which will form the new Local Plan. Two of the key DPDs are the Part One: Strategic Policies and Land Allocations DPD and Part Two: Review of the Development Management DPD.

At Full Council on Wednesday 20th December 2017 the Strategic Policies & Land Allocations DPD and the Review of the Development Management DPD were approved for Publication and Submission to the Government via the Secretary of State. Following this decision, the Council formally published the two DPDs for an 8 week period from 9 February 2018, to 5pm 6 April 2018, inviting representations on its soundness and legal compliance, before submitting the documents in late May 2018. Upon their completion these DPDs will form the core element of the new Local Plan for Lancaster District setting out a strategic direction for growth, allocation of land to meet development needs and a series of generic planning policies to manage new development through the decision-making process.

The Garden Village is to be brought forward as part of the Strategic Policies & Land Allocations DPD through Policy SG1. Policy SG1 identifies a Broad Area for Growth in South Lancaster. Policy SG1 sets out a general plan for the Garden Village and how it is to be delivered in a further DPD – the Bailrigg Garden Village AAP. This AAP is the subject of this SA Scoping Report.

1.4 Sustainability Appraisal and Strategic Environmental Assessment

SA is a process for assessing the social, economic and environmental impacts of a plan and aims to ensure that sustainable development is at the heart of the plan-making process.

It is a legal requirement that all AAPs are subject to SA, under the Planning and Compulsory Purchase Act 2004. This Act stipulates that the SA must comply with the requirements of the SEA Directive[1] which was transposed directly into UK law through the SEA Regulations[2].

SEA is a systemic process for evaluating the environmental consequences of plans and programmes to ensure that environmental issues are integrated and assessed at the earliest opportunity in the decision-making process. Article 1 of the SEA Directive states that the aim is to:

"…provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development."

It is possible to combine the processes of SEA and SA, as they share a number of similarities. Guidance promotes a combined process (i.e. a process which assesses social, economic and environmental effects) and this is the approach that has been adopted here. Whilst there are formalised approaches for both SA and SEA, only SEA has a legal obligation to perform certain activities. These legal obligations have been and will continue to be adhered to throughout the combined SA and SEA for the Local Plan. The combined SEA and SA is referred to as SA throughout the remaining sections of this Scoping Report. This Scoping Report includes a series of boxes which clearly identify the specific requirements of the SEA Directive that need to be fulfilled.

1.5 Consultation

This Scoping Report is being consulted upon in accordance with the requirements of Regulation 12 (5) of the SEA Regulations. The Scoping Report has, therefore, been issued to the statutory Consultation Bodies (Natural England, Historic England and the Environment Agency) for a mandatory five week period. Further details about consultation linked to the development of the AAP are provided in Section 2 of this Scoping Report.

UPDATE MAY 2018 – THIS SCOPING REPORT HAS NOW BEEN UPDATED FOLLOWING THE SCOPING CONSULTATION

1.6 Habitats Regulations Assessment

European Council Directive 92/43/EEC on the Conservation of natural habitats and of wild flora and fauna (the 'Habitats Directive') requires that any plan or programme likely to have a significant impact upon a Natura 2000 site (Special Area of Conservation (SAC), candidate Special Areas of Conservation (cSAC),

Special Protection Area (SPA), potential Special Protection Area (SPA) and Ramsar site), which is not directly concerned with the management of the site for nature conservation, must be subject to an Appropriate Assessment. The overarching process is referred to as Habitats Regulations Assessment (HRA).

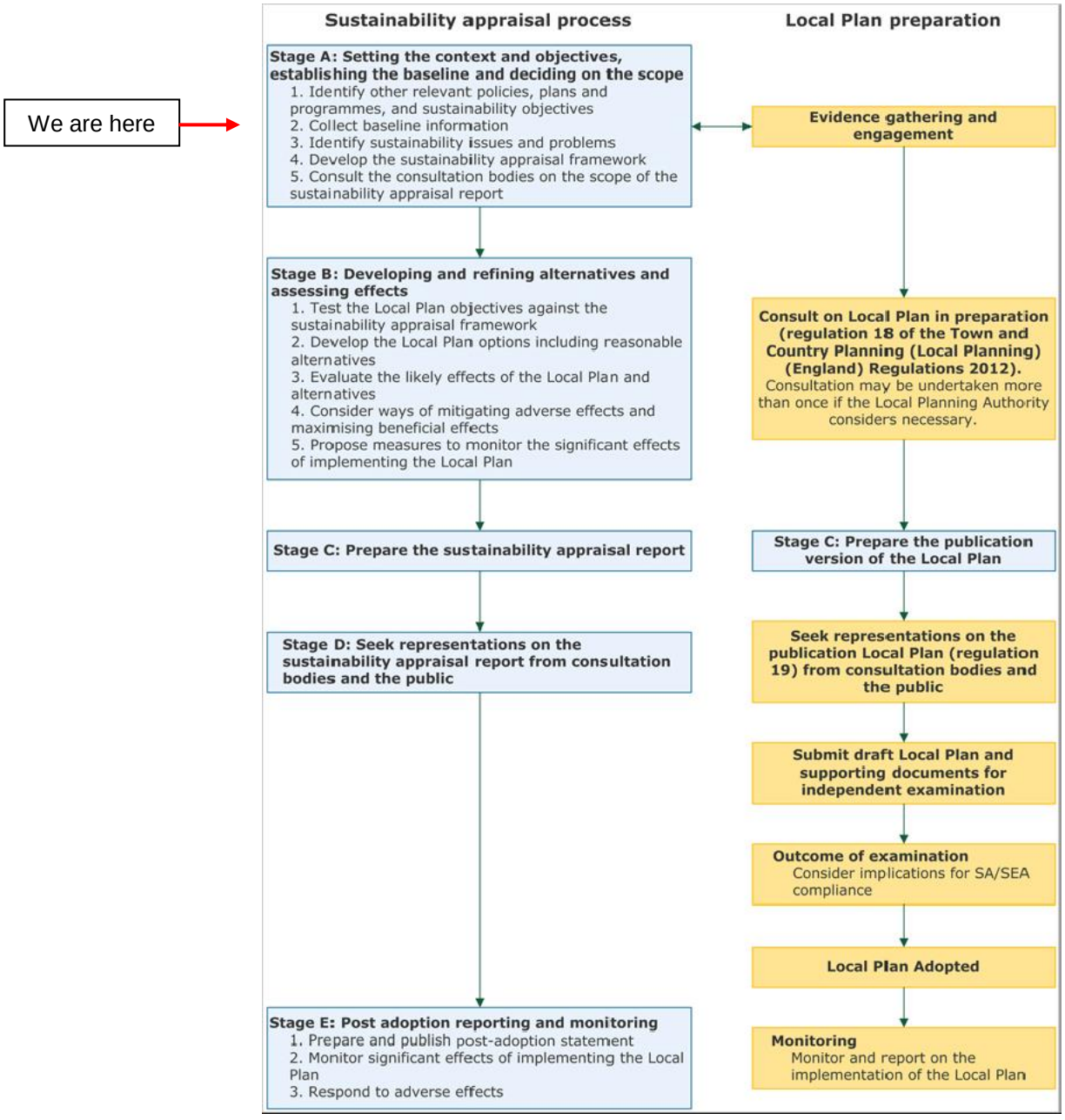
A HRA screening exercise will commence upon the options which are developed for the AAP to determine whether the AAP (either in isolation and/or in combination with other plans or projects) would generate an adverse impact upon the integrity of a Natura 2000 site, in terms of its conservation objectives and qualifying interests. This process will be documented in a Screening Report that will be submitted to Natural England. If the Screening Report identifies that significant effects are likely then the AAP must be subject to Appropriate Assessment.

2 The SA Process

2.1 Stages in the SA Process

Planning Practice Guidance (PPG)[4] 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. Image 2-1 presents the key stages in the SA process as they correspond with the stages of the Local Plan plan-making process.

***Image 2-1**: Stages in the SA Process*



[4] http://planningguidance.communities.gov.uk/blog/guidance/strategic-environmental-assessment-and-sustainability-appraisal/sustainability-appraisal-requirements-for-local-plans/
Paragraph: 013 Reference ID: 11-013-20140306

The SA Scoping stage (this stage) corresponds with Stage A of image 2-1. Table 2-1 demonstrates how each of the tasks within Stage A are linked to the preparation and development of the AAP and where that information can be found in this report.

***Table 2-1**: Tasks within Stage A – SA Scoping*

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	Section 3 and Appendix A	Stage A corresponds to the scoping stage of the SA and the findings of this stage are presented in this Scoping Report. During this stage the scope of the AAP will also be defined. This scoping report will be consulted upon for five weeks with the statutory consultation bodies.
A2: Collecting baseline information	Section 4 and Appendix B	
A3: Identifying sustainability issues and problems	Section 4	
A4: Developing the SA Framework	Section 5	
A5: Consulting on the scope of the SA	Purpose of this Scoping Report is to seek feedback on the scope of the SA.	

Following the Scoping Consultation, the SA will move to Stage B which will involve the appraisal of the Issues & Options of the AAP. This will be reported in the formal SA Report which will be consulted upon alongside the Publication AAP. This is anticipated later in 2018.

3 Review of Relevant Plans, Programmes and Environmental Objectives

3.1 Introduction

The box below stipulates the SEA Directive requirements for this stage of the process.

Box 1: SEA Directive Requirements for the Review of Plans Programmes and Environmental Protection Objectives

'…an outline of the contents, main objectives of the plan or programme and relationship with other relevant plans and programmers' (Annex 1 (a)).

'the environmental protection objectives, established at international, Community or Member State level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation' (Annex 1 (e))

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 DPD. 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.

The review included documents prepared at international, national, regional (sub-regional) and local scale. A brief summary of the documents reviewed, and the main findings are summarised in Table 3-1 and section 3.2. Further details presented in Appendix A which identifies key themes from the review. These key themes were collated following review of the individual documents in order to identify their common messages and objectives. These later formed an important stage in developing the SA Framework – See section 5 of thei Scoping Report.

Table 3-1 *Summary of main findings of the Plans and Policy Review*

Level	Summary
International Plans and Programmes	A review was undertaken of key International Conventions and European Directives that could potentially influence the development of the AAP and the SA. European Directives are transposed into national legislation in each individual Member State and, 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.

Level	Summary
National Plans and Programmes	Central Government establishes their guidelines and policies for a variety of different topics within the NPPF and PPG. The Framework sets out planning policies for England and how they are expected to be applied. It provides guidance for local planning authorities and decision-takers, both in drawing up plans and making decisions about planning applications. The Framework was reviewed to ensure that the SA process aligned with its aims and objectives. A review was also undertaken of relevant White Papers, plans and strategies including the Sustainable Development Strategy which outlines the over-arching Government objective to raise the quality of life in our communities.
Regional and County Level Plans	Where appropriate, county and sub-regional level plans have been considered. The objectives of these plans as well as some of the challenges they raise need to be taken on board as appropriate. However, it must be noted that the overarching goals of these plans and strategies may be outside the remit of the AAP which forms only individual parts of a number of different vehicles trying to deliver the county level targets.
Local Policy	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. These plans, should in theory, have included the main influences of international, national, regional and county level plans through the 'trickle-down effect'. They should also provide more of a local focus for the AAP area. It is, through identifying these themes and incorporating them into the AAP that synergies can be achieved with other relevant documents.

3.2 Key Results from the Review

There were many common themes identified in the review of plans, programmes and environmental protection objectives. Whilst specific results relating to each document are presented in Appendix A, the list below provides a summary of the main themes and issues identified:

- The need to address the causes of climate change and promote the reduction of greenhouse gas emissions.
- The need to improve access to good quality affordable housing to ensure that everyone has the opportunity to live in a decent affordable home.
- The need to create sustainable and balanced communities.
- The need to improve the vitality and vibrancy of town centres
- The need for the protection and enhancement of the quality and character of urban and rural areas.
- Recognising the need for the landscape to evolve and for development to be appropriate to the landscape setting and context.
- The need to protect and enhance biodiversity, habitats and species which are internationally, nationally and locally important.
- The need to conserve soil resources and maintain their quality

- The need to protect and enhance the local distinctiveness and the historic environment and its setting.
- The need to minimise waste generation and landfill and increase levels of reuse and recycling to achieve more sustainable waste management.
- Encourage the use of more sustainable forms of transport and development locations.
- The need to reduce dependency on the private car
- The need to increase energy efficiency and require the use of renewable energy resources.
- The need to establish a strong tourist economy, sensitively capitalising on environmental, heritage, and leisure assets and ensuring the benefits are experienced locally
- The need to ensure sustainable use of natural resources and promote sustainable design in new development.
- The need to promote and protect the water environment including issues such as quality and resource use.
- The need to reduce the risk of flooding and/or coastal erosion and promote protection of floodplains or areas of managed realignment from inappropriate development.
- The need to protect and enhance air quality.
- The need to improve accessibility and transport links to basic goods and services from residential areas.
- The need to promote sustainable economic growth, diversity and business competitiveness
- The need to reduce levels of crime and fear of crime and promote safer neighbourhoods.
- The need to improve the health and wellbeing of the population and reduce health inequalities.
- The need to promote quality employment opportunities.
- The need to raise educational attainment to help improve opportunities for life.

The European Spatial Development Perspective identified a potential conflict that is likely to prevail in all countries, irrespective of their location and this concerns balancing the social and economic claims for spatial development with an area's ecological and cultural functions to ensure that the most sustainable patterns of development are achieved. Through the SA process and the inclusion of suitable SA Objectives, indicators and targets it should be possible to identify where potential issues and conflicts may arise and to develop suitable policy modifications and mitigation measures.

4 The Sustainability Baseline and Key Sustainability Issues

4.1 Introduction

Box 2 defines the SEA Directive requirements for this element of the process.

Box 2: SEA Directive Requirements for Baseline Data Collation

'…the environmental characteristics of areas likely to be significantly affected' (Annex 1 (c))

'…any existing environmental problems which are relevant to the plan or programme, including, in particular, those relating to any areas of particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC and 92/43/EC'(Annex 1 (d)).

4.2 Methodology

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.

The environmental, social and economic baseline was characterised through the following methods:

- Review of relevant local, regional and national plans, strategies and programmes; and
- Data research based around a series of baseline indicators developed from the SEA Directive topics and previous consultation recommendations from the SA of the Local Plan. Data was also collated for additional socio-economic topic areas including deprivation, housing and the economy to ensure that a broad range of environmental, social and economic issues were considered.

The collation of baseline data also enabled the identification of key sustainability issues and opportunities affecting the Garden Village.

Appendix B summarises the key baseline trends identified for the Garden Village and the surrounding areas. Each section is subdivided to present the following:

- The baseline indicators that have been used (some are also contextual indicators and may not specifically form part of the SA Framework).
- Descriptive text, graphs and statistics about the site.
- Key data gaps and uncertainties to be filled at the next stage of the SA.

Sustainability issues and opportunities identified from the baseline review are detailed in Table 4-1 below.

The SEA Directive requires 'material assets' to be considered within the SA. Material assets refer to the stock of valuable assets within a study area and can include many things from valuable landscapes, natural and cultural heritage through to housing stock, schools, hospitals and quality agricultural land. It is considered that the material assets of the Garden Village and surrounding areas are appropriately covered in the following baseline sections, and consequently will not be repeated as a separate section:

- Population
- Education and qualifications

- Human health
- Water
- Soil and land quality.
- Air quality
- Climatic factors and energy
- Biodiversity, flora and fauna.
- Cultural heritage.
- Landscape
- Waste and minerals
- Transportation
- Economy
- Deprivation
- Housing.

4.3 Key Sustainability Issues and Opportunities

The table that follows presents the key sustainability issues and opportunities identified for the Bailrigg Garden Village AAP.

May 2018 – Note these have been updated following the Scoping Consultation.

Table 4-1 *Key sustainability issues and opportunities for Bailrigg Garden Village AAP.*

Baseline Topic	Key Issues / Opportunities
Population	▪ The general AAP area and surrounding area has a relatively large and young population which could offer a strong and diverse workforce to any employment provisions included within the masterplan. ▪ The permanent residential population within the AAP area is very low due to it being largely greenfield in nature. ▪ The University of Lancaster is the main source of population in the AAP area outside of small villages/hamlets and individual houses. This is dominated by temporary, student age residents. ▪ The creation of the Garden Village will dramatically alter the population characteristics of the area so it will be important to consider how this links with the existing population within the AAP boundary and its neighbouring settlements, notably Galgate and Scotforth.
Education and Qualifications	▪ Currently there are no schools within the AAP boundary as it is largely greenfield. New school provision is likely to be required for the new population and to avoid oversubscription in the existing neighbouring areas of Scotforth and Galgate. ▪ Educational attainment in the area is largely good (although note these statistics are based on ward boundaries which stretch beyond the AAP boundary). However,

Baseline Topic	Key Issues / Opportunities
	there is a pocket of higher educational deprivation north of the site in Scotforth East. ▪ Work based learning opportunities should be developed further to minimise the number of 16-18 year olds not in education or employment training and increase levels of attainment of qualifications. ▪ Lancaster University should be promoted as an important asset to continue to raise educational attainment levels and to attract inward investment into the AAP area.
Human Health	▪ Health in the AAP area is generally good in comparison to the Lancaster average with the poorest levels recorded to the north in the ward of Scotforth East. ▪ Access to doctor's surgeries is relatively good which is particularly important for the areas elderly population. However, the introduction of more homes in the area may put existing facilities under pressure. New health care facilities will therefore be required as part of the Garden Village. ▪ There are opportunities to further promote access to outdoor recreational pursuits in open areas of the AAP area to benefit the health of the local population. ▪ There are also opportunities to further promote walking and cycling in the AAP area and also improve walking and cycling opportunities to the nearby Forest of Bowland AONB. ▪ Public Rights of Way links across/under the M6 to the east of the AAP area are limited. ▪ There are significant opportunities for a network of sustainable transport links to be developed and combined with green infrastructure. ▪ There are issues surrounding the high noise level outputs originating from the strategic road and rail network that runs through the AAP area. This will need to be considered in the design of the Garden Village and it will also need to be ensured that noise levels are not exacerbated in the current Noise Important Areas[5].
Crime	▪ Crime rates per 1,000 population for the four wards that make up the AAP area are significantly below the Lancaster District average. However there has been a rise in crime in Scotforth East and Scotforth West in comparison to the previous year. ▪ Violent crime and anti-social behaviour are the biggest proportion of offences within the four wards. ▪ None of the Lower Super Output Areas (LSOAs) that make up the AAP area fall within the 30% most deprived for crime deprivation. ▪ Crime statistics for the area are skewed by the presence of the University of Lancaster with few other targets for crime in within the AAP boundary.

[5] Noise Important Areas capture the 1% of the population affected by the highest noise levels from major roads, according to Highways England's strategic noise mapping (Highway's England 2017)

Baseline Topic	Key Issues / Opportunities
	▪ The introduction of a new population with the Garden Village would provide new targets for crime so it will be important to design the masterplan with crime and security in mind.
Water	▪ Water quality of the River Conder is currently 'Moderate' which offers an opportunity to improve this and other watercourses through the AAP. ▪ New developments and households within the AAP area should be encouraged to minimise water use and to re-use rainwater where possible i.e. grey water recycling systems. ▪ Areas identified as providing the opportunity for flood risk management should be protected from development and set aside for the protection of people and property both on-site and further downstream. ▪ New developments should seek to use SUDs to manage surface water runoff sustainably and protect water quality by reducing sediments and pollutants and provide opportunity to improve the landscape and biodiversity value of the development.
Soil and Land Quality	▪ There is no Agricultural Land Classification Grade 1 or 2 land within the AAP area although whether or not there is grade 3a land is not known. ▪ Where previously developed sites exist, the aim should be to continue to remediate and re-use them, although this decision should be made on a site-by-site basis as some brownfield sites may now have developed biodiversity interests.
Air Quality	▪ In general terms air quality in the District is good although three Air Quality Management Areas (AQMAs) are identified in Lancaster, two of which have potential to be influenced by the Garden Village proposal if significant traffic flows are generated on the A6. ▪ Opportunities should be sought to reduce road traffic and promote sustainable transport use to ensure against this. ▪ Opportunities should also be sought to improve air quality within the AQMAs in particular where possible. ▪ There may be opportunities to reduce travel and distances between homes and employment sites through design of the AAP.
Energy & Climatic Factors	▪ Achieving a low carbon footprint through energy conservation and efficiency and the promotion of renewable energy sources should be a priority for the AAP. ▪ New developments should be encouraged to include sustainable design principles. ▪ Reducing transport on local roads and encouraging more sustainable modes of transport would contribute to reducing the effects of climate change. ▪ Emissions of Carbon Dioxide are generally low in the District and opportunities should be sought to maintain the these comparatively low levels. ▪ Opportunities exist to increase the production of energy from renewable sources; in particular by capitalising on the progress made by Lancaster University. Note such measures should be compatible with wider ecological and landscape aims.

Baseline Topic	Key Issues / Opportunities
Biodiversity, Flora and Fauna	▪ There are no Internationally or Nationally designated sites within the AAP area however the Morecambe Bay Special Protection Area (SPA) / Special Area of Conservation (SAC) / Ramsar site and the Lune Estuary Site of Specific Scientific Interest (SSSI) are approximately 850m to the west of the AAP area. There are however, three Biological Heritage Sites (BHSs) present on the site which should be retained, protected and enhanced where possible. ▪ The HRA for the Local Plan identified that the AAP area has the potential to be functionally lnked to Morecambe Bay SPA. Recreational activity may cause disturbance to Functionally Linked Land (FLL) and therefore areas for development should be carefully considered in conjunction with the appropriate mitigation measures. This is also considered in more detail in the HRA for the AAP. ▪ Enhancement of parts of the site to achieve net biodiversity gain should be included within the AAP masterplan including new tree planting and the establishment of an enhanced pond network. ▪ The woodland blocks, hedgerows, open water and the river course within the AAP area are all of high ecological value and should be retained as part of any development proposals. ▪ The land and habitats around the Forest Hills Golf and Country Club are diverse; further developments in this area will need to be supported by more involved ecology surveys and assessments. ▪ Park Coppice ancient woodland should be retained and enhanced where possible.
Cultural Heritage	▪ The historic environment, heritage assets and their setting should be appropriately conserved and enhanced. ▪ A number of listed buildings exist within the study area which also has a historic landscape character.
Landscape	▪ The AAP area is relatively close to the Forest of Bowland AONB. Key views are also afforded to the Lake District and across to the Williamson Monument which should be retained. ▪ Development of this area would greatly change the local and surrounding landscape due to the local topography and visibility. The topography of this site would likely present any development as a distinct change in views from the Forest of Bowland AONB out to the west towards the coast. ▪ It is important for landscape character and quality to be maintained and where possible restored and enhanced by maintaining certain landscape features and proposing a density and layout that will meet the requirements of a Garden Village ethos. ▪ Opportunities should be sought to enhance design and landscaping at the local level to improve the quality of the local environment. ▪ Parts of the site are elevated and prominent (e.g. Burrow Heights) and would be less suited for development. ▪ Opportunities could be sought to minimise light spillage as a result of development facilitated through the AAP as lighting levels in this area are already relatively high due to the presence of Lancaster University. ▪ Improving the quality of the public realm is viewed as very important as it contributes to an experience of a place or location. A high quality public realm can

Baseline Topic	Key Issues / Opportunities
	attract inward investment, benefit tourism and increase quality of life for the resident population.
Waste and Minerals	▪ The major strategic landfill site for the District is located in a neighbouring authority, therefore Lancaster is an exporter of waste. ▪ The Garden Village will increase waste production in the area. Opportunities should be sought to minimise this and further improve composting and recycling performance where this is possible. ▪ Sustainable sourcing and waste management principles should be promoted for all new development. ▪ Although Lancaster has exceeded recycling levels overall there is still room for improvement. ▪ Lancaster University, the single largest waste producer in the AAP area, has reached a recycling rate of 83% providing opportunities to continue this success through adopting the University's waste disposal mechanisms. ▪ The AAP area includes a number of minerals safeguarding areas. It will be important to demonstrate that the Garden Village will not result in the sterilisation of important resources.
Transportation	▪ Opportunities should be sought to reduce the growing dependence on the private car and increase public transport use and other sustainable modes of transport such as walking and cycling. It will be important to ensure that any new employment sites can be easily accessed by public transport. Such proposals would need to be safe and secure and should benefit levels of activity and health. ▪ North-south public transport links are strong however, these could be improved with the introduction of east-west routes linking up the network. ▪ The M6 is currently a barrier to development to the east with only one crossing point within the AAP area. ▪ Traffic is currently routed from the M6 via Galgate which causes congestion in the village. New development at Bailrigg has potential to exacerbate this and a new motorway junction is being considered. ▪ The good road connections to other parts of Lancaster and proximity to the M6 motorway network are both an opportunity and a threat to the AAP as they could help to encourage inward investment but they also could enable the AAP areas residents to easily commute to neighbouring authorities for employment purposes leading to a leakage of skills and also daily spending from the local area and the District in general.
Economy	▪ Economic activity levels are particularly low in the Ellel and the University area of the AAP area with unemployment levels also being relatively high and significantly higher than the District level. However, note that these figures are averaged across the wards so may not be directly relevant to the AAP boundary. ▪ None of the four LSOAs within the AAP area are amongst the bottom 30% for employment deprivation or income deprivation. However, Scotforth East, to the north of the area does show elevated levels of deprivation.

Baseline Topic	Key Issues / Opportunities
	▪ The AAP area is dominated by agriculture and the University. Agricultural holdings are likely to be affected by the Garden Village proposal. The University could be a key catalyst in the area for new high-tech or science businesses within the AAP. ▪ The strong strategic transport links (M6, A6, West Coast Main Line rail link) and direct access to the City Centre employment sites could benefit business growth in the area subject to appropriate transport and access improvements. ▪ There are potential opportunities to capitalise upon the AAP area's environmental and cultural assets and to develop the tourist industry.
Deprivation and Living Environment	▪ Two of the LSOAs that make up the majority of the AAP area fall within the 20% most deprived areas for Barriers to Housing and Services Deprivation. Owing to its rural nature, there are issues associated with access to services and facilities. There are opportunities to amend this as part of the Garden Village proposals. ▪ Two of the LSOAs that make up the majority of the AAP area fall within the 10% most deprived areas for Living Environment Deprivation. There are opportunities to amend this as part of the Garden Village proposal. ▪ Although no LSOAs within the AAP area fall within the 30% most deprived in the Index of Multiple Deprivation Scotforth East (018C) LSOA, slightly to the north of the boundary, does fall within the 30% most deprived areas for the Index of Multiple Deprivation. ▪ No LSOAs within the AAP area fall within the 30% most deprived in the Index of Multiple Deprivation. However, although just outside the AAP area Scotforth East (018C) LSOA does fall within the 30% most deprived areas for the Index of Multiple Deprivation.
Housing	▪ Currently, due to its largely greenfield nature, there are very few residential dwellings within the AAP area. ▪ Student accommodation at the University accounts for the majority of dwellings. ▪ House prices in Bailrigg are significantly higher than those in the surrounding settlements of Ellel, Galgate and Scotforth. ▪ The number of social housing rented from the Council or other social landlords is relatively low within the four wards of the AAP area with a high number of houses being owned or owned with a mortgage or loan. ▪ The new housing proposed on site should meet a range of housing needs including affordable housing.

5 The SA Framework

5.1 Background to the SA Framework

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. Whilst the SEA Directive does not require the use of Sustainability Objectives, they are a recognised tool for undertaking the assessment and are aspirations/goals that the AAP should work towards achieving.

The Sustainability Objectives are separate from the AAP Objectives, although there may be some overlaps between them. Baseline data should be collated to support each of the Objectives, as this provides a means of determining current performance for the AAP and gauging how much intervention or the extent of work needed to achieve the targets that have been identified. The following sections provide further details about the development of the SA Framework.

5.2 Development of the Sustainability Objectives

The Sustainability Objectives previously developed for the SA of the 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.

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. On the whole, the headline SA Objectives have remained largely unchanged although the sub-objectives have been amended to better reflect the AAP.

Table 5-1 presents the proposed SA Objectives 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.

May 2018 – Note the SA Framework has been updated to reflect the Scoping Consultation feedback. Notably, the objective relating to flood risk has been separated from the climate change objective and a new SA Objective EN10 has been created. This follows feedback from the Environment Agency.

Table 5-1: *SA Objectives*

SA Objective and Sub-Objectives
S1 To reduce crime, disorder and fear of crime
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
S2 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

SA Objective and Sub-Objectives
S3 To improve physical and mental health for all, 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 protect public safety through minimising the risk of flooding to people and property
S4 To encourage lifelong learning
To ensure there is access to primary, secondary and further educational opportunities for new residents
S5 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
EC1 To encourage thriving local economies
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
EC2 To ensure key economic drivers are strong
To ensure local centres are strong and vibrant
To ensure higher education sector remains vibrant
To ensure the knowledge economy is strengthened
EC3 To ensure the workforce meets local economic needs
Ensure the labour supply meets local economic needs
EC4 To encourage economic inclusion
To improve physical accessibility to jobs for those in greatest need

SA Objective and Sub-Objectives
EN1 To limit and adapt to climate change
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
EN2 To protect and enhance the quality of water features and resources
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
EN3 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
EN4 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
EN5 To ensure the sustainable use of natural resources
To ensure the use of best and most versatile agricultural land is avoided
To encourage the use of recycled or secondary materials
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
EN6 To increase energy efficiency and require the use of renewable energy sources
To encourage energy efficiency measures
To increase the use of renewable energy
EN7 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.

SA Objective and Sub-Objectives
EN8 To protect and improve air quality
To protect and improve local air quality To avoid worsening of AQMAs
EN9 To minimise waste, increase re-use and recycling
To encourage waste recycling and re-use To promote the use of recycled and secondary materials in construction
EN10 To reduce or manage flooding
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

6 The Appraisal Process

6.1 Geographical Scope of the SA

The geographical scope of the SA will be driven by the geographical scope of the AAP. The AAP must be in general conformity with the Local Plan and so policies should be aligned. Regarding the allocation element of the AAP the SA will consider the spatial extent of its likely impacts. In some cases this may be only local to the site whereas in other cases the impacts of the allocation may be felt over a wider area. Similarly, the cumulative effects brought about by the allocations of the Strategic Policies and Land Allocation DPD may result in impacts occurring over a wider area of the District. These will also be considered in the SA.

6.2 Temporal Scope of the SA

The AAP is intended to apply until 2031 (in line with the Lancaster Local Plan). This timescale will be reflected in the SA of the AAP. If there are likely to be any sustainability effects of the AAP that would last longer than this, these would also be considered.

6.3 Aspects of the AAP to be assessed and how

Individual components of the AAP will be assessed to determine their sustainability performance and to provide recommendations for sustainability improvements. At this stage in the AAP's development it is anticipated that the following elements will need to be assessed:

- AAP preferred development masterplan and its options; and
- Supporting policies.

The intention will be to ensure that the process is iterative with regular feedback occurring between the plan-makers and the SA team as options are developed. A number of masterplan options will be presented during the Issues and Options phase of the SA which will determine how well each masterplan approach performs against the SA Framework Objectives. The assessors will consider each of the sub-objectives whilst drawing a conclusion on the performance against the headline objective.

The appraisal will be presented in an appraisal matrix. The matrix is an established method for clearly analysing the performance of the policies or sites and helps meet the requirements of the SEA Regulations by ensuring that the following elements are considered. This will enable significant effects to be identified:

- Impact – whether the impact will be positive, negative or neutral when assessed against the SA Objectives.
- Temporal scale – whether the impact will be short-term (within 5 years), occur in the medium term (5 – 10 years) or occur in the long-term (10 years +).
- Spatial scale – where the impacts will occur within the area. Any transboundary effects outside of the study area would also be considered.
- Permanency – whether effects will be permanent or temporary.
- Level of certainty – the level of certainty in the prediction will be classified as low, medium or high.
- Cumulative and synergistic effects.

Where negative impacts are identified, measures will be proposed to offset, avoid or otherwise mitigate for the impact. In addition, measures which may further enhance benefits will also be identified as appropriate.

The scoring used for the appraisal of the policy/allocation is defined below:

***Table 6-2**: Notations used in the SA Assessment*

Impact	Description	Symbol
Major Positive Impact	The proposal contributes strongly to the achievement of the SA Objective.	++
Positive Impact	The proposal contributes partially to the achievement of the SA Objective.	+
No Impact/ Neutral	There is no clear relationship between the proposal and/or the achievement of the SA Objective or the relationship is negligible.	0
Negative Impact	The proposal partially detracts from the achievement of some elements of the SA Objective.	-
Major Negative Impact	The proposal strongly detracts from the achievement of all elements of the SA Objective.	- -
Uncertain impact – more information required	It is not possible to determine the nature of the impact as there may be too many external factors that would influence the appraisal or the impact may depend heavily upon implementation at the local level.	?
Positive and Negative Impacts	The proposal has a combination of both positive and negative contributions to the achievement of the SA Objective.	+/-

The assessment will also make use of Geographical Information Systems (GIS) to identify the relationship between the allocations and existing environmental and sustainability features, for example designated sites. Maps will be prepared that zoom into the areas where allocations are proposed to provide more detail at the assessment stage. Socio-economic factors cannot so easily be mapped using GIS although as a minimum, spatial data can be obtained pertaining to the different facets of deprivation and access to services. It will be important to consider the immediate local impacts of the proposals as well as the wider District and regional implications. Where appropriate, the assessment will consider existing evidence and research when making linkages between new development and the types of impact this could have on different strands of the community, for example, community cohesion, equality, health etc.

In all cases, the assessment of allocations will make good use of the baseline data collated which will be supplemented with further detail as appropriate at the assessment stage. When assessing each element, the questions will be asked:

- To what extent does the proposal meet the SA Objectives?
- To what extent will the proposal seek to address key sustainability issues?
- To what extent will the proposal affect the current baseline conditions?

It should also be remembered that this is a strategic assessment and it is not the intention to enter into the level of detail reserved for project-level Environmental Impact Assessment. All assessment will be desk-based.

The assessment of cumulative effects will consider other strategic proposals in the area and will draw upon the work undertaken for the SA for the Local Plan.

6.4 Assessment of Alternatives

It is a requirement of the SEA Directive that alternatives are assessed and, therefore, alternative options will be assessed using the SA Framework. The purpose of the assessment will be to determine the sustainability strengths and weaknesses of each option such that this information can be used by the plan-makers to inform their decision to select the preferred options.

It is anticipated that there maybe three or four alternative, high-level masterplan layouts that will need to be considered.

Each alternative option will be appraised using the same appraisal matrix identified above. The table will also identify whether the site is being taken forward as a preferred option and why or whether it is a rejected alternative and why.

7 Next Steps

This Scoping Report has outlined how we intend to undertake the SA of the AAP. Below, we have included a series of questions we would like you to answer when providing your consultation responses:

a Do you agree with the sustainability issues that we have identified? Are there additional issues that the SA should consider?

b Are there any particular topics or geographical areas of specific concern to your organisation?

c The SA Framework is based heavily on that used for other aspects of the Local Plan but will different sub-objectives. Do you agree that the Framework is appropriate or do you have alternative suggestions to improve it?

d Do you have any comments regarding our proposed approach to appraising reasonable alternatives?

e Do you have any further suggestions regarding the scope of the SA and its proposed appraisal of the AAP?

Responses to this consultation should be sent to:

Post: Ben Twiss, Arcadis, 5th Floor, 401 Faraday Street,
Birchwood Park, Warrington, WA3 6GA

Email: ben.twiss@arcadis.com

Following the receipt of the consultation comments, they will be reviewed and modifications made to the scope of the SA as necessary. Stage B of the SA process comprising the appraisal of the AAP will commence following refinement of the scope. It is expected that the next consultation on the SA Report will be undertaken alongside the consultation on the Publication AAP later in 2018.

May 2018 – Note that this report has now been subject to consultation and feedback has been incorporated.

APPENDIX A

Review of Other Relevant Plans, Programmes and Policies

Table A1 - List of Relevant Plans, Policies and Programmes

International and European Level
World Summit on Sustainable Development, Johannesburg (2002)
European Sustainable Development Strategy (2006)
EU Seventh Environmental Action Plan 2020 (2014)
European Spatial Development Perspective (97/150/EC)
Aarhus Convention (Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters) (1998
UN Framework Convention on Climate Change
Kyoto Protocol to the UN Framework Convention on Climate Change (1997)
Convention on Biological Diversity (1992)
Rio Declaration on Environment and Development, Statement of Principles for the Sustainable Management of Forests and Agenda 21 (1992)
Public Sector Information (PSI) Directive 2003/98/EC on the Re-Use of Public Information
Environmental Liability Directive 2004/35/EC
EU Directive to Promote Electricity from Renewable Energy (2001/77/EC)
EU Ambient Air Quality Directive (96/62/EC)
EU Directive on Ambient Air Quality and Cleaner Air for Europe (2008/50/EC)
EU Habitats Directive (92/43/EEC)
EU Wild Birds Directive (79/409/EEC)
EU Birds Directive 2009/147/EC
EU Framework Directive on Waste (91/156/EEC)
EU Landfill Directive (99/31/EC)
EU Water Framework Directive (00/60/EC)
EC Freshwater Fish Directive (78/659/EEC)
EU Flood Directive (2007/60/EC)
EU Soil Framework Directive 2006
European Transport Policy for 2010: A Time to Decide (2001)
European Landscape Convention ratified 2006
Energy Performance in Buildings Directive 2002/91/EEC

International and European Level
European Nitrates Directive (1991)
EU Groundwater Daughter Directive 2006/118/EC
EU Directive 2009/31/EC amending Directive 85/337/EEC on Environmental Impact Assessment
EU Rural Development Policy 2007-2013
Second European Climate Change Programme (2005)
European Common Agricultural Policy (Reform 2003)
European Employment Strategy (2002)
Renewable Energy Coalition (2002)
Intelligent Energy Europe 2007-2013
Valletta Convention 1992
Granada Convention 1985
World Heritage Convention 1972
Paris Convention of 1954
Hague Convention 1954

Regional and National Level
UK Sustainable Development Strategy –'Securing the Future' 2005
Sustainable Communities: Building for the Future (2003)
Planning Act 2008
Environmental Quality in Spatial Planning (2005)
World Class Places: The Government's Strategy for Improving Quality of Place (2009)
Rural Strategy (2004)
The Countryside in and Around Towns: A vision for connecting town and country in the pursuit of sustainable development (2005)
Sustainable Communities, Settled Homes, Changing Lives – A Strategy for Tackling Homelessness (ODPM) (2005)
Climate Change Act (2008)
Stern Review of the Economics of Climate Change (2006)
UK Carbon Plan (2011)

Regional and National Level
Climate change and biodiversity adaptation: the role of the spatial planning system – a Natural England commissioned report (2009)
Planning for Climate Change – Guidance and Model Policies for Local Authorities (2010)
Energy Act 2011
Delivering a Sustainable Transport System (2008)
The Future of Transport White Paper – A Network for 2030 (2004)
Low Carbon Transport: A Greener Future - A Carbon Reduction Strategy for Transport (2009)
Wildlife and Countryside Act (1981) (as amended)
The Conservation of Habitats and Species Regulations (2010)
The Countryside and Rights of Way (CRoW) Act (2000)
The Natural Environment and Rural Communities Act (2006)
The Guidance for Local Authorities on Implementing the Biodiversity Duty (2007)
Conserving Biodiversity – The UK Approach (2007)
Working with the Grain of Nature: a Biodiversity Strategy for England (2002)
A Strategy for England's Trees, Woodlands and Forests (2007)
Landscape Character Assessment Guidance for England and Scotland (2002)
Open Space Strategies: Best Practice Guidance (CABE and the Greater London Authority, 2009)
A Strategy for England's Trees, Woodlands and Forests (2007)
Landscape Character Assessment Guidance for England and Scotland (2002)
Open Space Strategies: Best Practice Guidance (CABE and the Greater London Authority, 2009)
Safeguarding our Soils: A Strategy for England (Defra, 2009)
Natural England's Green Infrastructure Guidance (2009)
Accessible Natural Green Space Standards in Towns and Cities: A Review and Toolkit for their Implementation (2003) and Nature Nearby: Accessible Green Space Guidance (2010)
Historic Environment: A Force for the Future (2001)
The Historic Environment and Site Allocations in Local Plans: Historic England Advice Note 3 (2015).
The Air Quality Strategy for England, Scotland, Wales and Northern Ireland (2007)
Water Resources Strategy for England and Wales (2009)

Regional and National Level
Future Water: The Government's Water Strategy for England (2008)
Flood and Water Management Act (2010)
Making Space for Water: Taking Forward a New Government Strategy for Flood and Coastal Erosion Risk Management (2005)
Waste Strategy for England (2007)
The Egan Review – Skills for Sustainable Communities (2004)
Working for a Healthier Tomorrow – Dame Carol Black's Review of the health of Britain's working age population (2008)
Health Effects of Climate Change in the UK 2008 – An update of the Department of Health Report 2001/2002
Tackling Health Inequalities – A Programme for Action (2003, including the 2007 Status Report on the Programme for Action)
By All Reasonable Means: Inclusive Access To The Outdoors For Disabled People (Countryside Agency, 2005)
National Planning Policy Framework (2012)
Draft National Planning Policy Framework (2018)
National Planning Practice Guidance (2013 with ongoing updates)
Localism Act (2011)
Guidance Notes for the Reduction of Light Pollution (2000)
Good Practice Guide on Planning for Tourism (2006)

Local Plans and Programmes
Lancaster Health Profile (2016)
Lancaster District Community Safety Plan (2011/2012)
Lancaster City Council Sustainable Community Strategy (2008 – 2011)
Strategic Housing Land Availability Assessment Report (2015)
Strategic Housing Market Assessment (2008)
Lancaster District Play Strategy (2012)
Housing Strategy and Action Plan (2012-2017)
Lancaster District Homelessness Strategy (2008-2013)

Local Plans and Programmes
Lancaster City Council Inspection Strategy for Contaminated Land (2010)
Lancaster District Local Brownfield Strategy (2009)
Lancaster City Council Strategic Flood Risk Assessment (2007)
Statement of Community Involvement (2013)
Lancaster District PPG17 Study - Open Space, Sport and Recreation Facilities (2010 refresh)
Children and Young People Strategic Plan (2014-2017)
Corporate Plan (2016-2020)

Table A2 - Sustainability Themes linked to SA Objectives

Themes/Messages Relevant to SA of Bailrigg AAP	Source					Main SA Topics	Relevant SA Objective
	International	National / Regional	Local	Implications For the AAP	Implications for the SA		
Environmental							
Protect and enhance biodiversity, habitats and species which are internationally, nationally and locally important	Convention on Biological Diversity, The EU Biodiversity Strategy, Convention on Biological Diversity, EU Habitats Directive, EC Freshwater Fish Directive, Agenda 21, Rio Declaration on Environment and Development, EU Directive 97/11/EC amending Directive 85/337/EEC on Environmental Impact Assessment, Environmental Liability Directive, World Summit on Sustainable Development Biodiversity Strategy Statement of principles on forests, EU Habitats Directive, The EU Directive on the Conservation of Wild Birds, EC Freshwater Fish Directive, EU Directive 97/11/EC amending Directive 85/337/EEC on Environmental Impact Assessment, Agenda 21, Rio Declaration on Environment and Development, Statement	UK Sustainable Development Strategy: Securing the Future (2005) and the UK's Shared Framework for Sustainable Development, One Future – Different Paths (2005), Climate change and biodiversity adaptation: the role of the spatial planning system – a Natural England commissioned report (2009), Wildlife and Countryside Act (1981) (as amended), The Natural Environment and Rural Communities Act (2006), Conserving Biodiversity – The UK Approach (2007), Working with the Grain of Nature: a Biodiversity Strategy for England (2002), The UK Post-2010 Biodiversity Framework (2012),	Lancaster City Council Local Plan	The AAP should contribute positively to biodiversity and sites of local and national importance. Development should not adversely affect biodiversity sites, designated sites and important habitats or species. Conservation and enhancement of designated areas should be promoted.	The SA Framework should include objectives, indicators and targets that address biodiversity, species and habitats.	Biodiversity, Flora and Fauna	EN3

Themes/Messages Relevant to SA of Bailrigg AAP	Source					Main SA Topics	Relevant SA Objective
	International	National / Regional	Local	Implications For the AAP	Implications for the SA		
	of Principles of Forests, Environmental Liability Directive, Bern Convention, EU Directive on the Conservation of Wild Birds, Bonn Convention, EU Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC), Ramsar Convention, EU Birds Directive 2009/147/EC	A Strategy for England's Trees, Woodlands and Forests (2007), Biodiversity Action Plan for Lancashire (various dates)					
Reduce air pollution and ensure improvements in air quality	EU Ambient Air Quality Directive, EU Directive 97/11/EC amending Directive 85/337/EEC on Environmental Impact Assessment, Environmental Liability Directive EU Seventh Environmental Action Plan, EU Directive on Ambient Air Quality and Cleaner Air for Europe (2008/50/EC)	The Future of Transport White Paper – A Network for 2030 (2004), The Air Quality Strategy for England, Scotland, Wales and Northern Ireland (2007), National Planning Practice Guidance (2013 with ongoing updates), Guidance Notes for the Reduction of Light Pollution (2000)	Lancaster City Council Local Plan	The AAP should seek to incorporate measures to improve air quality such as increasing accessibility of public transport and encouraging the use of sustainable transport modes.	The SA framework should include objectives that encourage the improvement of air quality.	Air Quality and Climate Change	EN8, EN1
Ensure development does not increase flood risk, and where possible reduces flood risk and incorporate	The EU Water Framework Directive, EU Flood Directive, European Sustainable Development Strategy, EU Directive 97/11/EC amending Directive 85/337/EEC on Environmental Impact Assessment, Directive on the	Lancashire and Blackpool Local Flood Risk Management Strategy (2013), North West River Basin District Flood Risk Management Plan 2015-2021 (2016), North West River Basin	Lancaster City Council Local Plan, Local Flood Risk Management Strategy, Lancaster City Council Strategic	The AAP should take flood risk and coastal erosion into consideration when determining the location and design of new development. The AAP should ensure that new	The SA framework needs to include objectives, targets and indicators that address flooding risk.	Water Human Health and Climate Change	EN2, S3 and EN10

Themes/Messages Relevant to SA of Bailrigg AAP	Source					Main SA Topics	Relevant SA Objective
	International	National / Regional	Local	Implications For the AAP	Implications for the SA		
climate change adaptation measures such as natural flood risk management, providing space for future flood risk management measures and SUDs	Assessment and Management of Flood Risks (2007/60/EC)	Management Plan: Part 1 and Part 2 (2015), National Planning Practice Guidance (2013 with ongoing updates), Health Effects of Climate Change in the UK 2008 – An update of the Department of Health Report 2001/2002, Making Space for Water: Taking Forward a New Government Strategy for Flood and Coastal Erosion Risk Management (2005), Flood and Water Management Act (2010), Future Water: The Government's Water Strategy for England (2008), Water Resources Strategy for England and Wales (2009), Climate Change Act (2008), Working with the Grain of Nature: a Biodiversity Strategy for England (2002)	Flood Risk Assessment (2007)	development does not increase flood risk and should seek to ensure development incorporates climate change adaptation measures such as the use of sustainable drainage features.			
Encourage the use of more	European Sustainable Development Strategy,	Delivering a Sustainable Transport System	Lancashire County	The AAP should provide opportunities	The SA should include	Population, Human	S3, EN8, S5 and

Themes/Messages Relevant to SA of Bailrigg AAP	Source					Main SA Topics	Relevant SA Objective
	International	National / Regional	Local	Implications For the AAP	Implications for the SA		
sustainable forms of transport and development locations, reducing the need to travel by car	European Transport Policy	(2008), The Future of Transport White Paper – A Network for 2030 (2004), Lancashire's Local Transport Plan 2011 – 2021, Low Carbon Transport: A Greener Future - A Carbon Reduction Strategy for Transport (2009), The Countryside and Rights of Way (CRoW) Act (2000), National Planning Practice Guidance (2013 with ongoing updates), Lancashire County Council Rights of Way Improvement Plan 2015-2025 Consultation Draft.	Council, Lancashire Rights of Way Improvement Plan	to access new and existing development and services by a range of travel modes. Development should encourage efficient and sustainable patterns of movement.	objectives, indicators and targets that relate to sustainable transport.	Health Air Quality, Transport and Climate Change	EN1
Address the causes of climate change and promote the reduction of greenhouse gas emissions	Johannesburg Declaration on Sustainable Development, Kyoto Protocol on Climate Change, The EU Seventh Environmental Action Plan, European Sustainable Development Strategy, United Nations Framework Convention on Climate Change, European Climate	UK Sustainable Development Strategy: Securing the Future (2005) and the UK's Shared Framework for Sustainable Development, One Future – Different Paths (2005), Climate Change Act (2008), Planning for Climate	Lancaster City Council Local Plan	The AAP should aim to reduce the causes of climate change by reducing greenhouse gas emissions associated with all aspects of new developments, transportation and utilities infrastructure.	The SA framework should include objectives, indicators and targets addressing climate change.	Air Quality, Energy and Climate Change	EN8, EN6 and EN1

Themes/Messages Relevant to SA of Bailrigg AAP	Source					Main SA Topics	Relevant SA Objective
	International	National / Regional	Local	Implications For the AAP	Implications for the SA		
	Change Programme, The EU Air Quality Framework Directive, Agenda 21, EU Directive 97/11/EC amending Directive 85/337/EEC on Environmental Impact Assessment, UN Framework Convention on Climate Change Directive to Promote Electricity from Renewable Energy (2001/77/EC)	Change – Guidance and Model Policies for Local Authorities (2010), Delivering a Sustainable Transport System (2008), Low Carbon Transport: A Greener Future - A Carbon Reduction Strategy for Transport (2009), A Strategy for England's Trees, Woodlands and Forests (2007), Water Resources Strategy for England and Wales (2009), Health Effects of Climate Change in the UK 2008 – An update of the Department of Health Report 2001/2002, Lancashire Climate Change Strategy 2009 - 2020, Forest of Bowland Management Plan April 2014 - March 2019 Biodiversity Action Plan for Lancashire (various dates)					
Minimise waste generation and landfill, and	The EU Landfill of Waste Directive, EU Waste Framework Directive, European	UK Sustainable Development Strategy: Securing the Future (2005) and the UK's	Lancaster City Council Local Plan	The AAP should promote the reduction of waste in new developments.	The SA framework should include objectives,	Air Quality, Climate Change, Waste and	EN8, EN1, EN9 and EN5

Themes/Messages Relevant to SA of Bailrigg AAP	Source					Main SA Topics	Relevant SA Objective
	International	National / Regional	Local	Implications For the AAP	Implications for the SA		
increase levels of reuse and recycling to achieve more sustainable waste management	Sustainable Development Strategy, EU Directive 97/11/EC amending Directive 85/337/EEC on Environmental Impact Assessment, Environmental Liability Directive, (EU) Council Directive on Waste (75/442/EEC) as amended by Council Directive 91/156/EC, Council Directive on the Landfill of Waste (99/31/EC), EU Hazardous Waste Directive (91/689/EEC), EU Packaging and Packaging Waste Directive (94/62/EC)	Shared Framework for Sustainable Development, One Future – Different Paths (2005), Environmental Quality in Spatial Planning (2005), Climate Change Act (2008), Waste Strategy for England (2007), The Egan Review – Skills for Sustainable Communities (2004), Joint Lancashire Minerals and Waste Development Framework Core Strategy DPD (2009), Lancashire's Municipal Waste Strategy 2008 – 2020 Rubbish to Resources, Lancashire Climate Change Strategy 2009 - 2020, National Planning Policy for Waste		Opportunities for recycling and reuse should be encouraged.	indicators and targets addressing sustainable waste management.	Natural Resource Use	
Increase energy efficiency and require the use of renewable energy resources	European Sustainable Development Strategy, EU Directive on Energy performance of buildings, Kyoto protocol on climate change, EU Directive 97/11/EC amending Directive	UK Sustainable Development Strategy: Securing the Future (2005) and the UK's Shared Framework for Sustainable Development, One Future – Different Paths	Lancaster City Council Local Plan, Corporate Plan 2016-2020	The AAP should promote reduced energy usage, energy efficiency in new developments and the creation of energy from renewable sources.	The SA framework should include objectives to cover the action areas and encourage energy	Air Quality, Energy and Climate Change	EN8, EN6 and EN1

Themes/Messages Relevant to SA of Bailrigg AAP	Source					Main SA Topics	Relevant SA Objective
	International	National / Regional	Local	Implications For the AAP	Implications for the SA		
	85/337/EEC on Environmental Impact Assessment, Renewable Energy Coalition, Directive to Promote Electricity from Renewable Energy (2001/77/EC),	(2005), Energy Act 2011, The Future of Transport White Paper – A Network for 2030 (2004), Waste Strategy for England (2007), Lancashire Climate Change Strategy 2009 - 2020, Climate Change Act (2008)			efficiency.		
Ensure sustainable use of natural resources and promote sustainable design in new development	European Sustainable Development Strategy, Kyoto protocol on Climate Change, EU Directive 97/11/EC amending Directive 85/337/EEC on Environmental Impact Assessment, Renewable Energy Coalition Intelligent Energy Europe The European Spatial Development Perspective, European Sustainable Development Strategy (2006), EU Seventh Environment Action Programme to 2020 (2014).	UK Sustainable Development Strategy: Securing the Future (2005) and the UK's Shared Framework for Sustainable Development, One Future – Different Paths (2005), A Strategy for England's Trees, Woodlands and Forests (2007), Waste Strategy for England (2007), The Egan Review – Skills for Sustainable Communities (2004), National Planning Policy Framework (2012), Draft National Planning Policy Framework (2018), The Countryside in and Around Towns: A vision	Lancaster City Council Local Plan,	The use of renewable resources and of sustainably produced materials from local sources should be encouraged. Minerals and other non-renewable resources should be safeguarded. The AAP should ensure good design which complements the area in which they are located.	The SA framework should include sustainable use of resources and the promotion of sustainable development.	Human Health, Climate Change, Energy, Natural Resources, Cultural Heritage, Landscape	S3, EN1, EN6, EN5, EN7 and EN4

Themes/Messages Relevant to SA of Bailrigg AAP	Source					Main SA Topics	Relevant SA Objective
	International	National / Regional	Local	Implications For the AAP	Implications for the SA		
		for connecting town and country in the pursuit of sustainable development (2005), Sustainable Communities: Building for the Future (2003), Safeguarding our Soils: A Strategy for England (Defra, 2009), Water Resources Strategy for England and Wales (2009), Future Water: The Government's Water Strategy for England (2008), Lancashire's Municipal Waste Strategy 2008 – 2020 Rubbish to Resources, Lancashire Climate Change Strategy 2009 - 2020, Climate Change Act (2008), Stern Review of the Economics of Climate Change (2006)					
To conserve soil resources and maintain their quality	European Sustainable Development Strategy, EU Seventh Environmental Action Plan to 2020 (2014), EU Soil Framework Directive, European Nitrates Directive, Environmental	Environment Strategy – A Strategy for England's Trees, Woodlands and Forests (2007), Safeguarding our Soils: A Strategy for England (Defra, 2009),	Lancaster City Council Local Plan - Lancaster City Council Inspection Strategy for	The AAP should ensure soil resources are not adversely affected by development. Appropriate remediation of	The SA Framework should include an objective addressing the need to protect soil quality and	Soils and Geology Landscape Water	EN5, EN6 and EN2

Themes/Messages Relevant to SA of Bailrigg AAP	Source					Main SA Topics	Relevant SA Objective
	International	National / Regional	Local	Implications For the AAP	Implications for the SA		
	Liability Directive, EU Nitrates Directive	Lancashire Local Biodiversity Action Plan	Contaminated Land (2010), Lancaster District Local Brownfield Strategy (2009)	contaminated land should be carried out where necessary and should not increase the potential for groundwater pollution.	function.		
Protect and enhance the local distinctiveness and the historic environment and its setting	European Landscape Convention, Valletta Convention 1992, Granada Convention 1985, World Heritage Convention 1972, Paris Convention of 1954, Hague Convention 1954	National Planning Practice Guidance (2013 with ongoing updates), National Planning Policy Framework (2012) - Conserving and enhancing the historic environment, Draft National Planning Policy Framework (2018), Historic Environment: A Force for the Future (2001), The Historic Environment and Site Allocations in Local Plans: Historic England Advice Note 3 (2015), Environmental Quality in Spatial Planning (2005).	Lancaster City Council Local Plan	The AAP should protect and enhance local distinctiveness, valued historic environment and cultural heritage and its setting.	The SA framework should include objectives that consider local distinctiveness and the historic environment.	Cultural Heritage Landscape	EN 7 and EN6
Social							
Improve accessibility and transport links to basic goods and		Delivering a Sustainable Transport System (2008), The Future of Transport White Paper – A	Lancaster City Council Local Plan	The AAP should ensure developments and key services are served	The SA framework must include objectives, indicators and	Population, Human Health and Transport	S3 and S5

Themes/Messages Relevant to SA of Bailrigg AAP	Source					Main SA Topics	Relevant SA Objective
	International	National / Regional	Local	Implications For the AAP	Implications for the SA		
services from residential areas		Network for 2030 (2004), The Egan Review – Skills for Sustainable Communities (2004), National Planning Policy Framework (2012), Draft National Planning Policy Framework (2018), City Implementation Plan 2015-2018, Lancashire's Local Transport Plan 2011 - 2021		by a range of transport options to improve accessibility	targets relating to public transport use and accessibility to meet local needs.		
Improve the health and wellbeing of the population and reduce health inequalities	EU Seventh Environment Action Programme	Forest of Bowland Management Plan April 2014 - March 2019, Lancaster Health Profile 2016, Delivering a Sustainable Transport System (2008), National Planning Practice Guidance (2013 with ongoing updates), Lancashire Sport Partnership Strategy 2013-2017, Open Space Strategies: Best Practice Guidance (CABE and the Greater London Authority, 2009), Biodiversity by Design: A Guide for Sustainable	Lancaster City Council Local Plan, Lancashire County Council - Lancashire Rights of Way Improvement Plan, Lancaster Health Profile 2016, Lancaster City Council Sustainable Community Strategy 2008 – 2011, Lancaster District Play	The AAP should promote healthy and active lifestyles. Health facilities should be located to maximise accessibility. Accessibility to and linkages between areas of open space providing both formal and informal recreational opportunities should be considered as health benefits and wellbeing benefits can be achieved from green space.	The SA framework should include a variety of social objectives, indicators and targets addressing health and community.	Air Quality and Human Health	EN8 and S3

Themes/Messages Relevant to SA of Bailrigg AAP	Source					Main SA Topics	Relevant SA Objective
	International	National / Regional	Local	Implications For the AAP	Implications for the SA		
		Communities (Town and Country Planning Association) (2004), By All Reasonable Means: Inclusive Access To The Outdoors For Disabled People (Countryside Agency, 2005)	Strategy, Children and Young People Strategic Plan (2014-2017), Lancaster District PPG17 Study - Open Space, Sport and Recreation Facilities (2010 Refresh), Lancaster District Play Strategy (To be launched in September 2012)				
Raise educational attainment to help improve opportunities for life	Aarhus Convention, PSI Directive	Sustainable Communities: Building for the Future (2003), Lancashire's Local Transport Plan 2011 – 2021, Lancashire's Municipal Waste Strategy 2008 – 2020 Rubbish to Resources	Lancaster City Council Local Plan, Lancaster City Council Sustainable Community Strategy 2008 – 2011	The AAP should promote educational attainment through accessibility and educational facilities should be located to maximise attainment.	The SA framework should include objectives, indicators and targets relating to skills and education.	Population, Human Health	S4
Improve access to good quality affordable housing to ensure that		City Implementation Plan 2015-2018, Localism Act 2011, National Planning Practice Guidance (2013 with ongoing	Lancaster City Council Local Plan, Lancaster Corporate Plan 2016-	The AAP should promote safe and sustainable communities and should include a range of housing to	The SA framework must include objectives, indicators and targets that	Housing and Human Health	S2 and S3

Themes/Messages Relevant to SA of Bailrigg AAP	Source					Main SA Topics	Relevant SA Objective
	International	National / Regional	Local	Implications For the AAP	Implications for the SA		
everyone has the opportunity to live in a decent affordable home		updates), Sustainable Communities, Settled Homes, Changing Lives – A Strategy for Tackling Homelessness (ODPM) (2005), Sustainable Communities: Building for the Future (2003), Housing Strategy and Action Plan 2012-2017, Strategic Housing Land Availability Assessment Report (2015)	2020, Housing Strategy and Action Plan 2012-2017, Strategic Housing Market Assessment 2008, Strategic Housing Land Availability Assessment (2015), Lancaster District PPG17 Study - Open Space, Sport and Recreation Facilities (2010 Refresh), Lancaster District Play Strategy (To be launched in September 2012)	meet the District's needs including affordable housing.	address housing issues.		
Reduce levels of crime and fear of crime and promote safer neighbour-		Sustainable Communities: Building for the Future (2003), Lancashire's Local Transport Plan 2011 - 2021	Lancaster City Council Local Plan, Lancaster District Community	Policies should promote safe and sustainable communities.	The SA framework must include objectives, indicators and targets that	Population and Human Health	S1 and S3

Themes/Messages Relevant to SA of Bailrigg AAP	Source					Main SA Topics	Relevant SA Objective
	International	National / Regional	Local	Implications For the AAP	Implications for the SA		
hoods			Safety Plan 2011/2012, Lancaster City Council Sustainable Community Strategy 2008 – 2011, Housing Strategy and Action Plan 2012-2017, Lancaster District Homelessness Strategy (2008-2013)		address crime.		
Create sustainable and balanced communities	Johannesburg Declaration on Sustainable Development, European Spatial Development Perspective, European Sustainable Development Strategy, Agenda 21, Rio Declaration on Environment and Development, EU Rural Development Policy, Aarhus Convention, PSI Directive	UK Sustainable Development Strategy: Securing the Future (2005) and the UK's Shared Framework for Sustainable Development, One Future – Different Paths (2005), Sustainable Communities: Building for the Future (2003), Sustainable Communities, Settled Homes, Changing Lives – A Strategy for Tackling Homelessness (ODPM) (2005), National Planning Policy	Lancaster City Council Local Plan, Lancaster City Council Sustainable Community Strategy 2008 – 2011, Statement of Community Involvement (2016)	The AAP should provide for a range of housing, employment and other opportunities to enable people to realise their individual aspirations.	The SA framework should include objective, targets and indicators that address community needs.	All	All Objectives

Themes/Messages Relevant to SA of Bailrigg AAP	Source					Main SA Topics	Relevant SA Objective
	International	National / Regional	Local	Implications For the AAP	Implications for the SA		
		Framework (2012), Draft National Planning Policy Framework (2018), Biodiversity by Design: A Guide for Sustainable Communities (Town and Country Planning Association) (2004), The Egan Review – Skills for Sustainable Communities (2004), The Countryside in and Around Towns: A vision for connecting town and country in the pursuit of sustainable development (2005), Statement of Community Involvement (2013), By All Reasonable Means: Inclusive Access To The Outdoors For Disabled People (Countryside Agency, 2005), Strategic Housing Land Availability Assessment Report (2015)					
Economic							
Promote quality employment opportunities	Johannesburg Declaration on Sustainable Development, The European Employment	Lancashire's Local Transport Plan 2011 – 2021, Lancashire Strategic	Lancaster City Council Local Plan	The AAP should ensure adequate provision of local employment	The SA framework should address	Population	EC1, EC3 and EC4

Themes/Messages Relevant to SA of Bailrigg AAP	Source					Main SA Topics	Relevant SA Objective
	International	National / Regional	Local	Implications For the AAP	Implications for the SA		
	Strategy, EU Rural Development Policy 2007-2013	Economic Plan (2014), The Egan Review – Skills for Sustainable Communities (2004), Lancashire Growth Deal (2014)		opportunities.	employment provision.		
Promote sustainable economic growth, diversity and business competitive-ness	European Spatial Development Perspective, The European Employment Strategy, EU Rural Development Policy 2007-2013	Lancashire's Local Transport Plan 2011 – 2021, Lancashire Strategic Economic Plan (2014), Stern Review of the Economics of Climate Change (2006), Lancashire Growth Deal (2014), National Planning Policy Framework (2012), Draft National Planning Policy Framework (2018), Rural Strategy (2004), Environmental Quality in Spatial Planning (2005)	Lancaster City Council Local Plan - Corporate Plan 2016-2020	The AAP should encourage the creation of infrastructure and networks which enable business innovation and stimulates business growth.	The SA should include objectives, indicators and targets relating to economic growth and development.	Population	EC1, EC2, EC3 and EC4

APPENDIX B
Key Sustainability Issues and Opportunities Baseline

Population

The following baseline indicators have been used to identify key population trends and characteristics:

- Population by ward (Local Government Association);
- Population density by ward;
- Population age range by ward (Local Government Association); and
- Ethnicity by ward (Local Government Association).

The following baseline population data presented below has been taken from the four wards that fall within the AAP area (as shown in Figure B1 below) to form a mosaic of the baseline within and surrounding the site. These four wards included: Ellel, Scotforth East, Scotforth West and University & Rural Scotforth. In some cases, the baseline data can be skewed due to the overall area of a ward, for example, Ellel ward is large and particularly rural and makes up only a small area of the proposed site. Nevertheless, as part of the site falls within this ward, it has been included within the baseline to form as comprehensive picture as possible.

Figure B1 – Ward boundaries (Green) for wards comprising the AAP area.

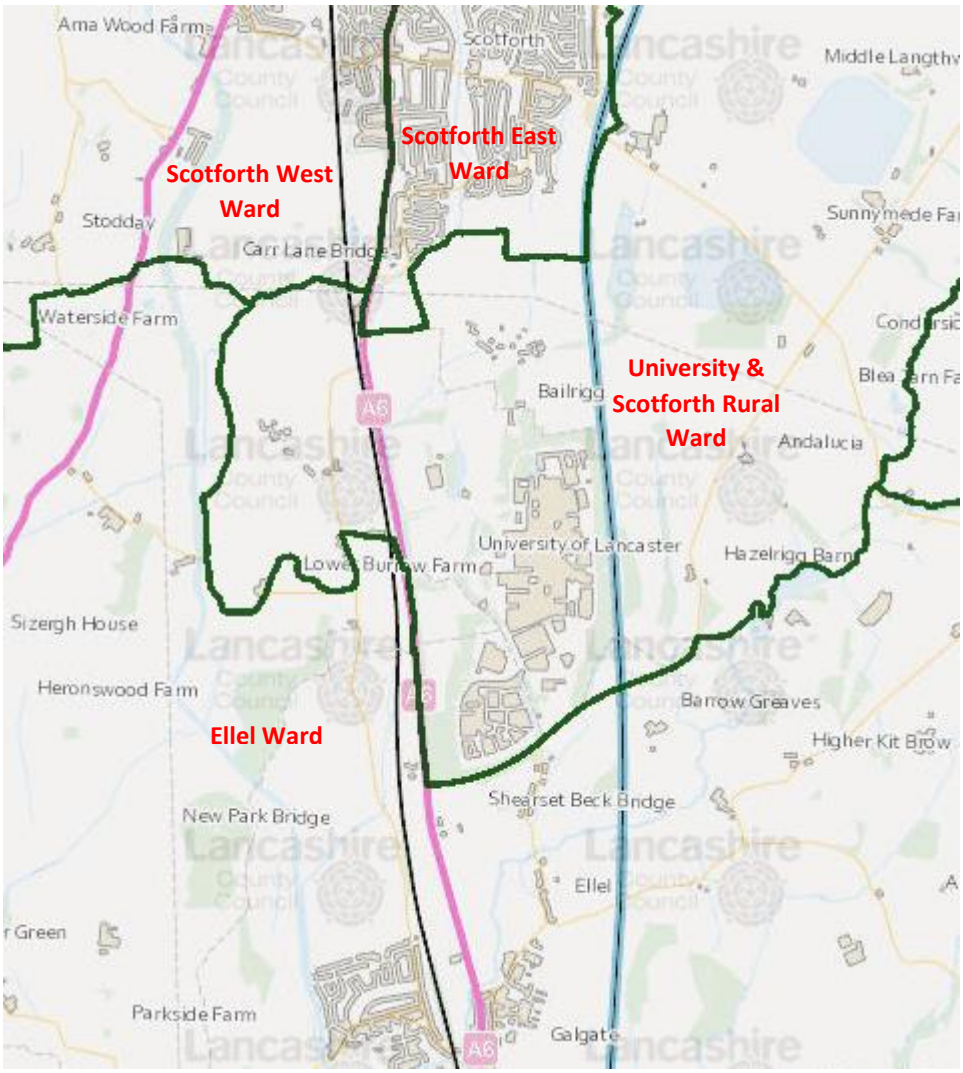
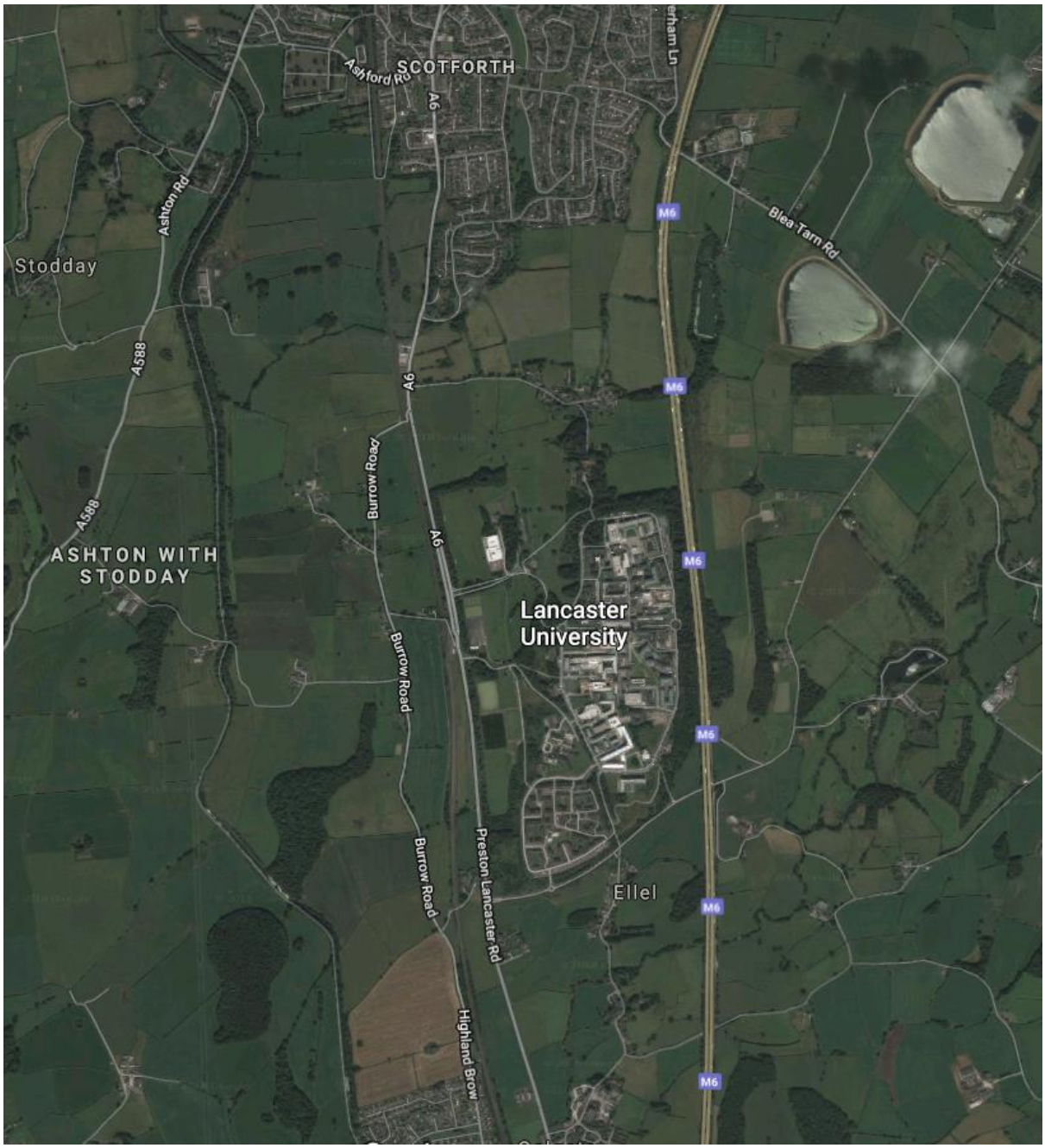


Figure B2 below, shows the existing land uses of the Area Action Plan (AAP) area which is comprised mostly of undeveloped greenfield land occasionally interrupted by sporadic residential dwellings such as farm houses. The centre of the AAP area is dominated by the existing Lancaster University. The settlement of Scotforth is adjacent to the north of the site with Galgate adjacent to the south. Both settlements represent the highest concentrations of population around the AAP area.

Figure B2 – Aerial satellite image of the AAP area (Google



As of 2015, the population of the Lancaster District stood at 143,500. Ellel has the largest population of the four wards as this is the largest ward and also includes settlement such as Galgate directly adjacent to the proposed site. The lowest population is held by University and Scotforth Rural at 5,090 with the majority of this population likely to be made up of students with the Lancaster University being within this ward.

Table B1 – Populations of the four wards

	Ellel	Scotforth East	Scotforth West	University & Scotforth Rural
Population by ward (2015)	8,691	6,854	7,021	5,090

Source: Local Government Association

As mentioned earlier, Ellel is a particularly large and rural ward which is reflected in a population density of just 66 people per km^2. In contrast, Scotforth East has the highest population density at 3322 per km^2 given that it is a much smaller and highly urbanised ward.

Table B2 – Population density of each of the four wards

	Ellel	Scotforth East	Scotforth West	University & Scotforth Rural
Population Density per km^2	66	3322	1380	667

The large majority of the populations of all four wards identified in Table B2, below, are between the ages of 18-64. Most notably, 95% of the population of University and Rural Scotforth ward is made up of 18-64 year olds. As of 2016, there were 11,986 students studying at the University, with 8,880 students from either the UK or the European Union and a further 3,107 overseas students (Lancaster University).

Table B3 – Population age range of the four wards

Population Age Range (2011)	Ellel	Scotforth East	Scotforth West	University & Scotforth Rural
0-17	947	784	1,689	153
18-64	8,217	2,613	5,264	5,158
65+	753	946	1,024	120

Source: Local Government Association

Table B-3 identifies that as of 2011, all four wards are predominantly of white ethnicity, with the second largest ethnicity by population being Asian/Asian British.

Table B4 – Ethnicity by ward

Ethnicity (2011)	Ellel	Scotforth East	Scotforth West	University & Scotforth Rural
White	8,477	4,158	7,151	4,191
Mixed/ multiple ethnic groups	141	44	108	88
Asian/ Asian British	1,158	93	600	1,047
Black/ African/ Caribbean/ Black British	88	27	68	65
Other ethnic group	53	21	50	40

Source: Local Government Association

Data Gaps and Uncertainties

- As desk-study data can only be obtained for the four wards that make up the AAP area and not at an AAP area-specific level there is a level of uncertainty that should be applied to the baseline population data presented above.

Key Issues and Opportunities

- The general AAP area and surrounding area has a relatively large and young population which could offer a strong and diverse workforce to any employment provisions included within the masterplan.
- The permanent residential population within the AAP area is very low due to it being largely greenfield in nature.
- The University of Lancaster is the main source of population in the AAP area outside of small villages/hamlets and individual houses. This is dominated by temporary, student age residents.

- The creation of the Garden Village will dramatically alter the population characteristics of the area, so it will be important to consider how this links with the existing population within the AAP boundary and its neighbouring settlements, notably Galgate and Scotforth.

Education and Qualifications

The following baseline indicators have been used to characterise levels of education and attainment in the District:

- Location and number of educational establishments within 1km and 2km of the AAP area (MARIO, Lancashire County Council);
- AAP area Lower Super Output Areas (LSOAs) in the 30% most deprived for education, skills and training deprivation (Indices of Multiple Deprivation (IMD), 2015);
- Percentage level of qualification by ward (ONS Census, 2011); and
- Percentage of children gaining 5 or more A* to C grades at GCSE (including English and Maths).

There is a total of five educational facilities within 1km of the AAP area. Four of these are primary schools, three in the settlement of Scotforth and one to the south of the site in Galgate. There are no Secondary schools within 1km of the AAP area however, the Ripley St. Thomas Church of England Academy is within 2km of the AAP area.

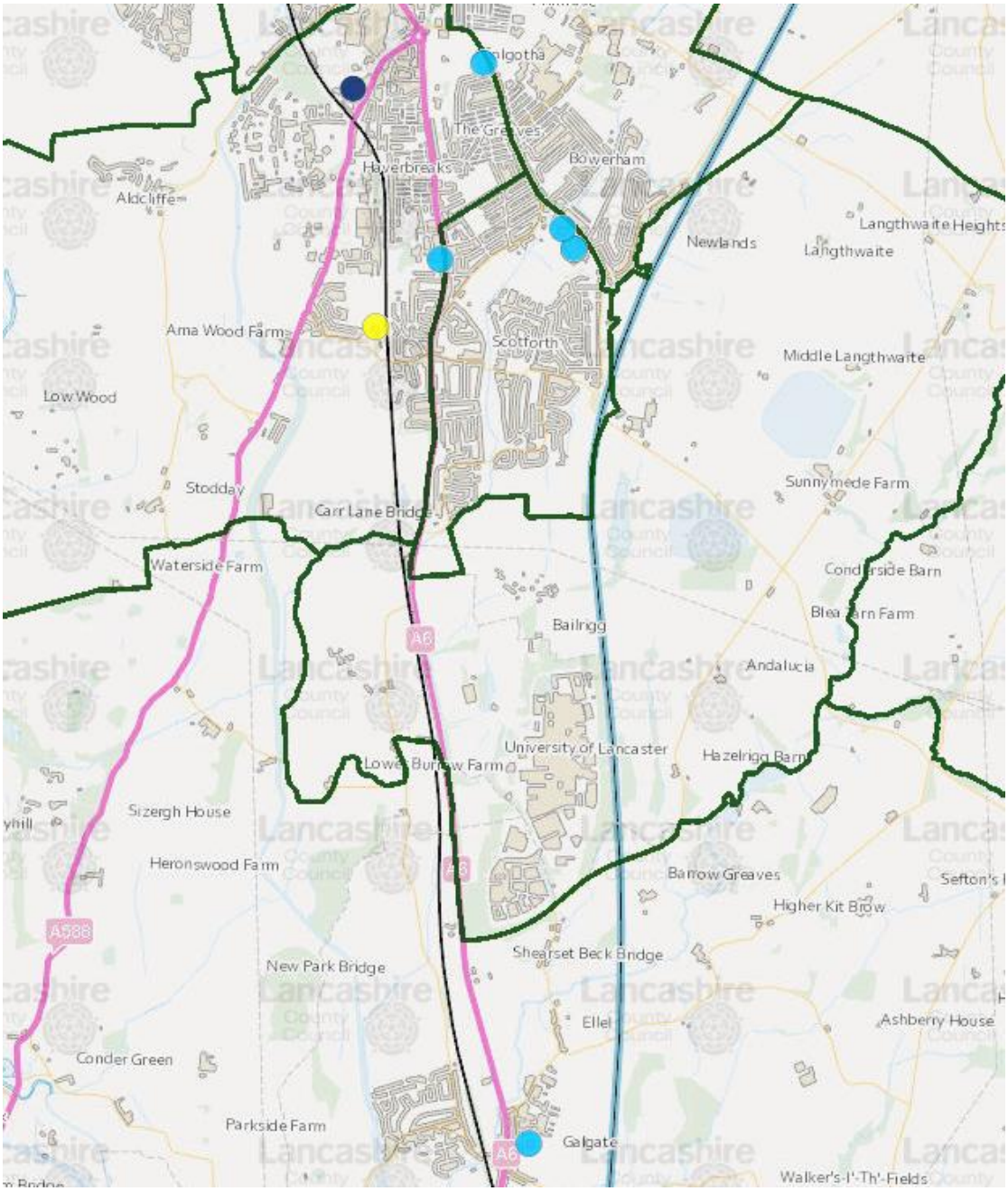
Table B5 – Type and quantity of educational facilities within 1km and 2km of the AAP area.

Type of Educational Facility	No. of Facilities within 1km	No. of Facilities within 2km
Primary	4	0
Secondary	0	1
Further	1	1

Source: MARIO, Lancashire County Council

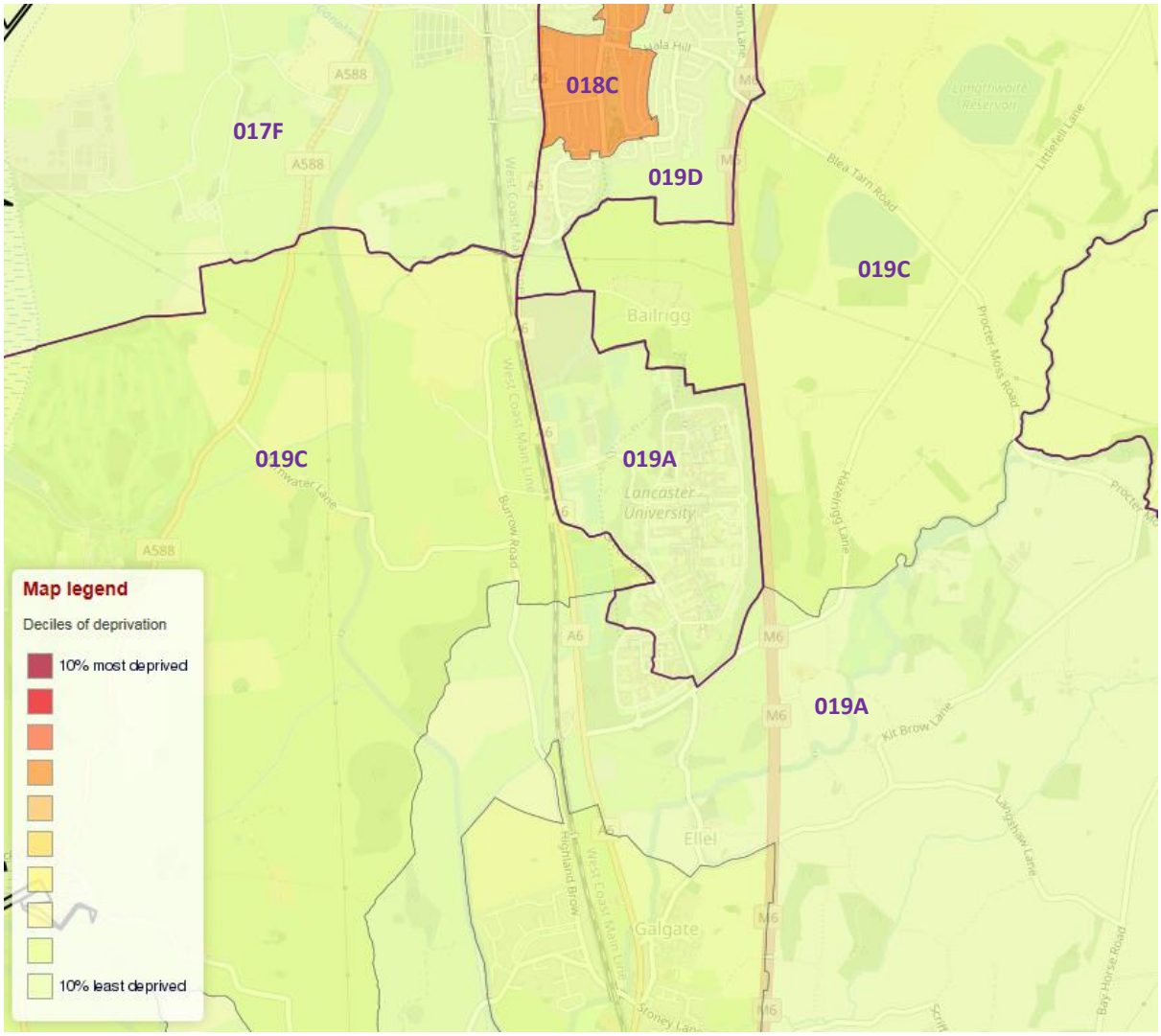
Lancaster University is also located within the APP area providing extensive further educational opportunities. As of 2016, there were 11,986 students studying at the University. 11,444 studying full time at the university and 543 studying part-time (Lancaster University). The University of Cumbria is also within 2km of the AAP area with 8,790 students studying here between 2015 and 2016 (University of Cumbria). The locations of all seven educational facilities within 2km of the AAP area are present in Figure B3 below.

Figure B3 – Locations of primary (turquoise) and secondary (navy blue) educational facilities within 2km of the AAP area (MARIO, Lancashire County Council).



No LSOAs within the AAP area fall within the 30% most deprived for Education, Skills and Training Deprivation. Ellel Lower Super Output Area (LSOA) (019C) is in the least 20% deprived areas Educations, Skills and Training Domain and Scotforth East (019D), Scotforth West (017F) and Ellel (019A) LSOAs all within the least 10% deprived areas for Educations, Skills and Training Domain as presented in Figure B4 below. However, although just outside the AAP area Scotforth East (018C) LSOA is within the 40% most deprived areas for Educations, Skills and Training (orange area on Figure B4).

Figure B4 - Educations, Skills and Training Deprivation (IMD, 2015)



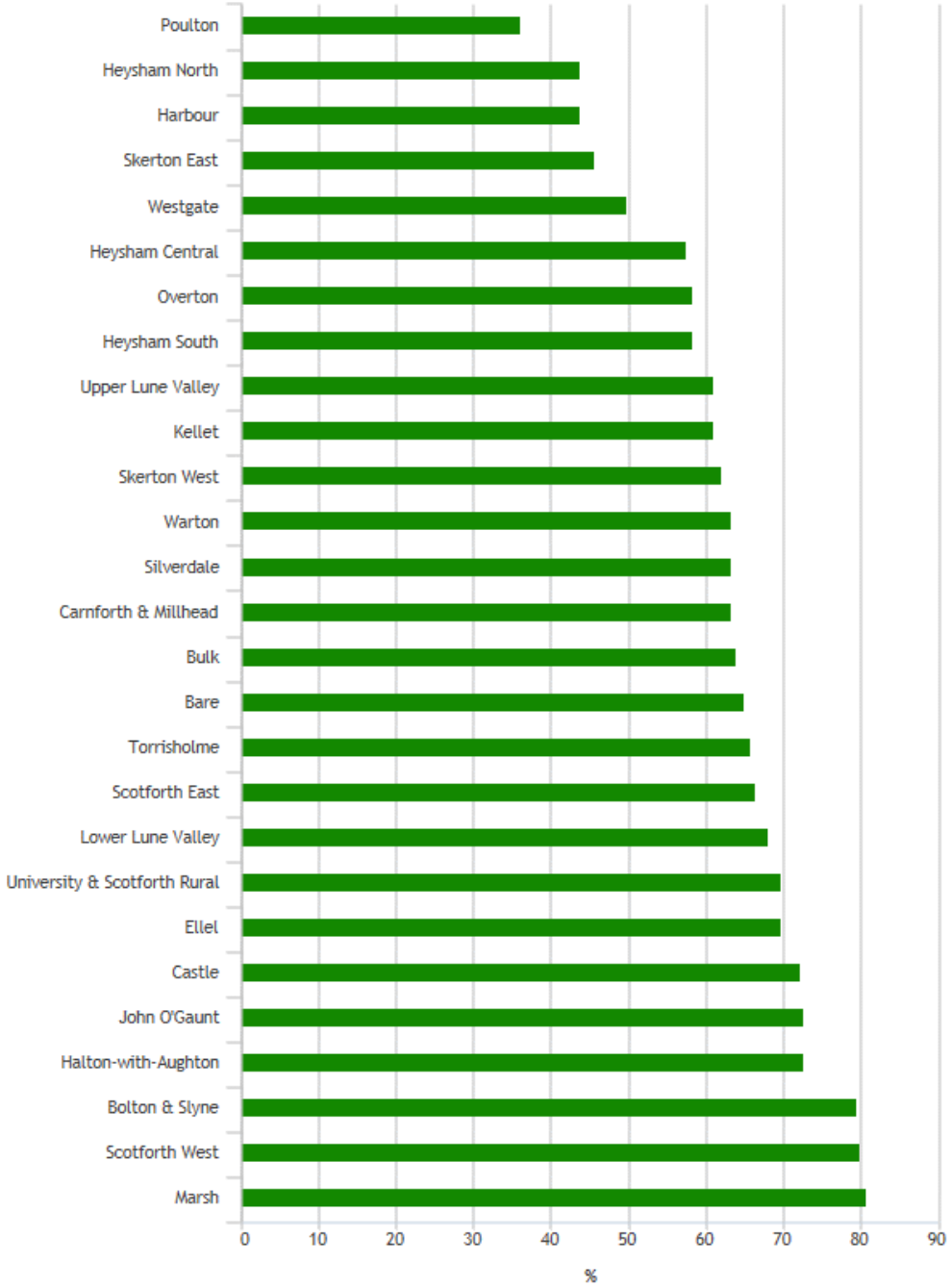
The majority of people within the Ellel, University area hold Level 3 qualifications (48%) with only 4.3% of people having no qualifications, the lowest in comparison to Scotforth East and Scotforth West. However, Scotforth East and Scotforth West both have significantly higher rates of people holding Level 4 qualifications or above with Scotforth West having the highest rate of 42.1% in comparison to the 35.7% in Scotforth East. Table B6 presents the percentage figures for all qualification levels, below.

Table B6 – Highest qualification held by ward percentage

Qualification Level	Ellel, University (%)	Scotforth East (%)	Scotforth West (%)
Level 4 qualifications and above	22.7	35.7	42.1
Level 3 qualifications	48.0	18.4	21.3
Level 2 qualifications	10.1	16.4	15.5
Level 1 qualifications	6.7	11.8	9.8
Apprenticeships and other qualifications	8.2	6.3	4.6
No qualifications	4.3	11.4	6.7

Source: NOMIS

Figure B5 - Percentage of children gaining 5 or more A-C grades at GCSE (including English and Maths) (Local Government Association).*



Scotforth West has the highest GCSE achievement levels (5 A*-C) of the four wards within the AAP area and the second highest in the District at 79.9% with Scotforth East having the lowest achievement levels of 66.3%. Both Ellel and University and Scotforth Rural wards had a comparably low level of achievement both scoring 69.6%. However, all scores are higher than the District average for Lancaster which is as low as 61.1%.

Data Gaps and Uncertainties

- Percentage 16-18 year olds not in education or employment training.
- Number and location of establishments offering life-long learning opportunities.

Key Issues and Opportunities

- Currently there are no schools within the AAP boundary as it is largely greenfield. New school provision is likely to be required for the new population and to avoid oversubscription in the existing neighbouring areas of Scotforth and Galgate.
- Educational attainment in the area is largely good (although note these statistics are based on ward boundaries which stretch beyond the AAP boundary). However, there is a pocket of higher educational deprivation north of the site in Scotforth East.
- Work based learning opportunities should be developed further to minimise the number of 16-18 year olds not in education or employment training and increase levels of attainment of qualifications.
- Lancaster University should be promoted as an important asset to continue to raise educational attainment levels and to attract inward investment into the AAP area.

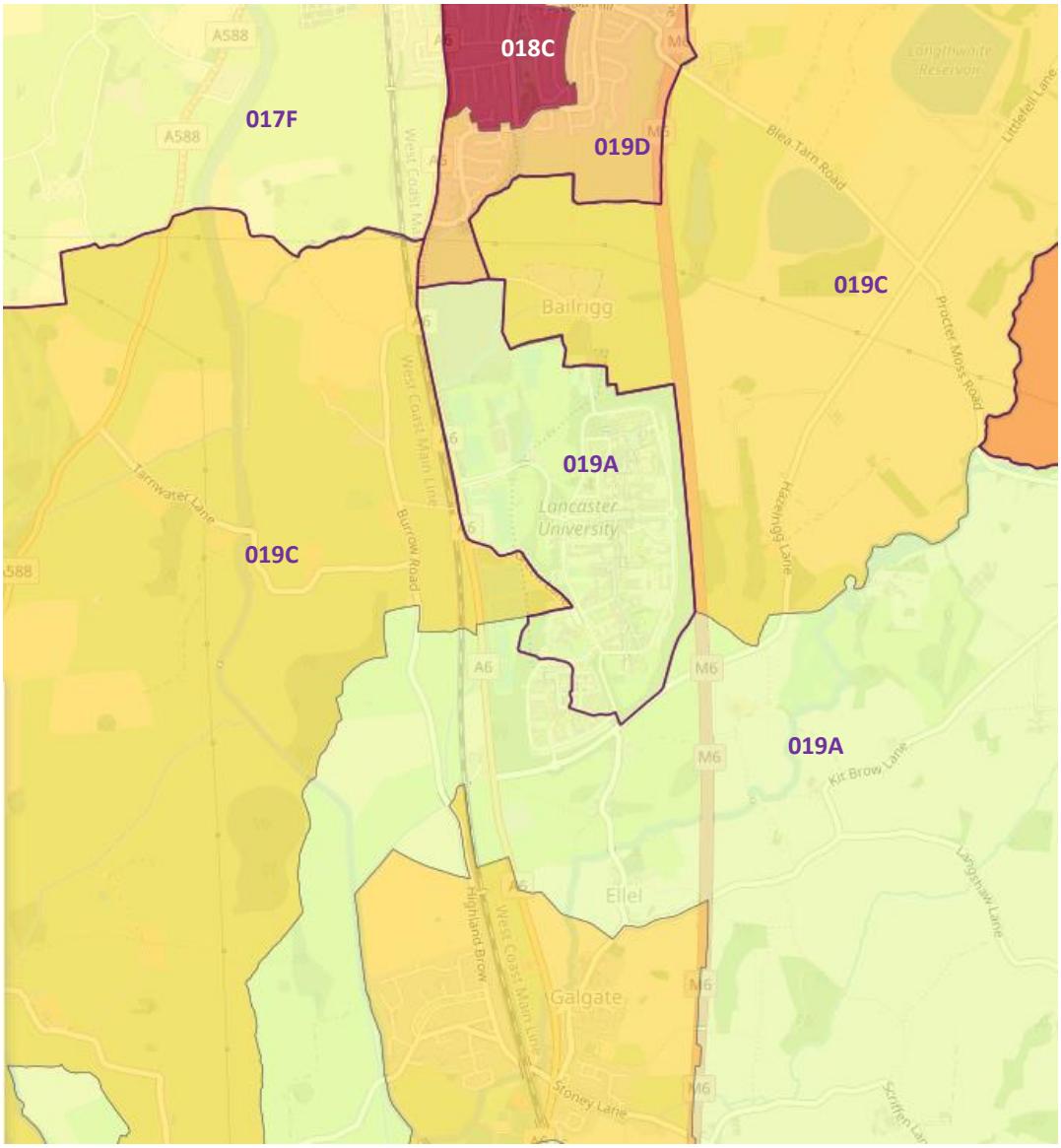
Health

The following baseline data has been used to identify key trends:

- LSOAs in the AAP area in the bottom 30% most deprived for health deprivation and disability (IMD, 2015);
- Location and distribution of GPs (NHS Choices);
- Location and distribution of sports facilities (MARIO, Lancashire County Council);
- Location and distribution of Public Right of Ways (PRoWs) and cycle paths (MARIO, Lancashire County Council);
- Life expectancy at birth by ward (Local Government Association);
- Health of population by ward (Local Government Association);
- 24-hour annual average noise level (road and rail) (Extrium.co.uk); and
- Location of Noise Important Areas (NIA) (road and rail) (Extrium.co.uk).

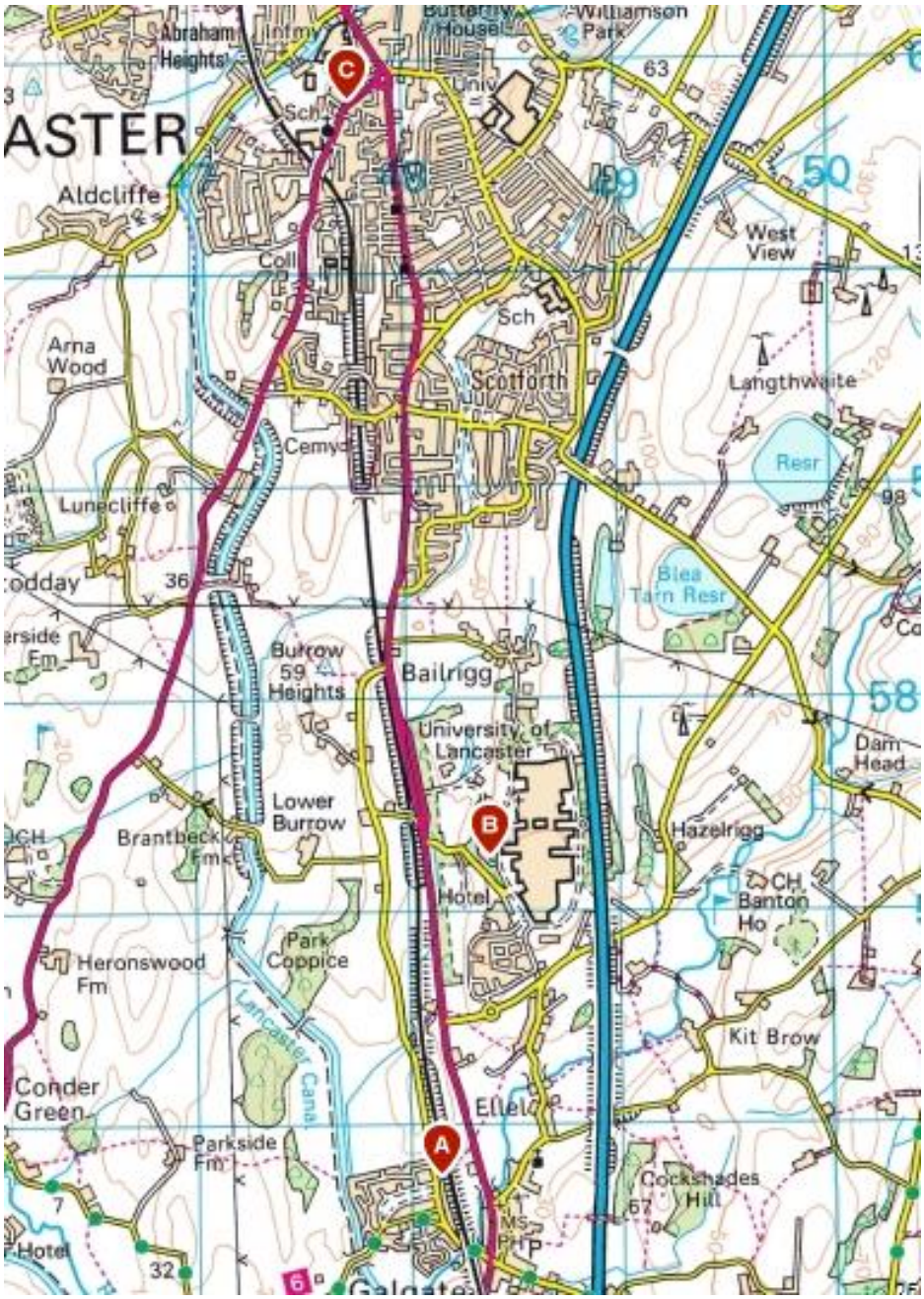
Scotforth East (018C) LSOA falls within the 10% most deprived areas for health deprivation and disability, although this LSOA is not within the AAP area it is adjacent and forms part of the Scotforth East ward. None of the other LSOA that fall within the AAP area are within the 30% most deprived areas for health deprivation and disability as shown on Figure B6 below.

Figure B6 - Health and Disability Deprivation (IMD, 2015)



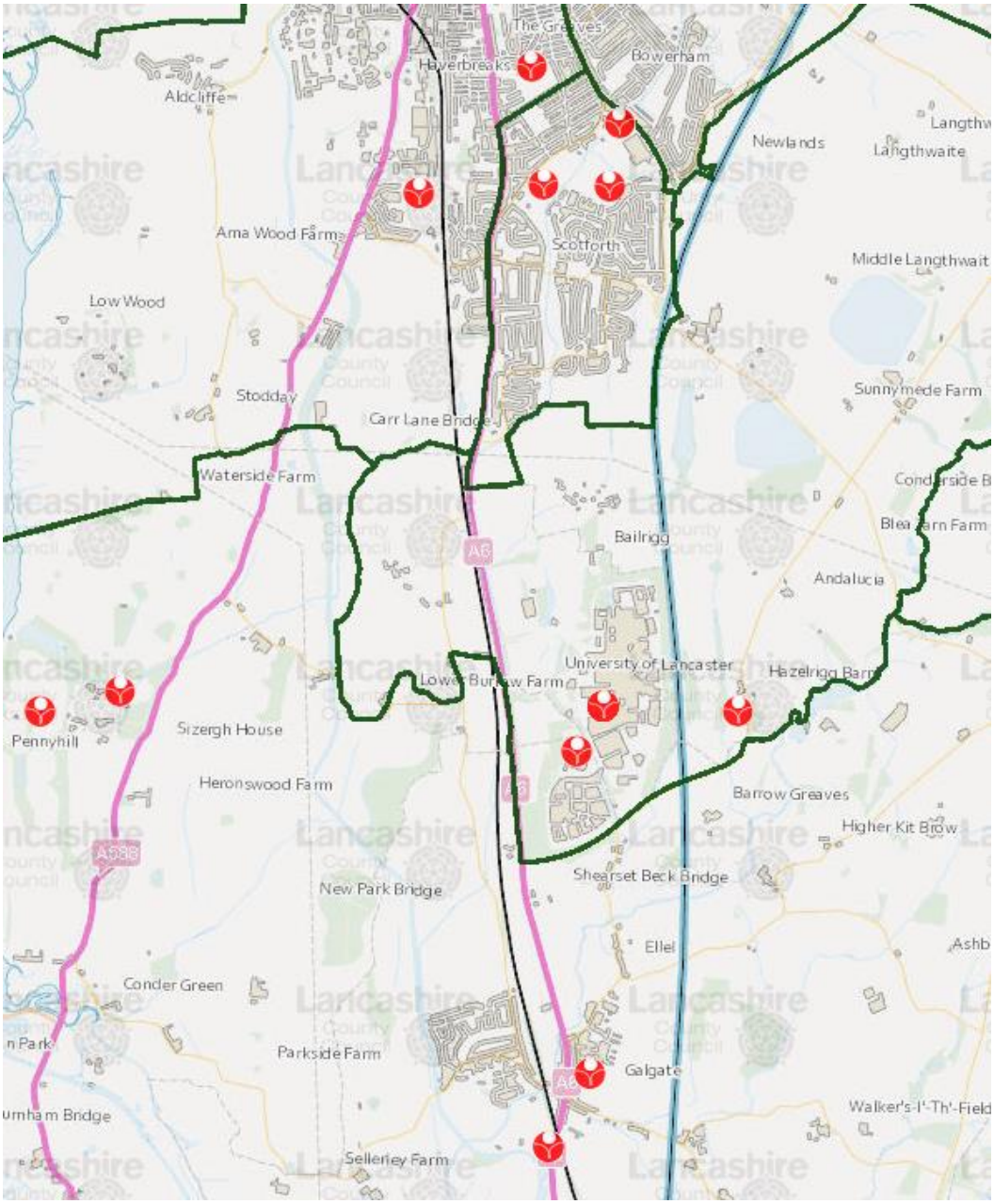
There are three General Practitioner (GP) surgeries within 2km of the AAP area, displayed on Figure B7 below, the closest GP being the Lancaster University Medical Centre (Bubble C on Figure B7) within the AAP area connected to Lancaster University. Immediately south of the AAP area is the Galgate Health Centre (Bubble A) in the settlement of Galgate and to the north of the AAP area in the settlement of Scotforth is the Rosebank Surgery (Bubble C).

- *Figure B7 – Locations of GPs within 2km of the AAP Area (NHS Choices)*



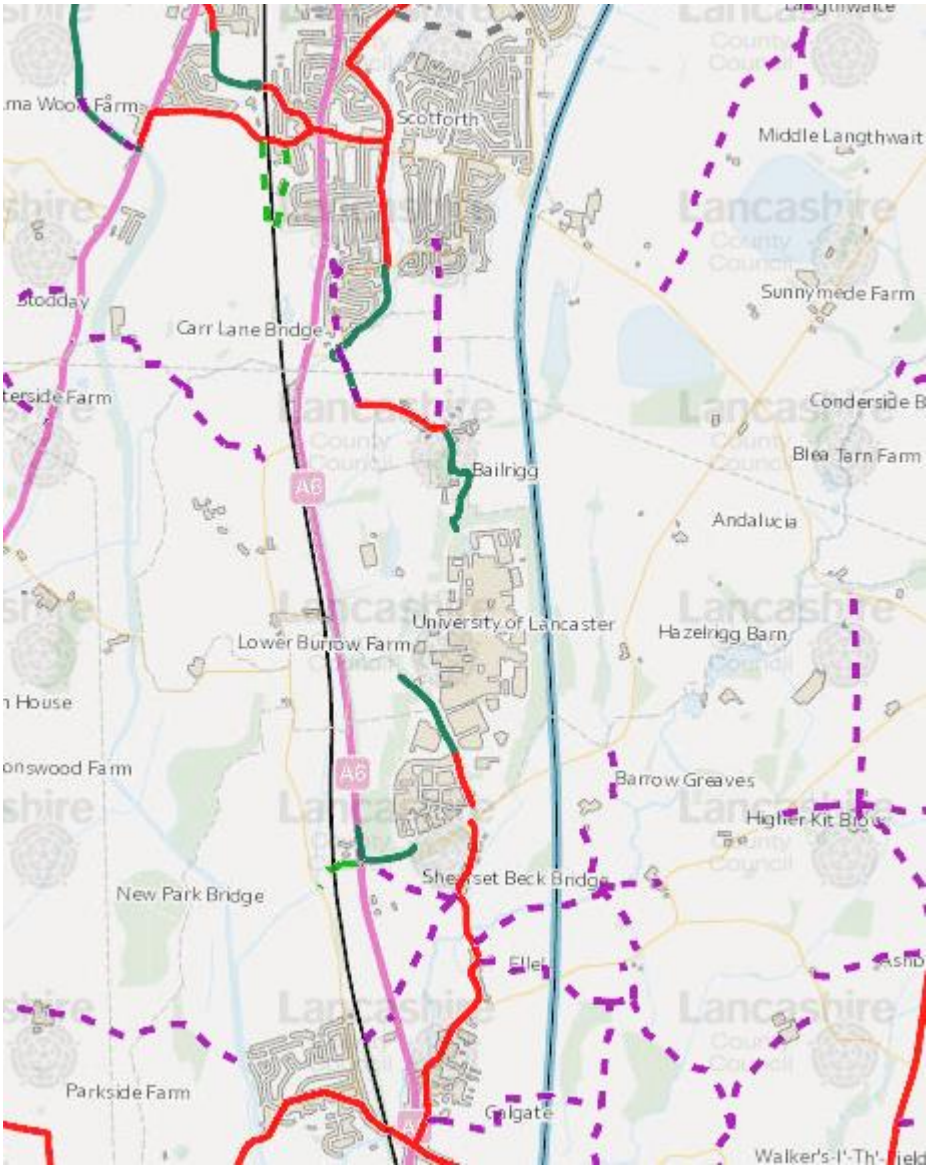
There are several sports and leisure facilities in and around the AAP area, three of which are situated within the AAP area in conjunction with Lancaster University. There are five sports and leisure facilities to the north of the AAP area located in the settlement of Scotforth. Lancaster Golf Club and Galgate Football Club are also located within 1km from the AAP area to the west and south respectively.

Figure B8 – Locations of sports and leisure facilities within 2km of the AAP Area (MARIO, Lancashire County Council).



The AAP area is relatively well served by existing PRoWs particularly around the periphery of the site. There are a number of PRoWs that are within the AAP area boundary including: PRoW 1, 3, 14, 15, 23, 24, 25, 49, 54, 55 and 57. Bridleway 1 also falls within the AAP area. There are no National Cycle Network (NCN) routes within the AAP area (Sustrans) however, there are a number of local cycle routes that fall within the AAP boundary mainly serving Lancaster University, as shown on Figure B9. The Lancaster Canal towpath walk also follows the south western boundary of the AAP area and transects the north west area of the AAP area stretching from Ribble across the Fylde and through Lancaster and Carnforth to the Lake District.

Figure B9 – PRoW (purple), Bridleway (bright green) and local cycle route (dark green and red) network within the AAP general area (MARIO, Lancashire County Council)



The life expectancy at birth for people living in Lancaster is 77.7 years for males and 81.9 years for females. University & Scotforth Rural has the highest life expectancy at birth for males in the Lancaster District overall at 84.6 years and also has the highest life expectancy at birth for females out of the four wards within the AAP area at 85.8 years. The lowest rates of the four wards are in Ellel ward at 80.0 for males and 81.9 for females.

Table B7 – Life expectancy at birth by ward

Life Expectancy at Birth (Years) (2010-2014)	Ellel	Scotforth East	Scotforth West	University & Scotforth Rural	Lancaster
Female (%)	81.9	82.2	82.5	85.8	81.9
Male (%)	80.0	78.4	80.5	84.6	77.7

Source: Local Government Association

As of 2011, levels of good health are generally good within the four wards that fall within the AAP area as shown in Table B8 below. University and Scotforth Rural have the lowest levels of the four wards with levels of ‘bad health’ at 0.7% and levels of ‘very bad health’ at 0.2%. The worst health levels of

the four wards were recorded in Scotforth East where levels of 'bad health' were 4.8% and levels of 'very bad health' were 1.2%. However, all four wards within the AAP area hold lower levels of both 'bad health' and 'very bead health' than the Lancaster District average.

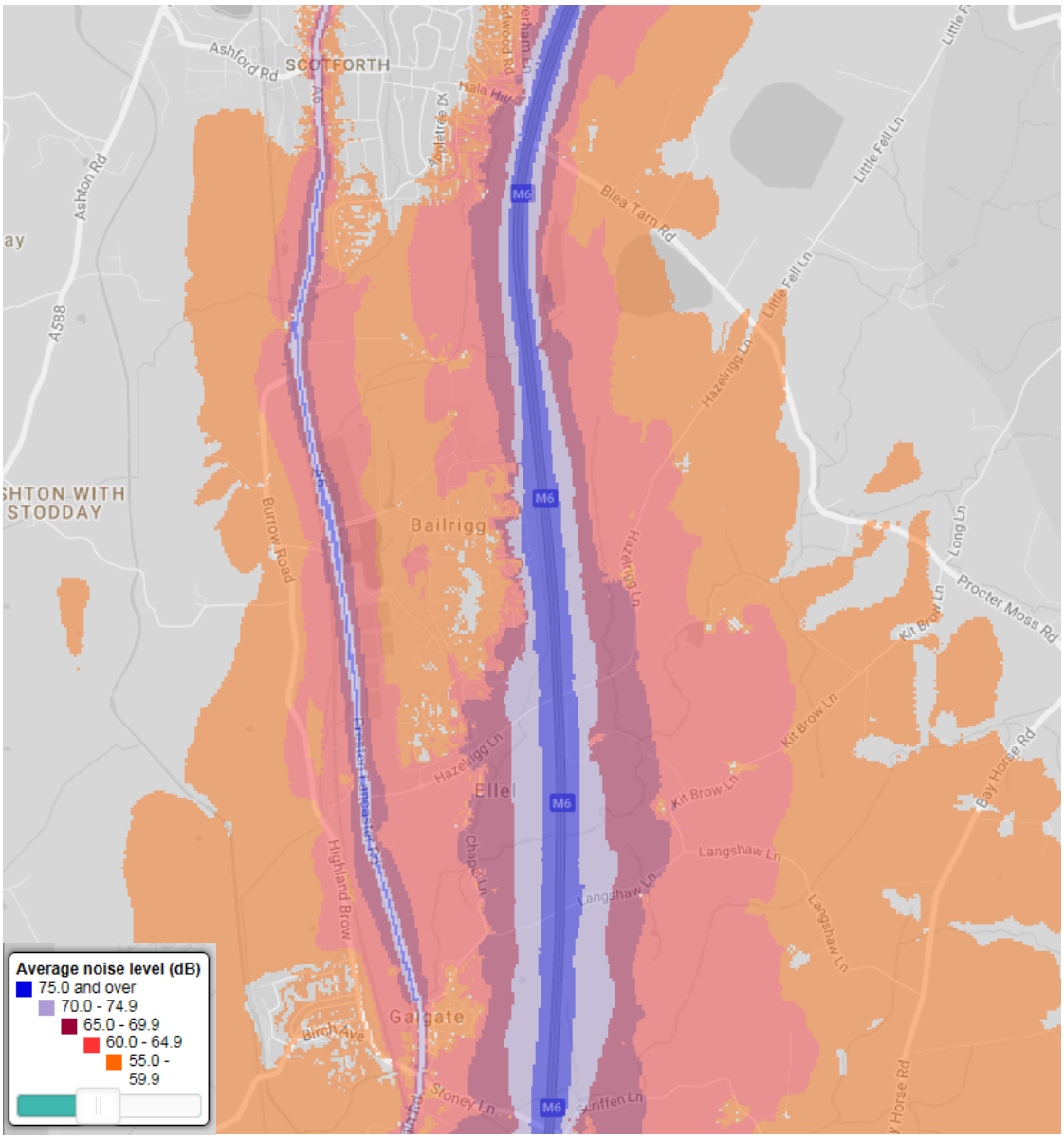
Table B8 – Health of the population (bad health/very bad health (%)) (Local Government Association)

Health of the Population (2011)	Ellel	Scotforth East	Scotforth West	University & Scotforth Rural	Lancaster
Bad Health (%)	1.4	4.8	2.6	0.7	5.8
Very Bad Health (%)	0.4	1.2	1.2	0.2	

Source: Local Government Association

Along the M6 motorway A6 road corridors of the AAP area 24-hour average road noise levels can reach over 75 decibels as demonstrated in blue in Figure B10 below. The surrounding areas of these corridors can also typically hit 24-hour averages of between 55 decibels anywhere up to 74.9 decibels moving closer in proximity to the aforementioned routes.

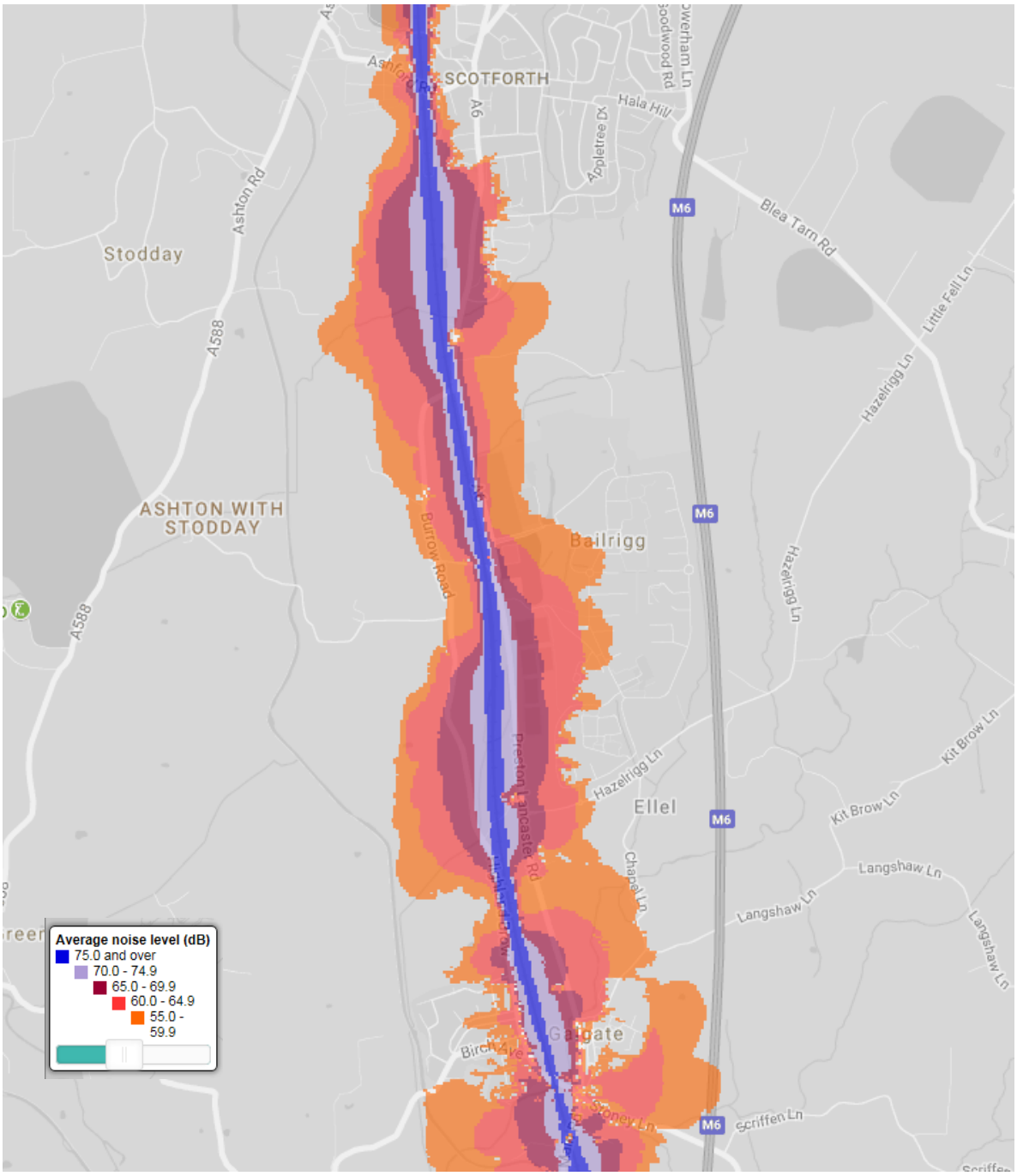
Figure B10 –24-hour annual average road noise level in decibels within the AAP area



In a similar scenario to road noise levels, 24 hour average rail noise can reach levels above 75 decibels along the West Coast Main Line (WCML) with the areas immediately surrounding the WCML

experiencing 24-hour average noise levels of between 55 decibels up to 74.9 decibels (as shown in Figure B11 below).

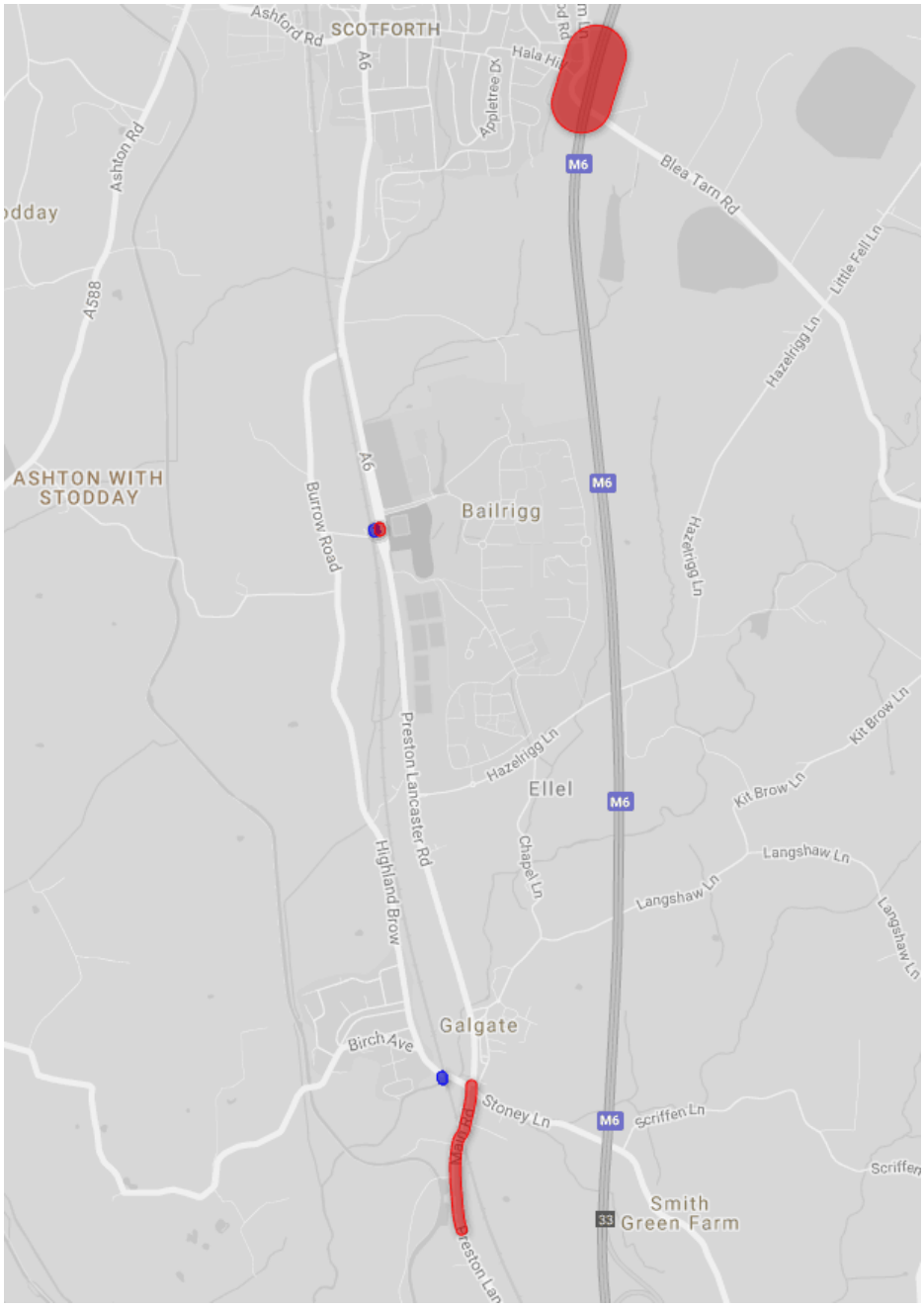
Figure B11 –24-hour annual average rail noise level in decibels within the AAP area (Extrium.co.uk)



There are two road-related Noise Important Areas (NIAs) within the AAP area shown in red in Figure B12, below. The largest of the two NIAs is located to the north east of the AAP boundary as a result of the M6 motorway. There is also a small road NIA located along the A6 to the west of Lancaster University. There is also a stretch of NIA on the southern approach of the A6 entering the settlement of Galgate however this falls outside of the AAP area to the south.

There is one rail-related NIA within the AAP area in the same location road-related NIA on the A6 adjacent to Lancaster University. Another rail-related NIA is situated to the south west of the settlement of Galgate however this falls outside of the AAP area to the south.

Figure B12 – Noise Important Areas (NIAs) within the AAP area (Road NIAs in red, Rail NIAs in blue) (Extrium.co.uk)



Data Gaps and Uncertainties:

- Latest figures for the percentage of the working-age population with a long-term limiting illness;
- Standardised mortality ratio and mortality rates for circulatory disease and cancer;
- Percentage of people participating in regular sport or exercise (defined as taking part on at least 3 days a week in moderate intensity sport and active recreation for at least 30 minutes continuously in any one session);
- Prevalence of overweight (including obese children in Reception year in Lancaster compared to England);

Key Sustainability Issues and Opportunities:

- Health in the AAP area is generally good in comparison to the Lancaster average with the poorest levels recorded to the north in the ward of Scotforth East.
- Access to doctor's surgeries is relatively good which is particularly important for the areas elderly population however the introduction of more homes in the area may put existing facilities under pressure. New health care facilities will therefore be required as part of the Garden Village.
- There are opportunities to further promote access to outdoor recreational pursuits in open areas of the AAP area to benefit the health of the local population.
- There are also opportunities to further promote walking and cycling in the AAP area and also improve walking and cycling opportunities to the nearby Forest of Bowland AONB.
- PRoW links across/under the M6 to the east of the AAP area are limited.
- There are significant opportunities for a network of sustainable transport links to be developed and combined with green infrastructure.
- There are issues surrounding the high noise level outputs originating from the strategic road and rail network that runs through the AAP area. This will need to be considered in the design of the Garden Village and it will also need to be ensured that noise levels are not exacerbated in the current NIAs.

Crime

The following baseline data has been identified:

- Number of wards with LSOAs in the bottom 30% for crime deprivation (IMD, 2015).
- Crime rates per 1000 of the population and percentage change by ward (Safer Lancashire).
- Type of crime committed by ward (ukcrimestats.com)

Given that the AAP area is mostly greenfield land with only small pockets of residential properties the crime statistics for the AAP carry a certain level of uncertainty particularly when considering that Lancaster University is at the heart of the area and could be considered a hot spot for crime. With this in mind, this crime baseline has considered crime statistics with regards to Lancaster University and surrounding areas such as Galgate and Scotforth given that these two settlements are immediately to the south and north respectively.

Table B9 below presents crime committed per 1,000 population along with the percentage change from the previous year equivalent. Scotforth East and Scotforth West had the highest crime rate per 1,000 at 49.7 and 45.6 respectively and also experienced the highest increase in crime with 36.9% and 29.5% increases respectively. Crime per 1,000 population was particularly low in University and Scotforth Rural standing at 11.6 with a small increase of 3.5%. However, all crime rates per 1,000 still remain significantly lower than the Lancaster District average of 76.0.

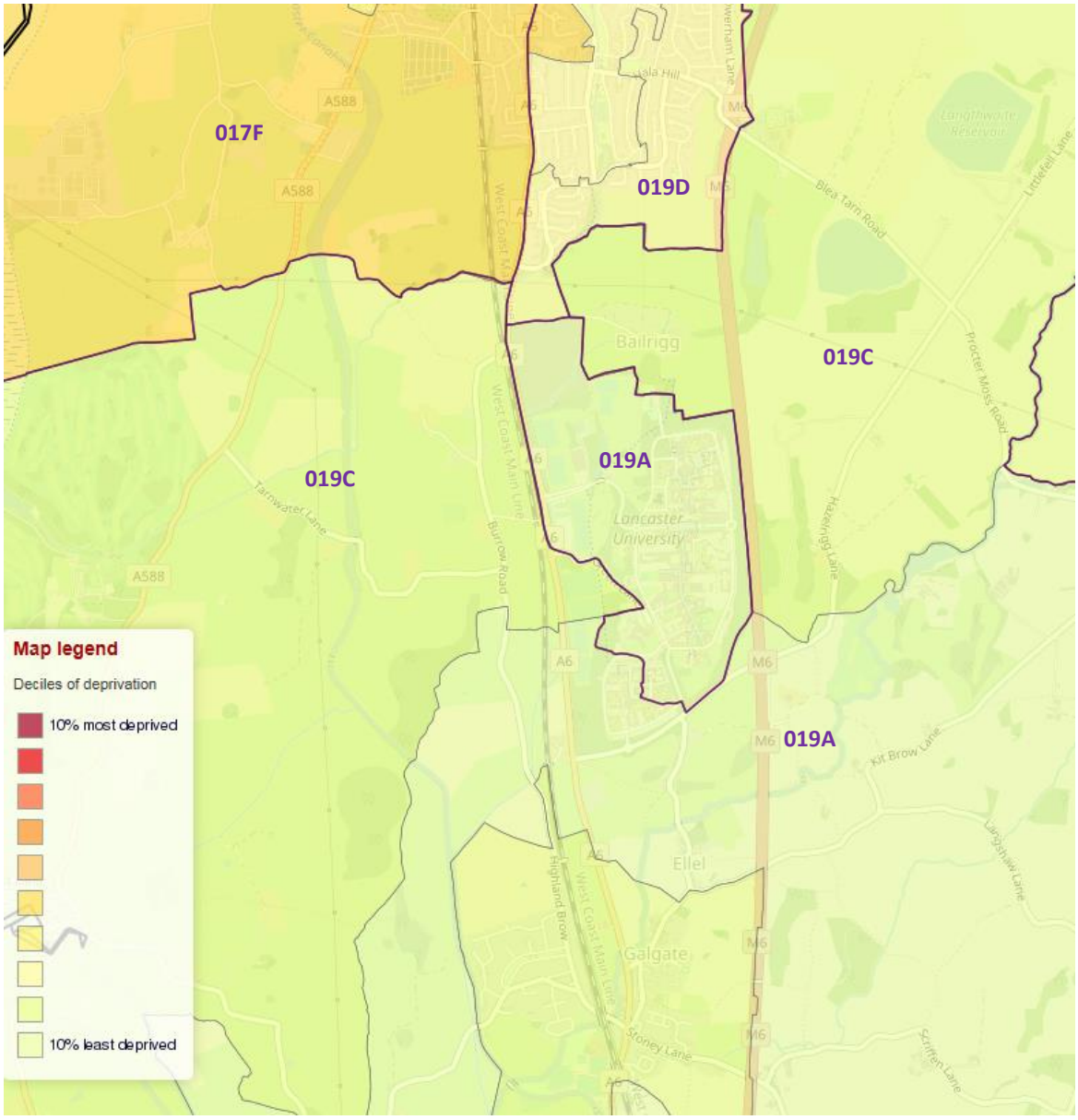
Table B9 - Total crime per 1,000 population between February 2017 and January 2018

	Ellel	Scotforth East	Scotforth West	University & Scotforth Rural	Lancaster District Average
Crime per 1,000 population between February 2017 and January 2018	37.6	49.7	45.6	11.6	76.0
Change (%)	4.9	36.9	29.5	3.5	-

Source: Safer Lancashire

As of 2015, no LSOAs that fall within the AAP area are within the 30% most deprived for crime in the UK this could be due to the rurality of the AAP area and surrounding wards and LSOA.

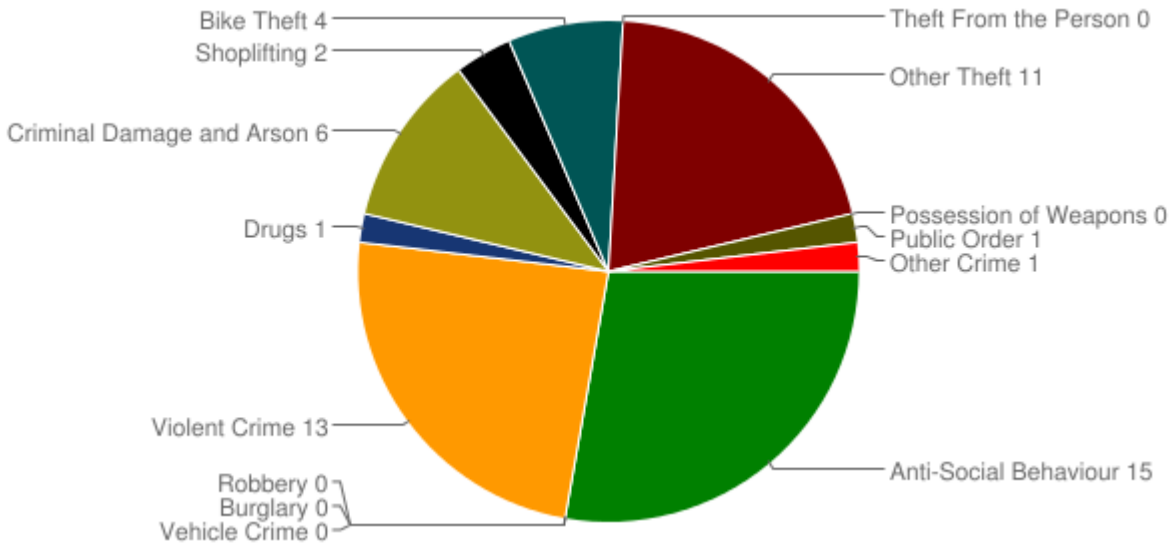
Figure B13- Crime Deprivation (IMD, 2015)



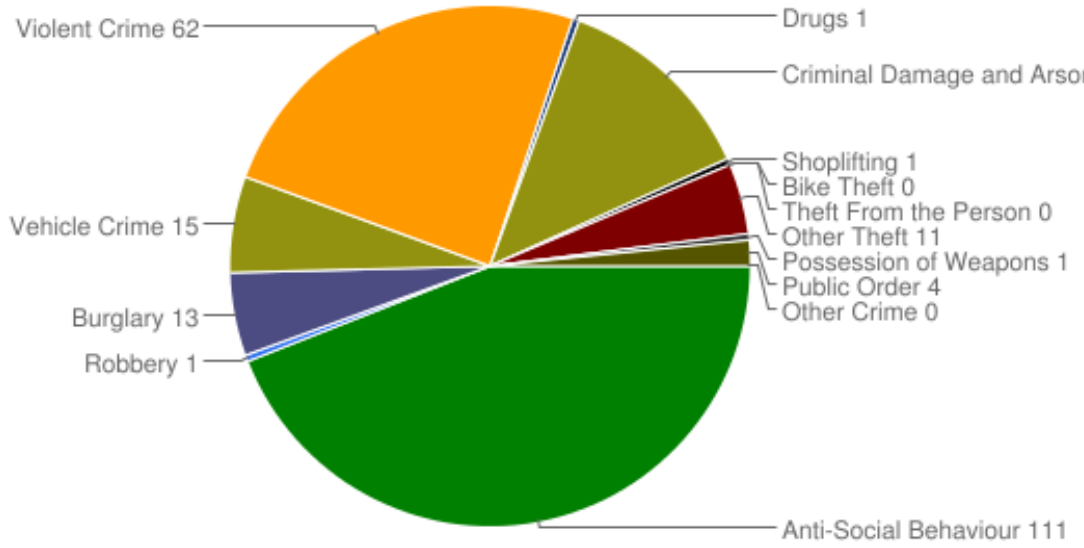
The most prevalent crimes committed in the four larger areas that fall within the AAP area in 2017 are violent crime and anti-social behaviour. These types of crimes appear to be common for all four areas as shown in Figure B14 below, with a total of 376 counts of anti-social behaviour and 213 counts of violent crime across the four areas included in Figure B12.

Figure B14 - Crime committed by type between January 2017 and December 2017 for a) Lancaster University, b) Scotforth East and Hala, c) Scotforth West and d) Ellel, Galgate Cockerham (ukcrimestats.com)

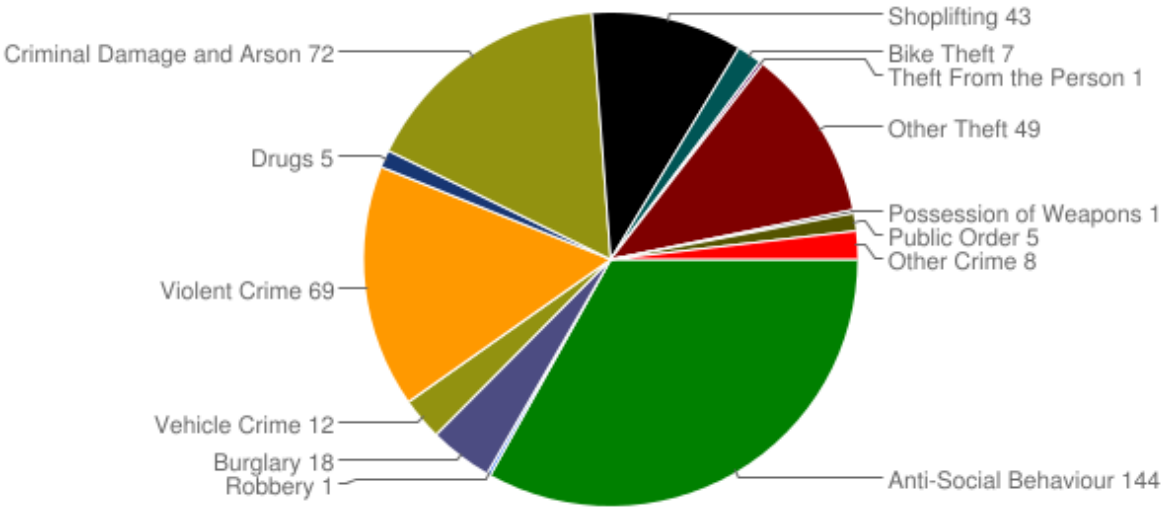
a) Lancaster University



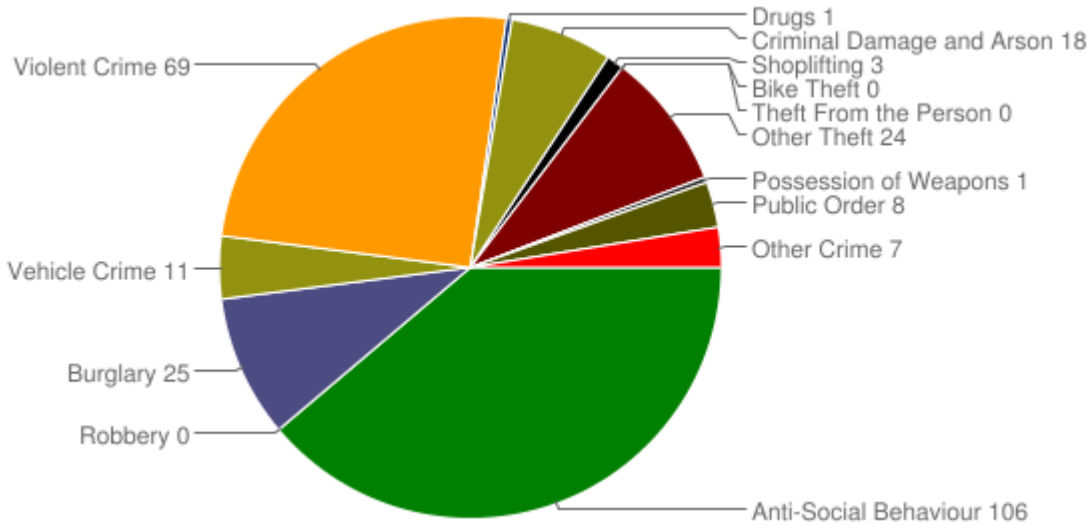
b) Scotforth East and Hala



c) Scotforth West



d) Ellel, Galgate Cockerham



Data Gaps and Uncertainties

- The AAP area itself is particularly rural and the wards/LSOA extend much further than the AAP boundary resulting in relevant and accurate statistics being hard to obtain.
- Cases of fly tipping
- Percentage of residents feeling safe after dark

Key Sustainability Issues and Opportunities

- Crime rates per 1,000 population for the four wards that make up the AAP area are significantly below the Lancaster District average however there has been a significant rise in crime in Scotforth East and Scotforth West in comparison to the previous year.
- Violent crime and anti-social behaviour are the biggest proportion of offences within the four areas.

- None of the LSOAs that make up the AAP area fall within the 30% most deprived for crime deprivation.
- Crime statistics for the area are skewed by the presence of the University of Lancaster with few other targets for crime in within the AAP boundary.
- The introduction of a new population with the Garden Village would provide new targets for crime so it will be important to design the masterplan with crime and security in mind.

Water

The following baseline indicators have been used to characterise the water environment:

- Waterbodies present within the AAP area;
- Quality of waterbodies within the AAP area (Environment Agency);
- Distribution of areas at risk of fluvial flooding (Environment Agency);
- Distribution of Groundwater Source Protection Zones (Environment Agency);
- Number of Water Abstraction Licences within the AAP area (Environment Agency);

Water is an essential resource required for domestic and industrial use. The AAP area lies within the catchment areas of the River Lune and River Conder. The AAP area has two large watercourses running through it including the River Conder and the man-made Lancaster Canal. Smaller tributaries run through the AAP area including Burrow Beck a tributary to the River Lune and Ou Beck a tributary to the River Conder each running from north to south across the AAP area. Langthwaite Reservoir and Blea Tarn Reservoir are also located close to the north east boundary of the AAP area there are also some smaller isolated unknown waterbodies as shown in Figure B16, overleaf.

The ecological water quality of the River Conder was assessed as 'Moderate' in 2016 with the objective of reaching 'Good by 2027' with the chemical water quality being assessed as 'Good' as of 2016 Cycle as shown in Figure B15 below.

Figure B15- Ecological and chemical water quality of the River Conder (Environment Agency)

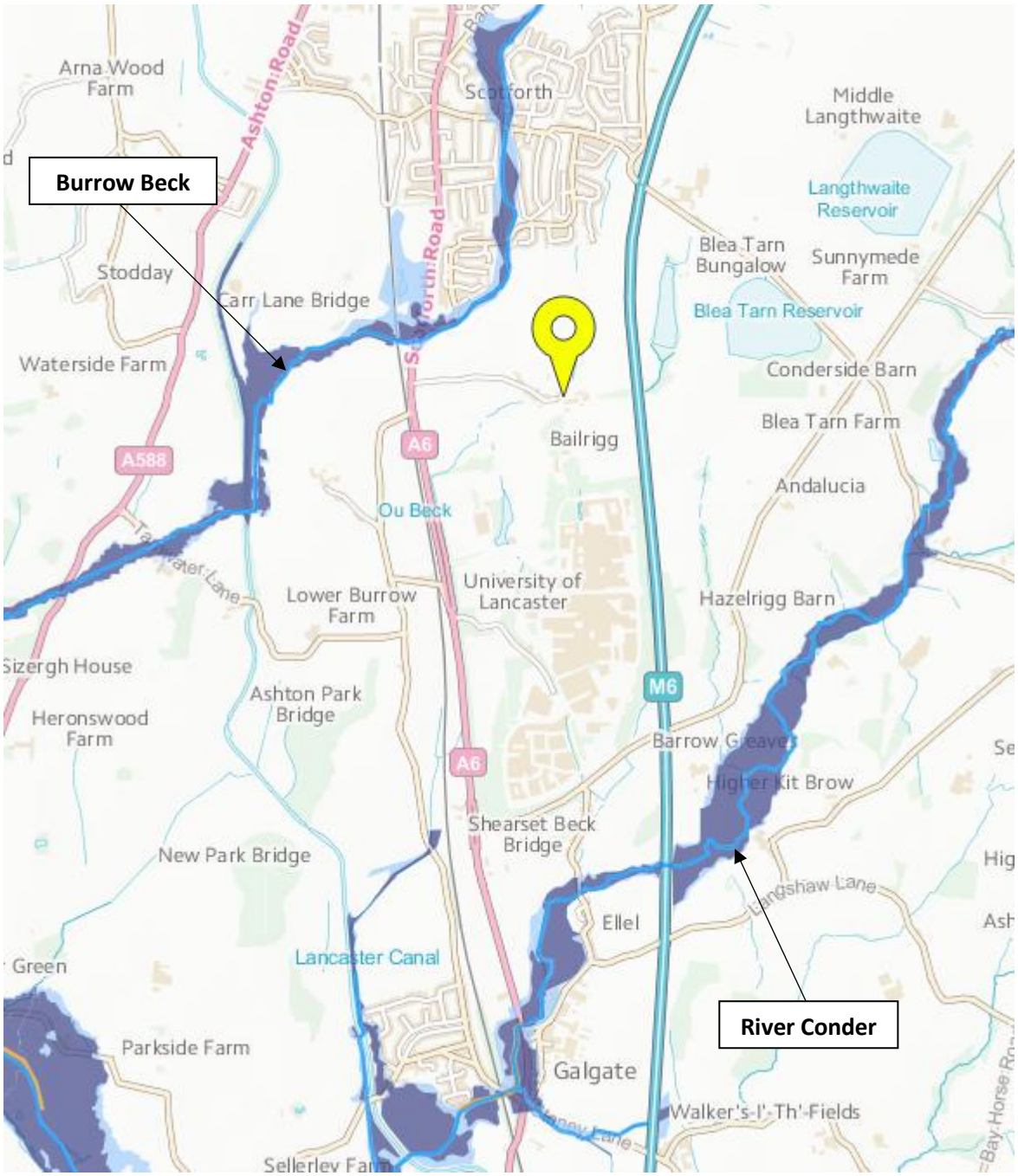
	2009 Cycle 1	2016 Cycle 2	Objectives
Overall Water Body	Moderate	Moderate	Good by 2027
Ecological	Moderate	Moderate	Good by 2027
Chemical	Does not require assessment	Good	Good by 2015

The AAP area has a number of areas that fall within Flood Zone 2[1] (medium flood risk) and Flood Zone 3[2] (high flood risk) areas. There are two main areas at high risk of flooding within the AAP area including the land around Burrow Beck to the north west of the site and the land around the River Conder to the south east of the site as presented in Figure B16 below.

[1] Flood Zone 2 - land assessed as having between a 1 in 100 and 1 in 1,000 annual probability of river flooding (1% – 0.1%), or between a 1 in 200 and 1 in 1,000 annual probability of sea flooding (0.5% – 0.1%) in any year (Environment Agency).

[2] Flood Zone 3 - land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year (Environment Agency).

Figure B16- Distribution and location of area of medium and high fluvial flood risk within the AAP area (Environment Agency)



The majority of the AAP is at relatively low risk of surface flooding with only small, isolated areas around watercourses such as Burrow Beck, Ou Beck, River Conder and other small unidentified waterbodies at medium or high risk. See Figure B17 below.

Figure B17- Extent of flooding from medium and high surface flood risk within the AAP area (Environment Agency)

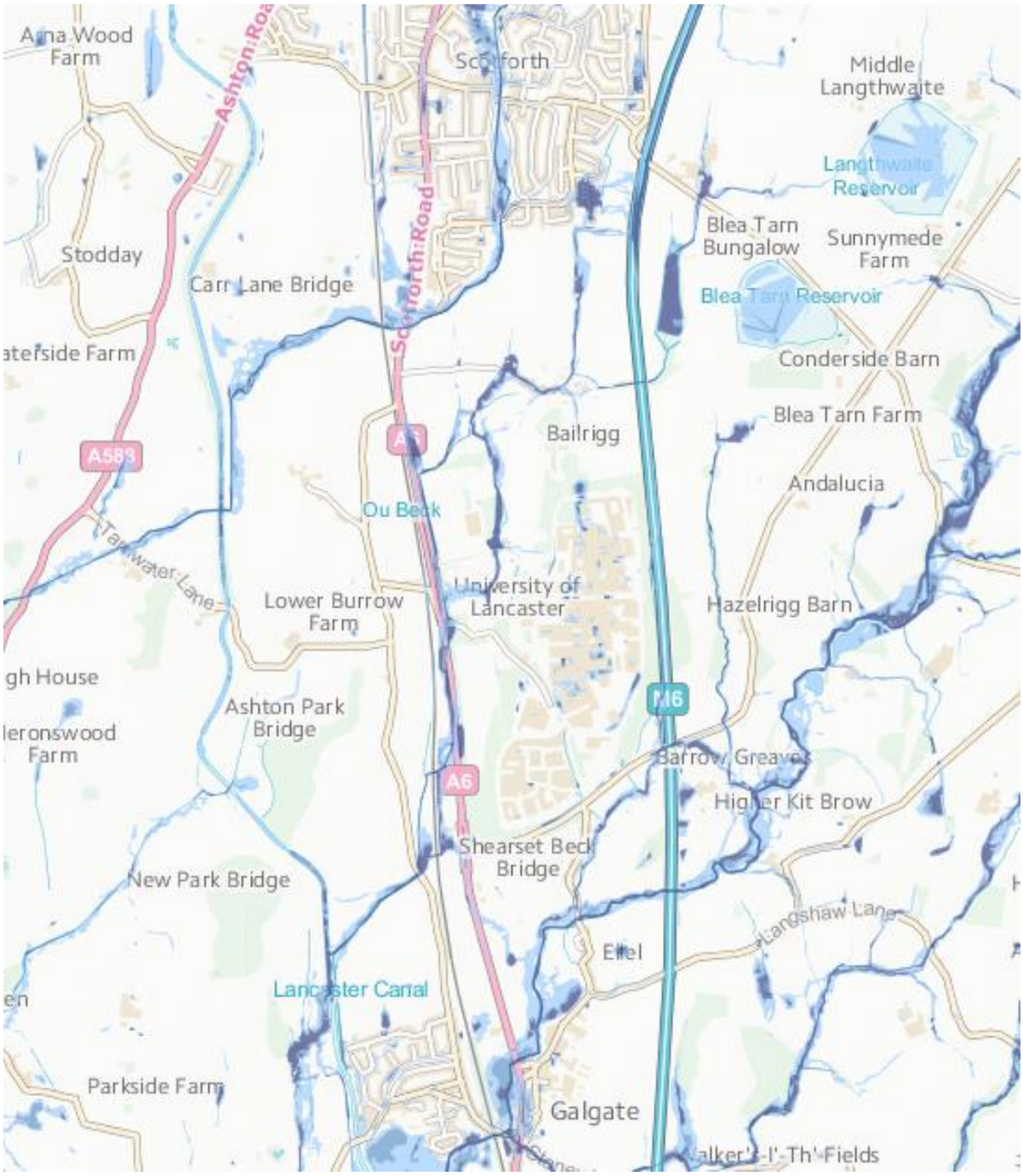
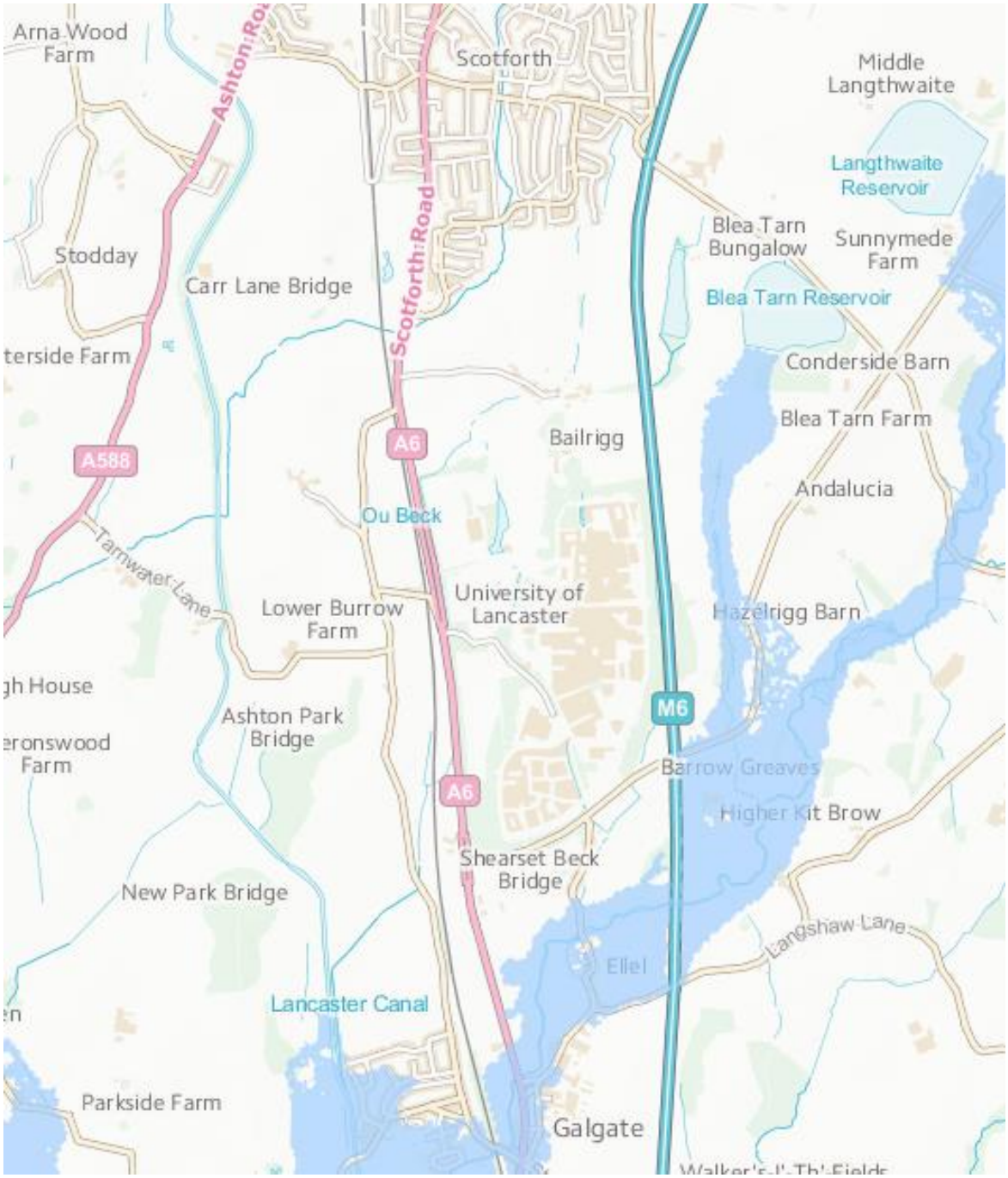


Figure B18 present the extent of the flood risk posed by the two reservoirs to the north east of the AAP area. The risk of flooding generally follows the River Conder to the south and covers a relatively large area of the east and south eastern area of the AAP area.

Figure B18- Extent of flood risk from reservoirs within the AAP area (Environment Agency)



There are no Groundwater Source Protection Zones or Water Abstraction Licences within the AAP area.

Date Gaps and Uncertainties

- Water quality data for watercourses (other than River Conder) within the AAP
- Detailed Strategic Flood Risk Assessment results for site to be provided

Key Sustainability Issues and Opportunities

- Water quality of the River Conder is currently 'Moderate' which offers an opportunity to improve this and potentially other watercourses through the AAP.

- Areas at risk from flooding should be protected from development that would increase that risk. New developments should be encouraged to use SuDS to manage runoff and further reduce flood risk.
- New developments and households within the AAP area should be encouraged to minimise water use and to re-use rainwater where possible i.e. grey water recycling systems.

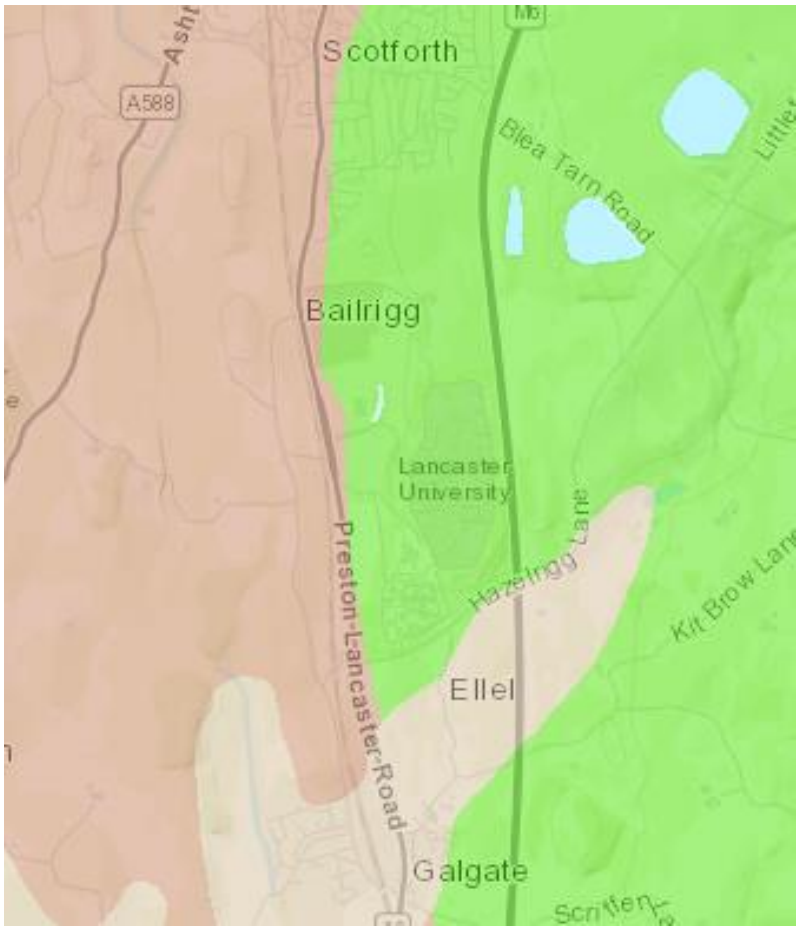
Soil and Land Quality

The following baseline indicators have been used to characterise the soil and land quality conditions across the District:

- Agricultural Land Classification Grade (www.magic.gov.uk);
- Types of soil within the AAP area;
- Superficial deposits and bedrock geology of the AAP area (British Geological Survey);
- Number of Regionally Important Geological and Geomorphological Sites (RIGS) (Lancashire RIGS Group).

There is no Grade 1 or 2 agricultural land present within the AAP area, the entire area is grade 3 agricultural land although it is not known if this is grade 3a (best and most versatile) or 3b. Figure B19 presents the soil types present within the AAP area which is made up of freely draining slightly acid loamy soils (brown), freely draining floodplain soils (beige) and slowly permeable seasonally wet acid loamy and clayey soils (green).

Figure B19- Soil types present within the AAP (Soilscape)



The local superficial bedrock environment was previously dominated by ice age and river conditions. Figure B20 presents the superficial bedrock geology of the AAP area which is dominated by till

deposits (light green) formed up to 2 million years ago in the Quaternary Period and Glaciofluvial deposits (pink) comprising Devensian sand and gravel deposits formed up to 2 million years ago in the Quaternary Period formed by previous ice age conditions.

Alluvium deposits (yellow) comprising clay, silt, sand and gravel formed up to 2 million years ago in the Quaternary Period and River Terrace deposits (orange) comprising sand and gravel formed up to 3 million years ago in the Quaternary Period. Both of these areas were previously dominated by rivers with yellow areas to the south east still dominated by the River Conder.

Figure B20- Superficial surface geology of the AAP area (British Geological Survey (BGS))

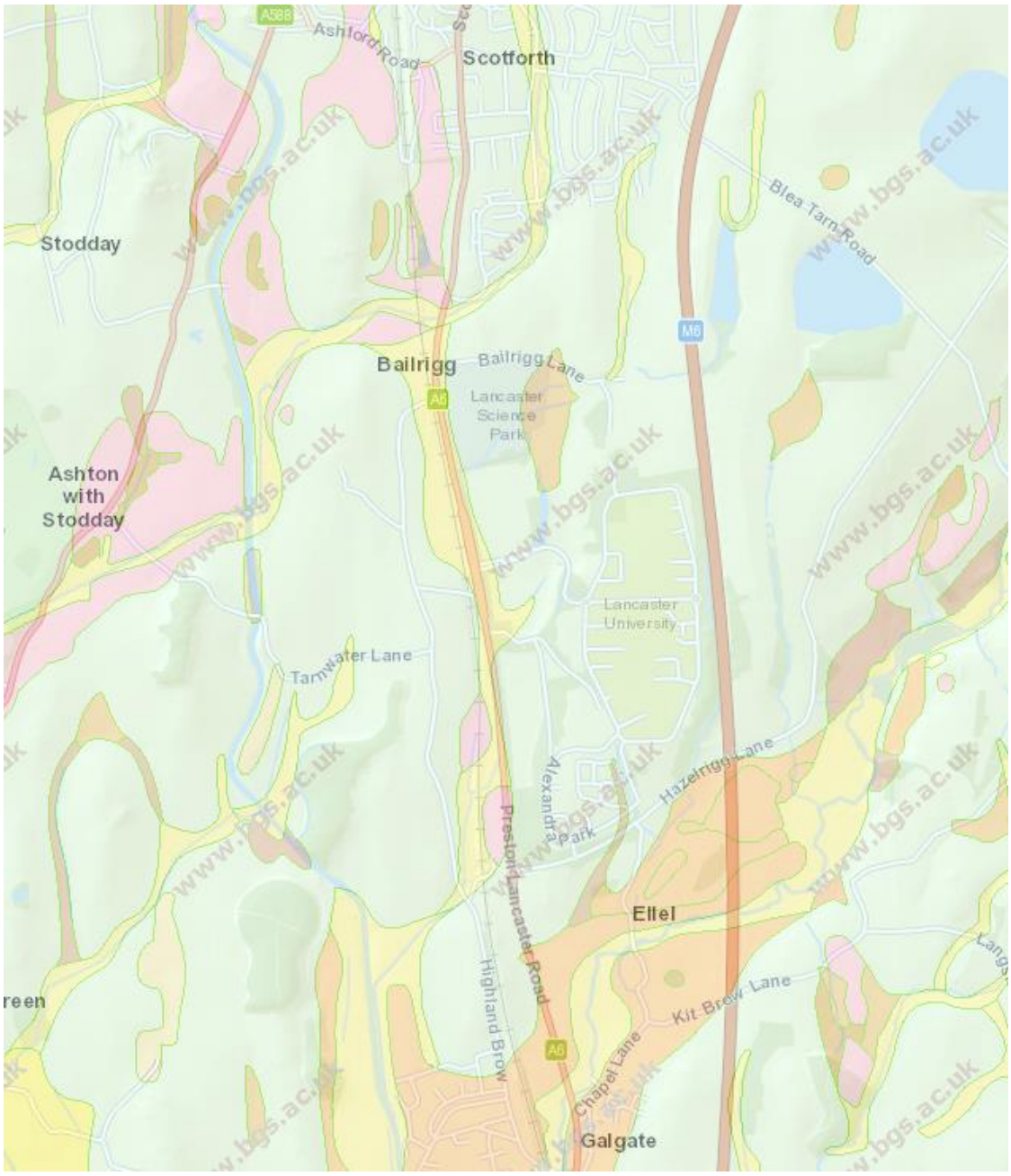
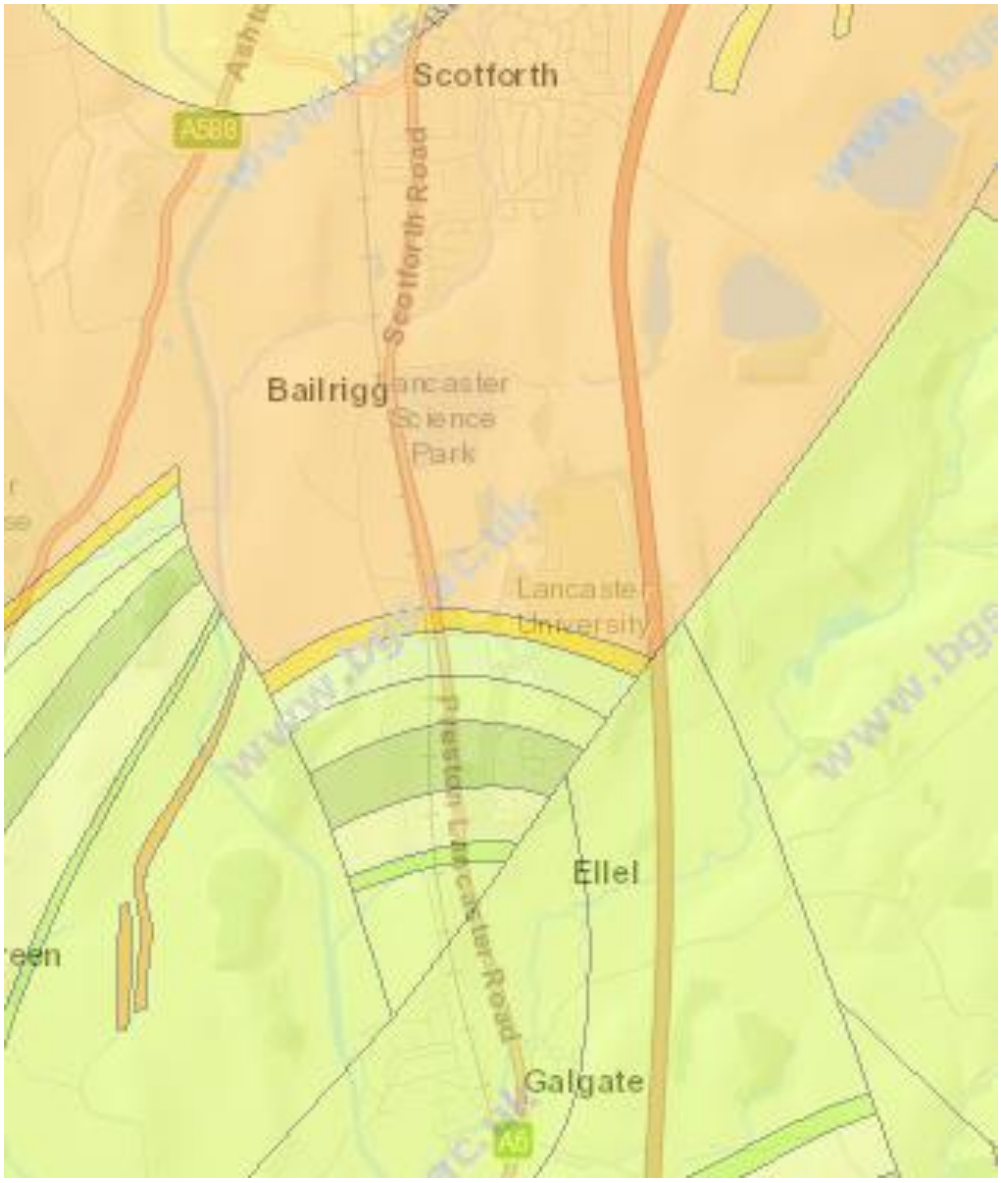


Figure B21 presents the bedrock geology of the AAP area, the north of the site (brown) is predominantly sedimentary bedrock comprised of siltstone, mudstone and sandstone formed approximately 324 to 328 million years ago in the Carboniferous Period with the local environment previously dominated by sub-aqueous slopes. The southern area of the site (light green) is dominated by the millstone grit comprising mudstone, siltstone and sandstone. Sedimentary Bedrock formed

approximately 319 to 329 million years ago in the Carboniferous Period with the local environment previously dominated by swamps, estuaries and deltas.

Figure B21- Bedrock geology of the AAP area (BGS)



There are no RIGS located within or in close proximity to the AAP area.

Data Gaps and Uncertainties

- Distribution of areas known to have been subject to significant subsidence.
- Key areas of Contaminated Land if present.
- Area of previously developed vacant land, vacant buildings and derelict land and buildings.

Key Sustainability Issues and Opportunities

- There is no ALC Grade 1 or 2 land within the AAP area although whether or not there is grade 3a land is not known.
- Where previously developed sites exist, the aim should be to continue to remediate and re-use them, although this decision should be made on a site-by-site basis as some brownfield sites may now have developed significant biodiversity interests.

Air Quality

The following baseline indicators have been used to identify environmental conditions and key trends:

- Number and distribution of Air Quality Management Areas (AQMAs) (Defra)
- Air quality improvement plans and initiatives (Lancaster City Council).

There are currently two designated AQMAs in close proximity to the AAP area. Lancaster AQMA is located to the north of the AAP area within the city centre and Galgate AQMA located within Galgate centre to the south of the AAP area. Both of these AQMAs have been designated due to exceedances of Nitrogen Dioxide (NO_2) levels. The location of these AQMAs are presented in Figure B22.

The main pollutant sources within the AAP are the M6 motorway, A6 and the West Coast Main Line (WCML) rail link all of which are primary travel routes in particularly at peak times for commuting by both train and road.

Figure B22- Location and distribution of AQMAs in the general area of the AAP (MARIO, Lancashire County Council)

In November 2015 a bid was made to provide improvements to buses to reduce emissions (involving the County Council, the City Council, Stagecoach and Greenurban Limited) under the Department of Transport, Clean Bus Technology Fund 2015. This application was successful and a full bid award of £288,180 was granted. However, this process has been significantly delayed which was originally planned for 2016/17. Delivery was rescheduled to commence in February 2018. This measure is anticipated to have an impact of reducing nitrogen oxide levels in the Lancaster AQMA by up to 8%. Subject to agreement, the Council and its partners intend to make another bid under the recently

announced Defra Clean Bus Technology Fund 2017-19 which, if successful, will provide additional pollution benefits in the AQMAs (Lancaster City Council).

Data Gaps and Uncertainties

- Combined Air Quality Indicator Scores for LSOAs within the AAP area
- Local air quality monitoring results for nitrogen dioxide (NO_2) and particulates (PM_{10}) within the AAP area if these exist.

Key Sustainability Issues and Opportunities

- In general terms air quality in the District is good although three AQMAs are identified in Lancaster, two of which have potential to be influenced by the Garden Village proposal if significant traffic flows are generated on the A6.
- Opportunities should be sought to reduce road traffic and promote sustainable transport use to ensure against this.
- Opportunities should also be sought to improve air quality within the AQMAs in particular where possible.
- There may be opportunities to reduce travel and distances between homes and employment sites through the AAP.

Energy and Climate Change

The following baseline indicators have been used:

- Total carbon dioxide (CO_2) emissions (Lancashire Area Profiles)
- Annual average domestic gas and electricity consumption per consumer (Lancashire Area Profiles)
- Annual gas and electricity consumption in the commercial/industrial sector (Lancashire Area Profiles)
- Lancaster University energy usage and implemented renewable energy projects (Lancaster University).

Although climate change is a global phenomenon, action to avoid its most serious effects and to minimise the emission of greenhouse gases needs to occur at a local level. However, data and statistics at such a specific level for an AAP area is not readily available. With this in mind, District-wide statistics have been utilised and where available data from Lancaster University has also been used as this is one of, if not the largest energy consumer in the AAP area.

Energy use in Lancaster as a District is considered average when compared to national means. Statistics for 2012 indicate that domestic gas (13,910 kWh per consumer per year) (Figure B23) and electricity (3,910 kWh per consumer per year) (Figure B24). These figures have been falling in line with national averages for the past decade. Statistics show that the average electricity consumption for the North West is slightly lower than that for the District. Sales per consumer average annual gas and electricity consumption by the commercial/industrial sector in the Lancaster District stood at 700,270 KWh and 61,431 KWh respectively in 2010.

Figure B23 - Domestic Gas Usage in Lancaster (Department of Energy and Climate Change (DECC))

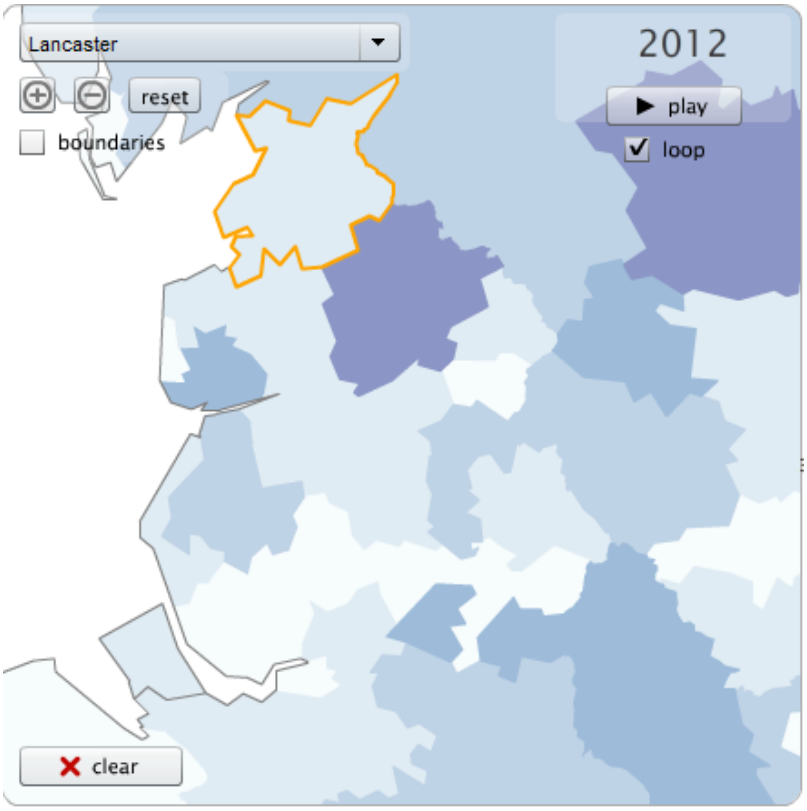
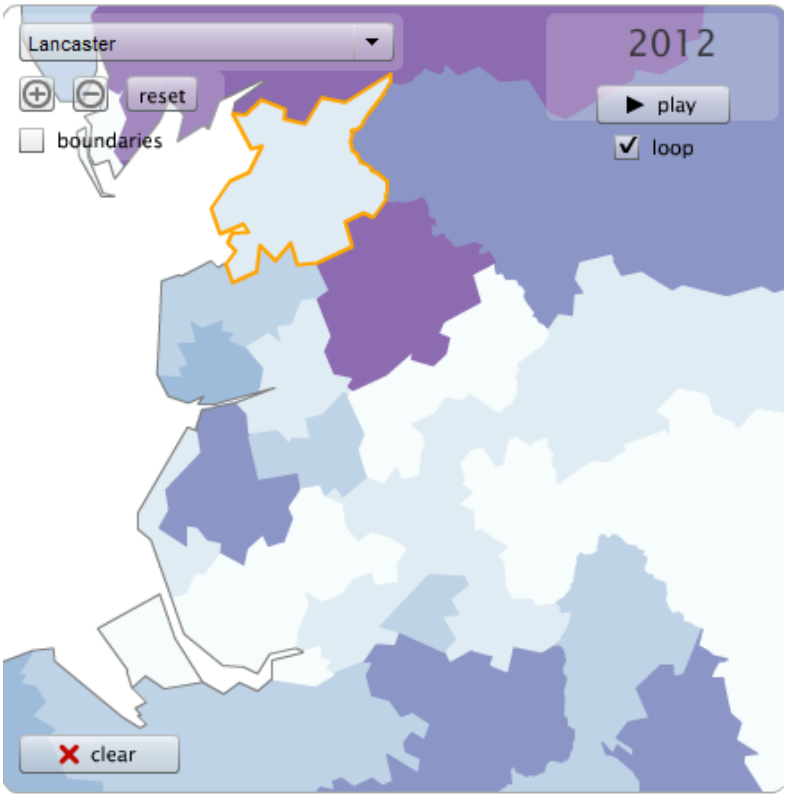


Figure B24 - Domestic Electricity Usage in Lancaster (DECC)

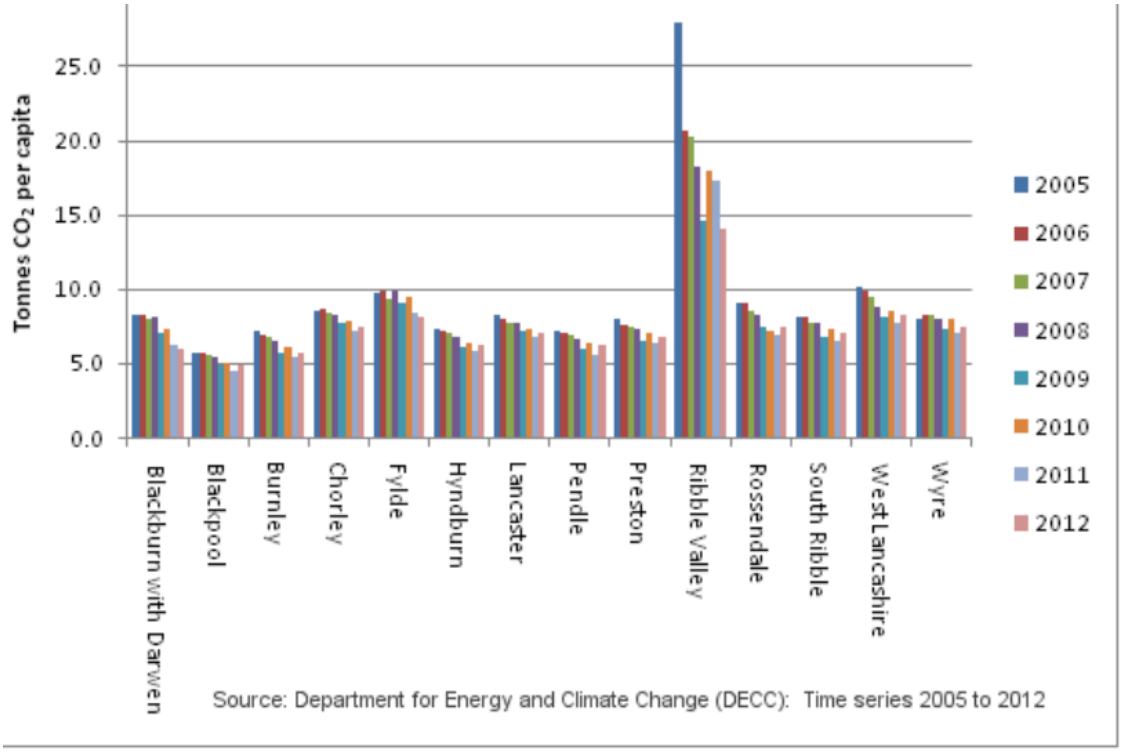


Total Industrial and commercial CO_2 emissions in Lancaster 2009 per capita were 2.1 tonnes. Domestic emissions were also 2.1 tonnes per capita and for road transport, 2.6 tonnes per capita. The Lancaster District is particularly notable for having the lowest per capita domestic emissions in Lancashire which in 2009 stood at 2.1 tonnes per head. Between 2005 and 2006 the Lancaster

District CO_2 emissions fell by a substantial 32,000 tonnes or, which was largely due to reduced emissions from the industrial and commercial sector (Lancashire County Council, Lancaster Area Summary).

Lancaster City Council is committed to reducing its carbon emissions by 34% by 2020. The target annual carbon reduction is 3.4% until 2020. Since 2008/09, a total of 25.35% tCO2 has been saved, over half the 2020 target by 2013. Details of how this is progressing can be found in the DECC report (Lancaster City Council).

Figure B25 - Per Capita CO2 emission levels in Lancashire, 2005 to 2012 (Lancashire County Council)



There are three large scale renewable energy schemes within the Lancaster District: Caton Moor Wind Farm, 16MW, comprising eight turbines; The Salt Ayre Landfill site, 4.3MW; and Lancaster Sewage Treatment, 0.65MW. The council is continuing to receive wind turbine applications from across the district, with a further 3 turbines at South Heysham soon to be completed - this will add a further 7.5MW to the current total generating capacity of 28.54MW in the District (AMR 2013). The District produces 0.026MW of energy produced by micro-renewables (where known) including four wind turbines, one solar photovoltaics, one Combined Heat and Power (CHP) plant and one biomass scheme. The breakdown of renewable energy production capacity is shown in Table B-10 below.

Table B10 - Renewable energy production by technology in Lancaster 2013 (Lancashire County Council)

Technology	Status	Capacity
Wind	Operational	18.5 MW
Landfill Gas	Operational	4.26 MW
Sewage Gas	Operational	0.58 MW
CHP	Operational	1.4 MW
Micro-generation	Operational	3.8 MW
TOTAL	Operational	28.54 MW

As part of its Carbon management plan, Lancaster University has implemented a range of projects which have directly reduced the University's carbon footprint by over 20% (to meet challenging carbon reduction targets of 43% by 2020 and 83% by 2050). Lancaster University installed a 2.3MW wind

turbine in 2012 which is claimed to be the first of its kind at a UK university and produces 5,000MWh of electricity per annum (15% of University electricity consumption).

The University also fully refurbished its energy centre enabling the University to provide low carbon heat and electricity across its campus and also incorporated a 2MW Combined Heat and Power (CHP) engine (which generates approximately 25% of University electricity), and a 1MW biomass boiler which produces 15% of the University's heat requirements. Both of these projects have reduced the University's carbon emissions by over 3,000tCO_2e.

Data Gaps and Uncertainties

- There is a lack of data at local level for both energy and climate change which has resulted in the generalisation of baseline data presented in this section which may not necessary portray an accurate picture of the local circumstances.

Key Sustainability Issues and Opportunities

- Achieving a low carbon footprint through energy conservation and efficiency and the promotion of renewable energy sources should be a priority for the AAP.
- New developments should be encouraged to include sustainable design principles.
- Reducing transport on local roads and encouraging more sustainable modes of transport would contribute to reducing the effects of climate change.
- Emissions of CO_2 are generally low in the District and opportunities should be sought to maintain the reduction in these levels.
- To increase the production of energy from renewable sources; in particular capitalising on the progress made by Lancaster University. Note such measures should be compatible with wider ecological and landscape aims.

Biodiversity, Flora and Fauna

The following baseline indicators have been used to characterise conditions across the District:

- Number and distribution of designated sites including Special Area of Conservations (SAC), Special Protection Areas (SPA), Ramsar sites, Site of Specific Scientific Interest (SSSI), National Nature Reserves (NNR), Local Nature Reserves (LNR) and Biological Heritage Sites (BHS) (MAGIC, www.magic.gov.uk, Lancashire Area Profiles, www.lancashire.gov.uk).
- Species and habitats present within the AAP area (Greater Manchester Ecology Unit (GMEU)).
- Location and distribution of ancient woodland within the AAP area (MAGIC).

There are no SACs, SPAs, SSSIs, NNRs or LNRs within the AAP area. The nearest International and National designations are the Morecambe Bay SPA/SAC/Ramsar site and the Lune Estuary SSSI approximately 850m west of the AAP area. There are, however, three Local Wildlife Sites that lie within the AAP area – Park Coppice Woodland, Burrow Beck, and the Lancaster Canal, all of which are BHSs.

The area of the site to the west of the A6 is primarily agriculturally improved pastures and arable land, with areas of important broadleaved woodland, including Park Coppice Woodland BHS, and scrub. While the area as a whole is dominated by relatively species-poor agricultural grassland there are a range of important habitats present, including a network of hedgerow and walls forming field boundaries. A number of ponds occur across the site. Scattered mature broadleaved trees are also found across the site. Two streams, Ou Beck and Burrow Beck, cross the site and the Lancaster Canal BHS forms the western boundary of the site.

Species recorded within the agricultural grassland included cocksfoot *Dactylis glomerata*, tufted hair grass *Deschampsia cespitosa*, creeping bent *Agrostis stolonifera*, yarrow *Achillea millefolium*, perennial rye-grass *Lolium perenne*, sweet vernal grass *Anthoxanthum odoratum*, mouse-ear *Cerastium sp*., pineapple weed *Matricaria discoidea*, Yorkshire fog *Holcus lanatus* and creeping thistle *Cirsium arvense*.

Desk-top records have found the following notable species within the western area of the AAP boundary:

- Otters
- Great crested newt
- Water Vole
- Badger
- Bats
- Slow worm
- Bats
- A range of ‘priority’ invertebrate species.

This range and diversity of species is perhaps to be expected across what is a very large site with a range of important habitat types present.

During the field surveys undertaken by the GMEU of the western area of the site, signs of badgers were confirmed. The priority bird species dunnock, house sparrow, lapwing, reed bunting (probably breeding), skylark (probably breeding), starling, grey heron and willow warbler were all confirmed. The possible presence of great crested newts was not confirmed by eDNA surveys and no signs of water voles were recorded along Burrow Beck during these site surveys. There is potential for otters to be present along the water courses and the Canal. The site is of high value for bats as a foraging resource, and trees and buildings may support bat roosts. Further surveys for bats will be needed in support of any detailed applications that may come forward for the area in future. The invasive plant Himalayan Balsam was also recorded along the Canal corridor and along parts of the Burrow Beck.

Figure B26a – Phase 1 Habitat map of the north west area of the AAP area (Greater Manchester Ecology Unit).

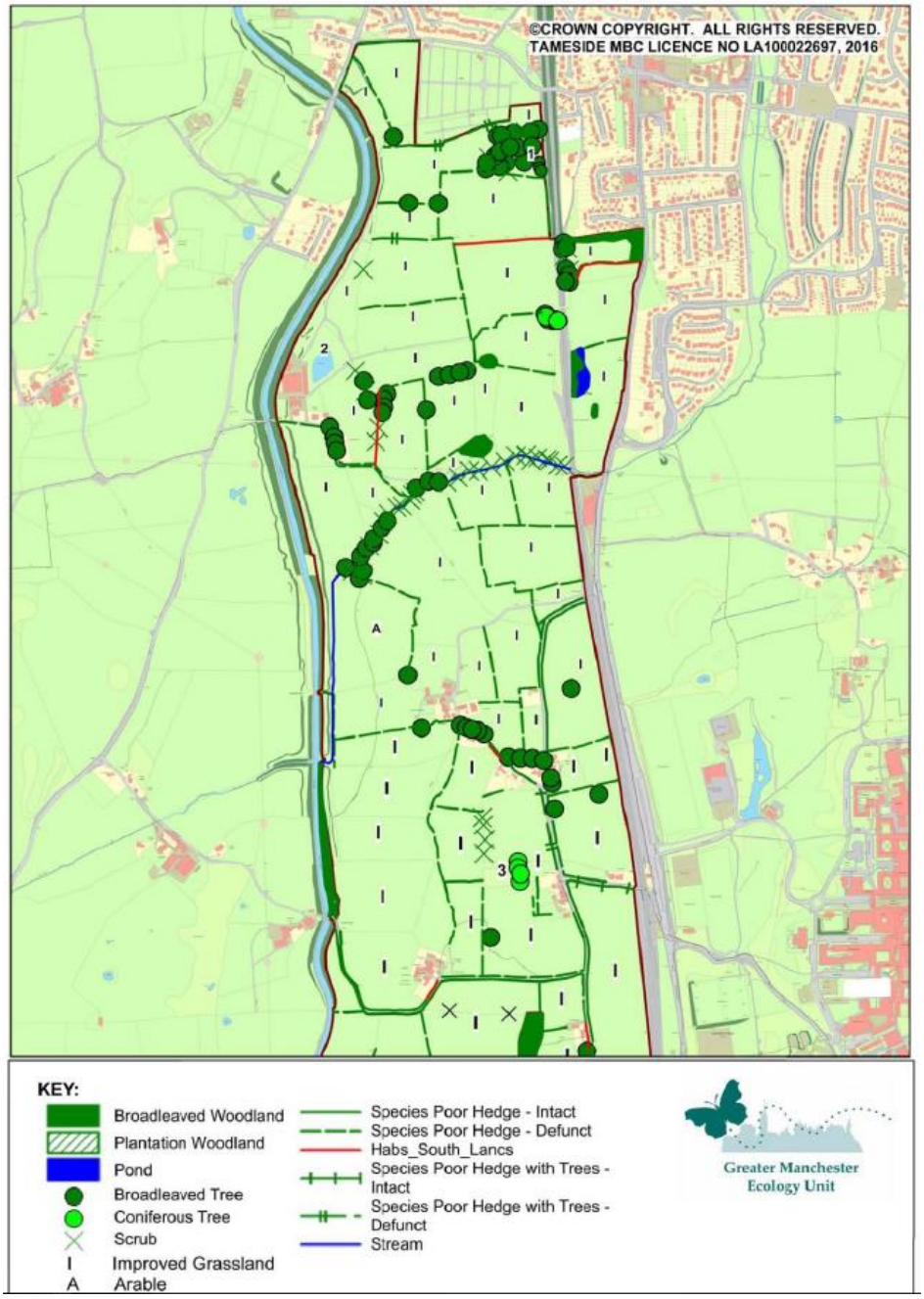
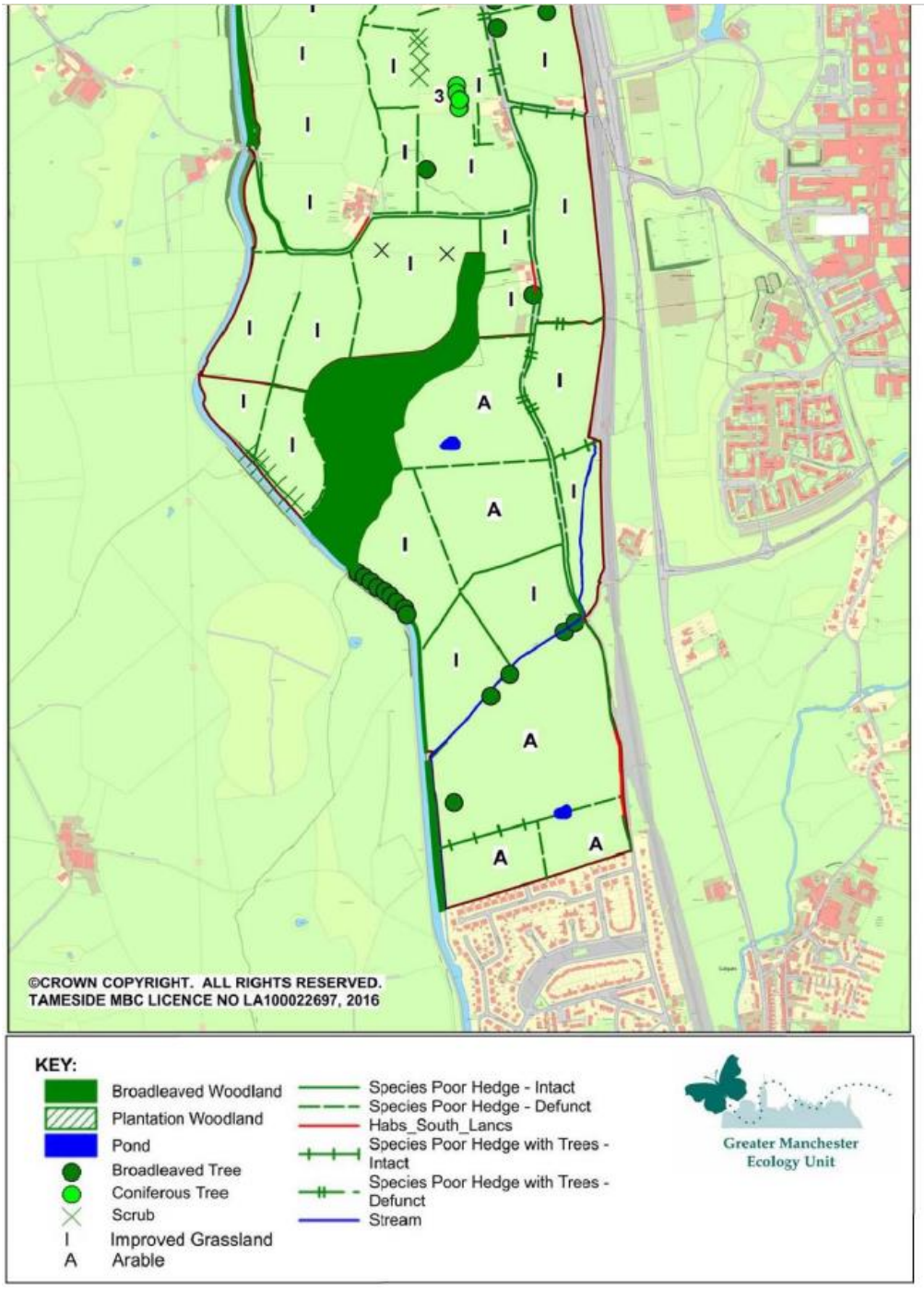


Figure B26b – Phase 1 Habitat map of the south west area of the AAP area (Greater Manchester Ecology Unit).

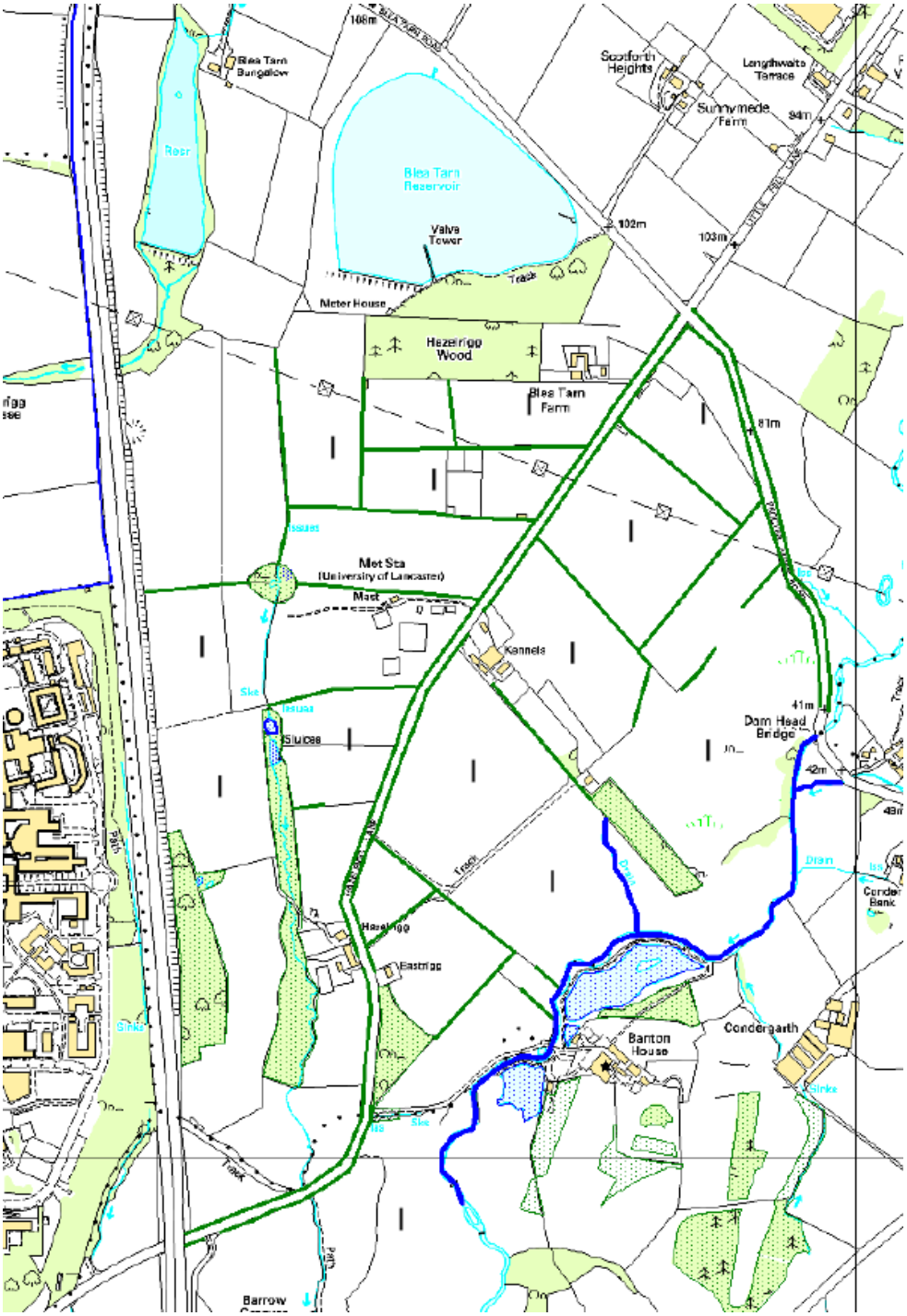


The part of the AAP area to the east of the M6 (on the opposite side of the motorway from the University) located in the setting of the Forest Hills facility (shown on Figure B27 below) has high potential for supporting Otters and possibly water voles through the river watercourses. The landscape is well-suited or supporting bat foraging and the following bat species have been recorded from the area – Pipistrelle, Daubentons, Natterers, Brown Long-eared. The landscape is also well-suited to badgers although no setts were recorded during field surveys undertaken by the GMEU.

The agricultural fields of the south east vicinity of the AAP area are generally dominated by MG6/MG7 pasture improved and relatively species-poor grassland. The grassland supports few forbs and is dominated by *Lolium perenne*, *Festuca* sp., *Holcus lanatus* grasses with *Trifolium repens* and *Cynosurus cristatus*. This type of grassland is ubiquitous throughout lowland Britain because the

grasses are very palatable. The hedgerows, although dominated by hawthorn (*Crataegus monogyna*) are well established and generally well-managed and also support other woody species such as hazel (*Corylus avellana*), ash (*Fraxinus excelsior*) and sycamore (*Acer pseudoplatanus*). Hedgerow flora and field boundaries are generaly more species-rich, albeit typical of hedgerows in improved pasture landscapes, with willowherbs, docks, nettles, bracken, bramble , *Arrhenathrum*. Dry stone wall boundaries add to the overall landscape character. Woodland blocks are mixed mature broadleaved, with some younger plantation woodland present on the golf course and around the fishing lake. Species recorded in the older woodland blocks include oak, ash, birch, beech and sycamore.

Figure B27 – Phase 1 Habitat map of the south east area of the AAP area (Greater Manchester Ecology Unit).



The protected bird species Little-ringed Plover was recorded in the area. The priority bird species Lapwing, Skylark, Reed Bunting, Black-headed gull, Bullfinch, Kestrel, Yellowhammer and Grey

Partridge were also all recorded during field surveys, all except the gulls were considered to probably be breeding. Redshank, Snipe and Woodcock were also recorded. Bluebells were recorded in the woodland to the west of Hazelrigg Lane

As presented in Figure B28 below, there is only one area of ancient woodland within the AAP boundary, this being Park Coppice to the south west of the AAP area. There are another four areas of ancient woodland in close proximity to the AAP boundary, most notably Crane Wood which is adjacent to the western boundary separated only by the Lancaster Canal.

Figure B28 – Location and distribution of Ancient Woodland within the AAP area (MAGIC).

Data Gaps and Uncertainties

There are no data gaps or uncertainties in the baseline information.

Key Sustainability Issues and Opportunities

- There are no Internationally or Nationally designated sites within the AAP area however there are three BHSs present on the site which should be retained, protected and enhanced where possible. The Morecambe Bay and Duddon Estuary SPA and Ramsar is located ~850m to the west.
- Enhancement of parts of the site to achieve net biodiversity gain should be included within the AAP masterplan including new tree planting and the establishment of an enhanced pond network.
- The woodland blocks, hedgerows, open water and the river course within the AAP area are all of high ecological value and should be retained as part of any development proposals.
- The land and habitats around the Forest Hills Golf and Country Club are diverse; further developments in this area will need to be supported by more involved ecology surveys and assessments.
- Park Coppice ancient woodland should be retained and enhanced where possible.

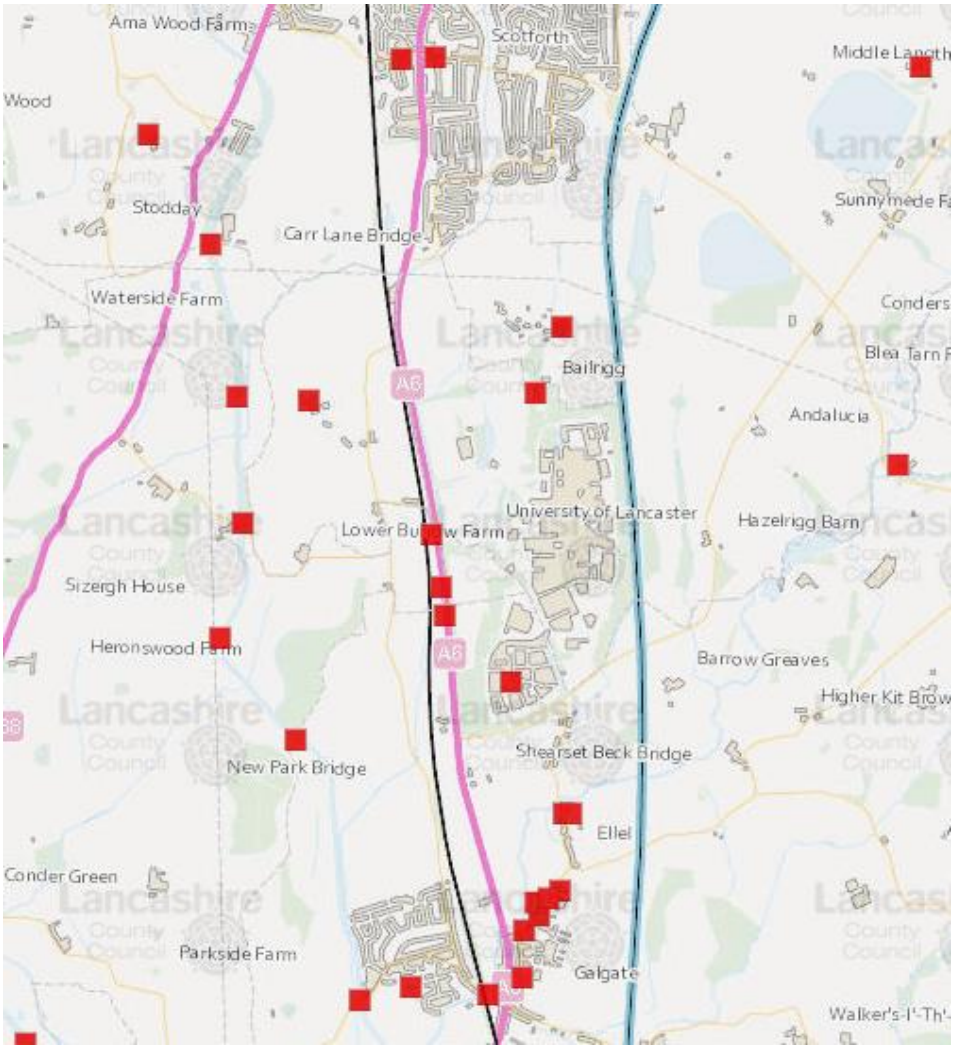
Cultural Heritage

The following baseline indicators have been used to characterise the cultural heritage baseline:

- Number and distribution of Listed Buildings, Scheduled Monuments, Conservation Areas and Registered Parks and Gardens (MARIO, Lancashire City Council).
- Number of heritage assets within or adjacent to the AAP area listed on the Historic England Heritage at Risk Register 2017 (Heritage at Risk Register 2017 - North West).
- Historic Landscape Character of the AAP area (MARIO, Lancashire County Council)

Based on Historic maps of the area dating from the mid-19th century, the AAP area has been historically dominated by agricultural uses with very little development in the area outside of the small villages/hamlets and individual dwellings. The Lancaster Canal was introduced during the early 19th Century. The canal's principal purpose was to transport coal north from the Lancashire Coalfields, and limestone south from Cumbria. The nature of these cargoes gave the waterway its local nickname - the Black and White Canal (Canal & River Trust). The Lancaster and Preston Junction Railway Company (L&PJR) was later created by Act of Parliament in 1837, to link the towns of Preston and Lancaster which forms the part of the WCML rail link that runs through the AAP area. The 200-acre purpose-built campus of Lancaster University was donated for development by Lancashire County Council in 1963 and since became a major land-use in the area. There are no Scheduled Monuments, Registered Parks or Gardens or Conservation Areas within or adjacent to the AAP area, however there are 15 Listed Buildings within or adjacent to the AAP area all of which are Grade II Listed, as shown on Figure B29 below (MARIO, Lancashire County Council). There is also a relatively high concentration of Grade II Listed Buildings within the settlement of Galgate.

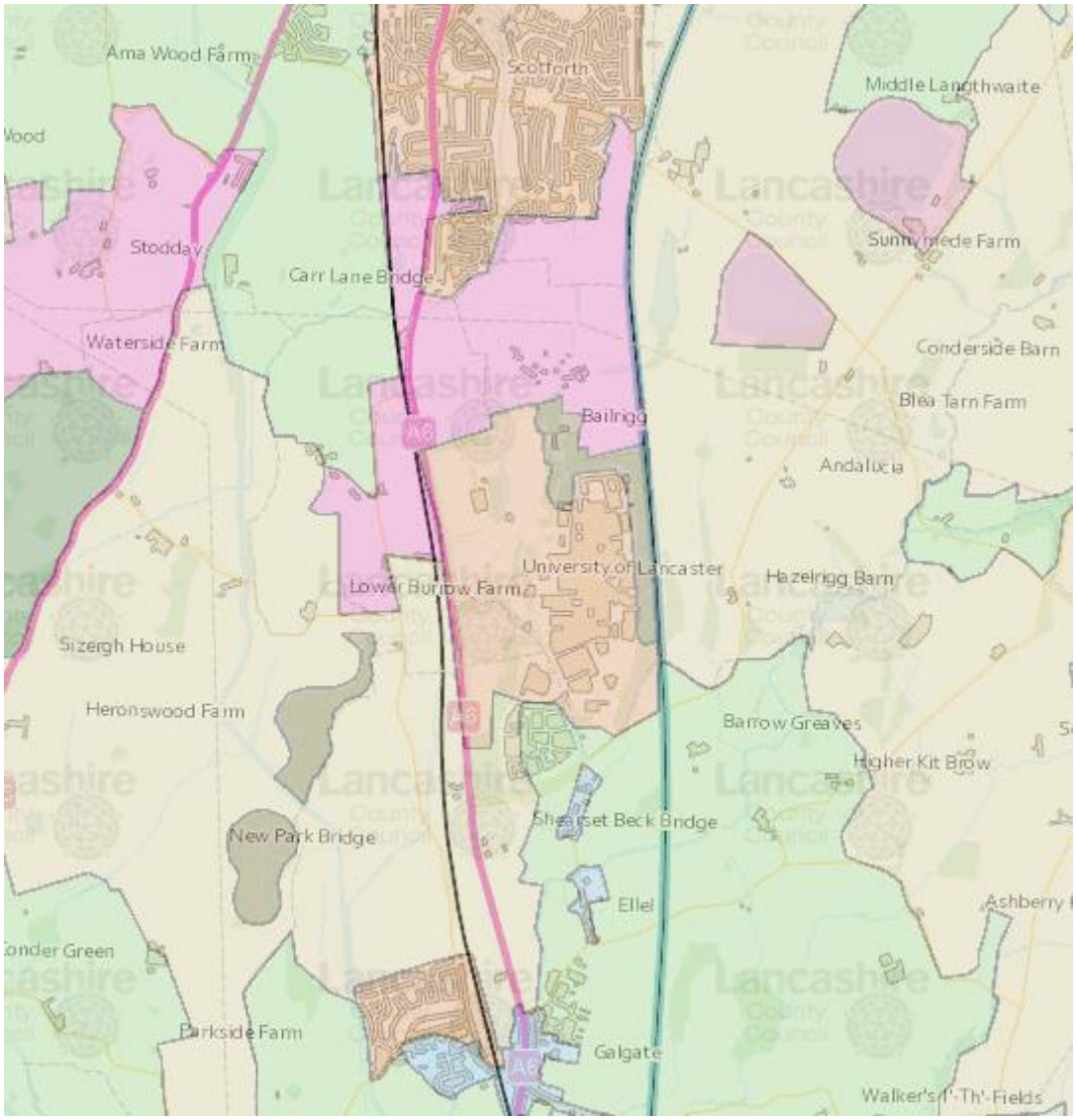
Figure B29 – Location and distribution of Listed Buildings within and immediately adjacent to the AAP area.



None of the heritage assets within or adjacent to the AAP area are listed on the Historic England Heritage at Risk Register 2017 (Heritage at Risk Register 2017 - North West).

Figure B30, below, shows the historic landscape character areas within the AAP area. The AAP area is dominated by Post Medieval Enclosure (grey/ brown colour) and Ancient Enclosure (green). The University and the settlement of Scotforth (orange) both fall within the Modern Industry character area with the area between these falling into the Modern Enclosure character area (pink).

Figure B29 – Historic Landscape Character Areas within the AAP area (MARIO, Lancashire County Council).



Data Gaps and Uncertainties

- Find spots from the historic environment record and indication of archaeological potential
- Buildings of special local interest
- Historic landscape characterisation if appropriate

Key Issues and Opportunities

- Heritage assets should be protected and their settings conserved from adverse effects in the design of new development.
- In addition to protecting statutory sites it is important to ensure that the wider historic landscape is protected and also non-designated heritage and archaeological resources.

Landscape

The following baseline indicators have been used to characterise the existing conditions:

- Landscape characterisation (Arcadis Landscape Character Assessment and MARIO, Lancashire County Council).

- Levels of light emitted in the AAP area (Campaign for the Protection of Rural England (CPRE)).
- Number of Conservation Areas within the AAP area.

The Council has undertaken a series of landscape assessments, prepared by Arcadis consultants in March 2016. Assessment work suggests that land in this area is characterised by open rolling pasture farmland which is separated into fields by mature hedgerows interspersed with occasional woodland and trees, including the area of ancient woodland 'Park Coppice' to the south west of the AAP area. A number of small ponds and farms are present within this undulating area which is bounded by road infrastructure to the east, the residential edge of Lancaster to the north and Lancaster Canal to the west. Views are interrupted by the presence of a number of pylons running east-west in the skyline. The landscape is severed by the A6 and M6 road networks as well as the WCML rail link. The Lancaster University Bailrigg Campus also plays a dominant part in the local landscape. The small village of Bailrigg together with sporadic farm housing occasionally breaks up the rolling agricultural fields which surround the University campus. At the northern boundary of the AAP area is the small settlement of Scotforth which is typically of a residential nature and is the start of the urban area which stretches up to Lancaster City centre. The settlement of Galgate is immediately to the south of the AAP boundary, a small village offering a limited amount of local services, employment and residential dwellings.

Further south the land consists of a linear ridgeline running south from Lancaster, falling away either side towards the Lancaster Canal to the west and north-west towards the rail line. The ridge offers views out east towards the Forest of Bowland AONB and west towards the coast with visibility reducing towards the edges due to the topography and vegetation.

The AAP area falls within the National Character Areas (NCA) 31: Morecambe Coast and Lune Estuary and NCA 33: Bowland Fringe & Pendle Hill.

The AAP area takes in five Landscape Character Types (LCTs) including: LCT 5: Undulating Lowland Farmland, (Green on Figure B31), LCT 7: Farmed Ridges. (Peach colour on Figure B31), LCT 12: Low Coastal Drumlins, (Navy blue on Figure B31) and LCT 13: Drumlin Field, (Red on Figure B31) and LCT E: Undulating Lowland Farmland.

The AAP area takes in five Landscape Character Areas (LCAs) two which form part of the Forest of Bowland AONB Landscape Character Assessment including LCA5i: West Bowland Fringes, LCA 7c: Langthwaite Ridge, LCA 12a: Carnforth-Galgate-Cockerham, LCA 13c: Docker-Kellet-Lancaster and LCA E2: Quernmore.

Figure B31 – Landscape Character Types taken in by the AAP area (MARIO, Lancashire County Council).

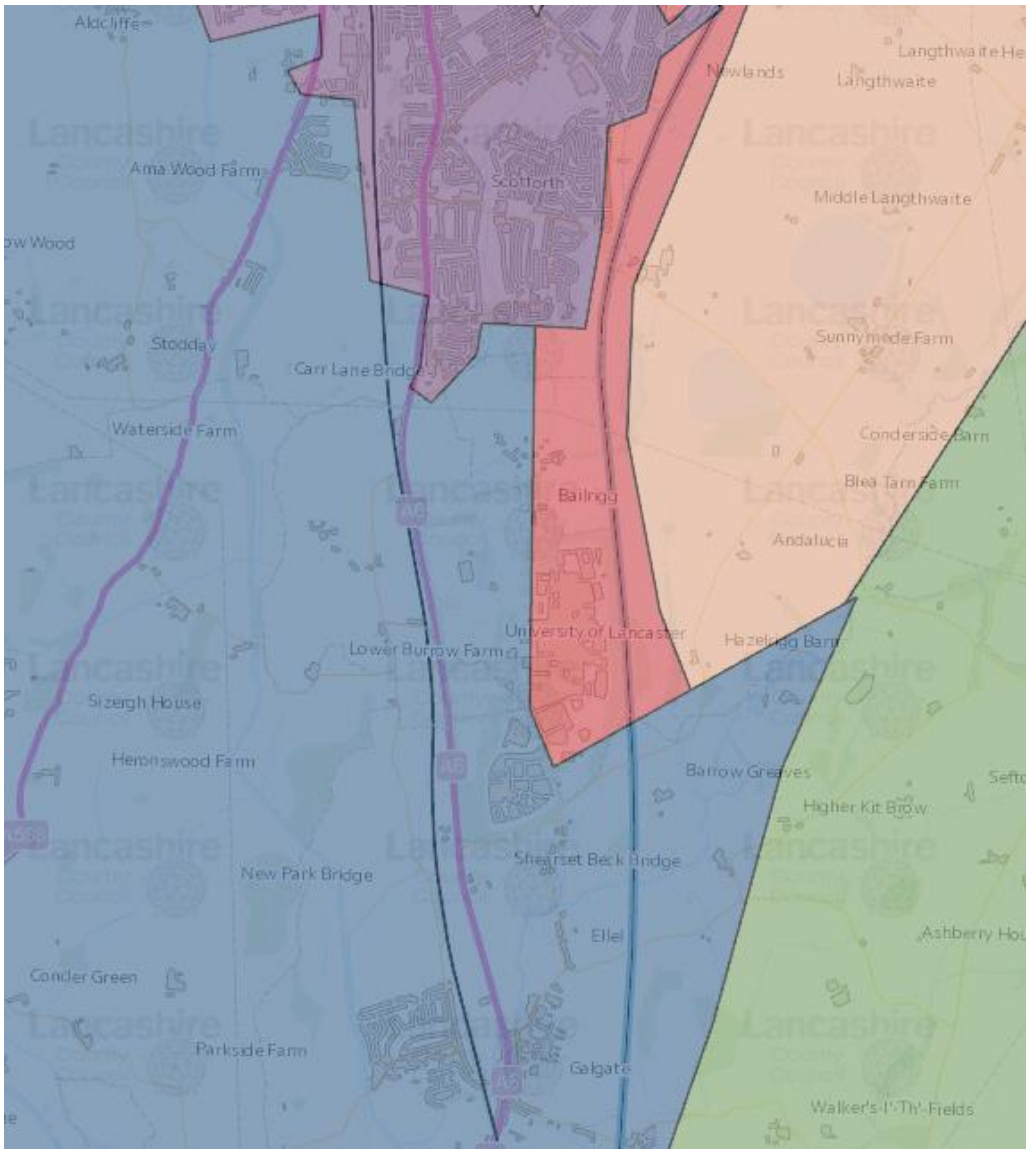
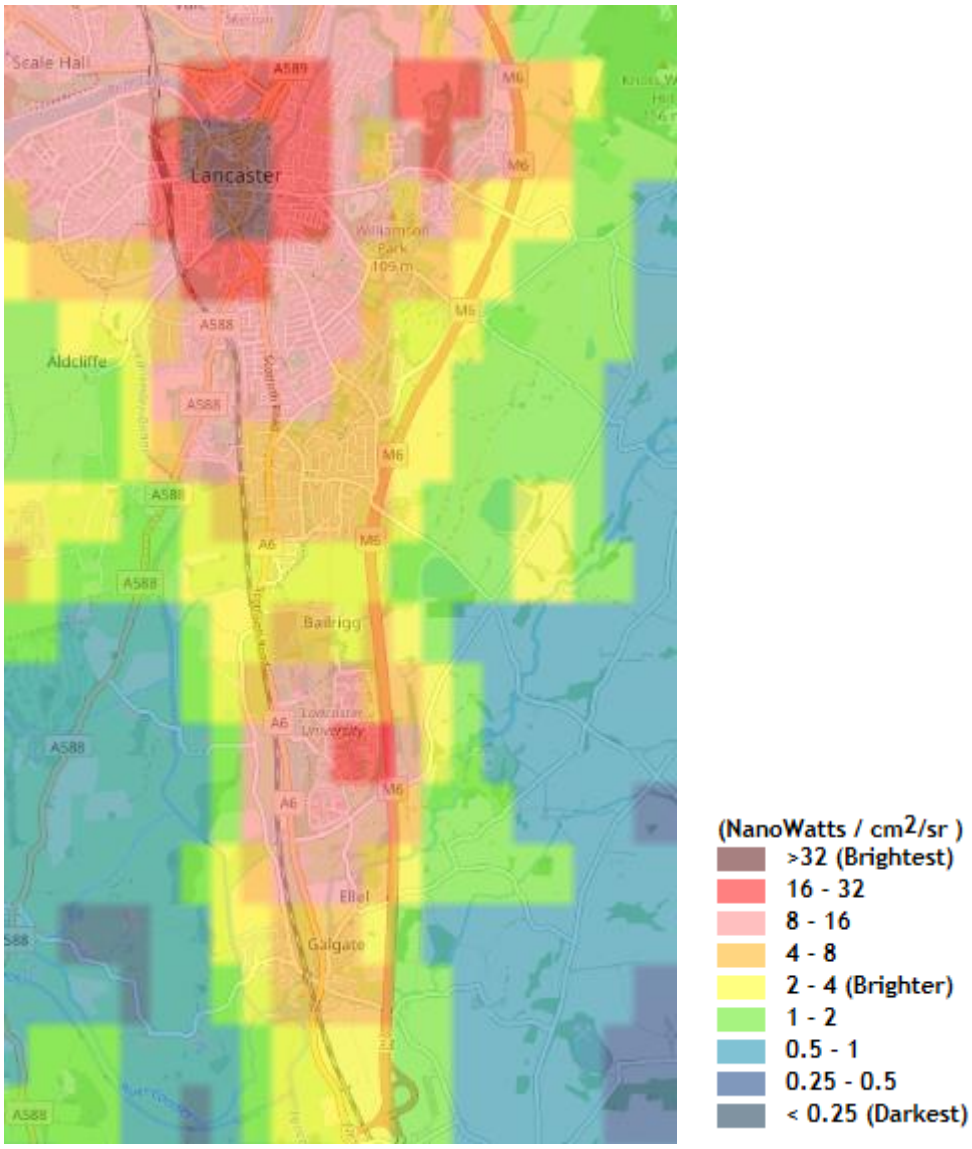


Figure B32 below, presents the existing levels of light being produced within and around the AAP area. The major source of light is produced by Lancaster City Centre however relatively high levels of light of are also being emitted by Lancaster University (CPRE).

Figure B32 – Levels of light emitted within the AAP and surrounding area (CPRE, 2018)



There are no Conservation Areas within the AAP area.

Data Gaps and Uncertainties

- Land in entry/higher level stewardship schemes
- Townscape Characterisation

Key Sustainability Issues and Opportunities

- The AAP area is relatively close to the Forest of Bowland AONB. Key views are also afforded to the Lake District and across to the Williamson Monument which should be retained.
- Development of this area would greatly change the local and surrounding landscape due to the local topography and visibility. The topography of this site would likely present any development as a distinct change in views from the Forest of Bowland AONB out to the west towards the coast.
- It is important for landscape character and quality to be maintained and where possible restored and enhanced by maintaining certain landscape features and proposing a density and layout that will meet the requirements of a Garden Village ethos.

- Opportunities should be sought to enhance design and landscaping at the local level to improve the quality of the local environment.
- Parts of the site are elevated and prominent (e.g. Burrow Heights) and would be less suited for development.
- Opportunities could be sought to minimise light spillage as a result of development facilitated through the AAP as lighting levels in this area are already relatively high due to the presence of Lancaster University.
- Improving the quality of the public realm is viewed as very important as it contributes to an experience of a place or location. A high quality public realm can attract inward investment, benefit tourism and increase quality of life for the resident population.

Minerals and Waste

The following baseline indicators have been used to characterise the existing conditions:

- Amount of household waste collected per head (Defra).
- Location of quarries and landfill sites (Environment Agency – What's in My Back Yard (WIMBY)).
- Implementation of kerbside recycling schemes (Lancashire Area Profiles).
- Household waste recycling and composting achieved (Lancashire Area Profiles).
- Location and distribution of Mineral Safeguarded Areas within the AAP (MARIO, Lancashire County Council).
- Lancaster University recycling rate and initiatives (Lancaster University Annual Review 2016).

As local data and statistics regarding minerals and waste at such a specific level for an AAP area is not available, statistics for Lancaster and Lancashire have been utilised to produce an overall picture of the current minerals and waste baseline.

The Joint Lancashire Minerals and Waste Development Framework (MWDF) contains mineral and waste specific policies for use in determining planning applications for waste or quarry developments in Lancashire, including those areas administered by the Unitary Authorities of Blackburn with Darwen Borough Council and Blackpool Borough Council (the Joint Plan area). It replaces the Minerals and Waste Local Plan and sets out the strategy for future minerals and waste development and addresses issues including mineral extraction; waste management and recycling; protecting mineral resources and restoring minerals and waste sites (www.lancashire.gov.uk).

Lancaster District residents produced 453.9kg of household waste per person in 2014/15, an increase of 1kg per person on the previous year (452.86kg - 2013/14). However, this figure still remains significantly lower than the regional and national averages by 73.1kg and 104.1kg respectively.

The rates of household waste sent for reuse, recycling or composting have in general been improving over the years as sharp increases in Landfill Tax have made the traditional form of Landfill disposal much more expensive. The household reuse, recycling and composting rate in Lancaster district was 44.5% in 2015/16. Table B11 presents data for the rate of household waste recycling, reuse and composting achieved in Lancaster between 2010 and 2016. As mentioned previously it can be seen that the rate in Lancaster has been steadily improving in recent years. Compared to the county, regional and national averages of 51.6%, 46.5% and 43.0%, respectively, there is still scope for improvement. However, the gap is gradually closing as figures improve.

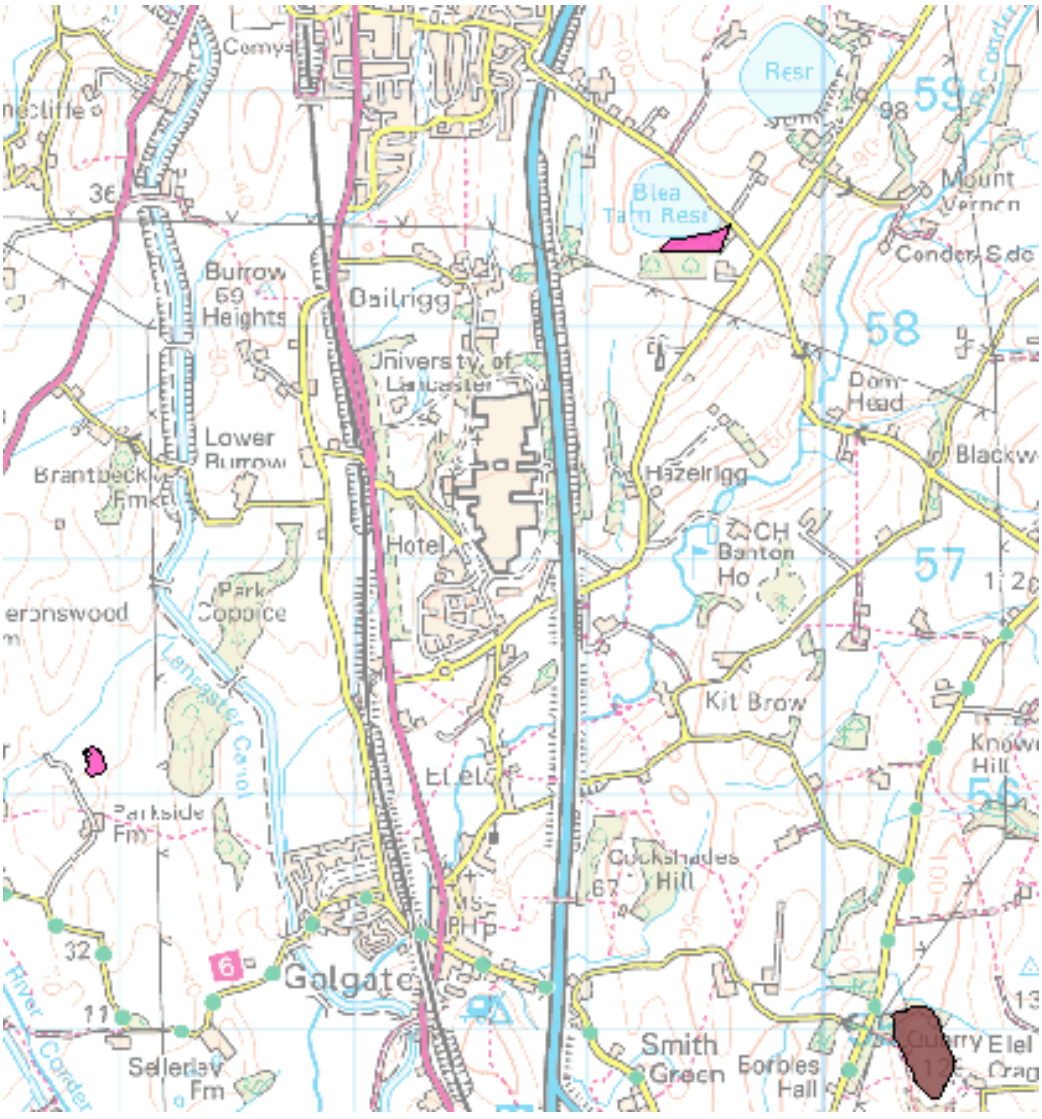
Table B11 - Household Waste Recycling, Reuse and Composting Rates

	2010/11 (%)	2011/12 (%)	2012/13 (%)	2013/14 (%)	2014/15 (%)	2015/16 (%)
Lancaster	38.6	41.6	40.8	42.5	42.9	44.5

Source: Lancashire Area Profiles

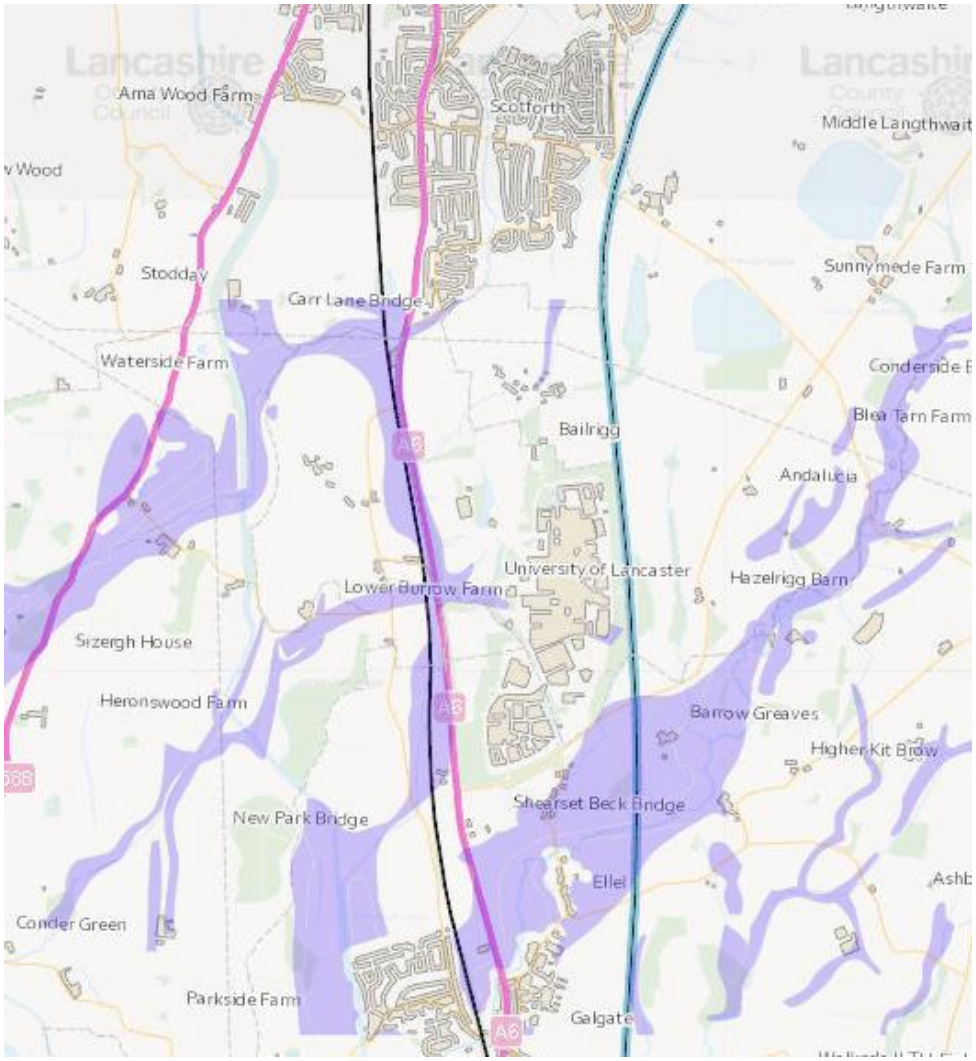
Ellel Crag Quarry is closest quarry to the AAP area around 1.5km to the south east and is approximately 14ha in size. Activity at the quarry includes shale and sandstone extraction with restoration incorporating inert and biodegradable landfill. However, the closest landfill site is the Blea Tarn Landfill immediately adjacent to the north western boundary of the AAP area as shown in Figure B33 below.

Figure B33 – Location and distribution of Quarry site and landfill sites nearby to the AAP area (Environment Agency – WIMBY)



Mineral Safeguarded Areas of the AAP area are shown in Figure B34 below. Safeguarded areas are present mainly in the south east, south west and north west of the AAP area with only a small area safeguarded in the north east of the area.

Figure B34 – Location and distribution of Mineral Safeguarded Areas within the AAP area (purple) (MARIO, Lancashire County Council).



As much of the AAP area is currently undeveloped, the key producer of waste in the University.

Lancaster University have undertaken a number of successful projects in an attempt to reduce the waste output of the university. 'Project Exodus', a student reuse project, collected 50 tonnes of items for reuse from students in 2016 and has helped the University improve its recycling rate to 83%, its highest to date.

Sustainable food has also been a major theme for the University in recent years with the ‘Edible Campus’ project and the 'Ecohub' student growing facility has developed as a key project over the last two years incorporating extensive growing areas, the refurbished bars, chickens, polytunnel, and pond. Continuing on the sustainable food theme Lancaster University was recognised as best in sector for its integrated approach to sustainable food issues with the presentation of a 'Green Gown Award' for sustainable Food in November 2015 (Lancaster University Annual Review 2016).

Data Gaps and Uncertainties

- Volume of waste produced – total and sub-divided by sector by ward.
- Data regarding the use of recycled and secondary materials in the construction industry.
- Latest data on household waste produced per person by ward

Key Sustainability Issues and Opportunities

- The major strategic landfill site for the District is located in a neighbouring authority, therefore Lancaster is an exporter of waste.
- The Garden Village will increase waste production in the area. Opportunities should be sought to minimise this and further improve composting and recycling performance where this is possible.
- Sustainable sourcing and waste management principles should be promoted for all new development.
- Although Lancaster has exceeded recycling levels there is still room for improvement.
- Lancaster University, the single largest waste producer in the AAP area, has reached a recycling rate of 83% providing opportunities to continue this success through adopting the University's waste disposal mechanisms.
- The AAP area includes a number of minerals safeguarding areas. It will be important to demonstrate that the Garden Village will not result in the sterilisation of important resources.

Transportation

The following baseline indicators have been used to characterise the existing conditions across the District:

- Distribution of major transport systems – roads, airports, ports, rail and bus routes (MARIO, Lancaster County Council).
- Lancaster University travel patterns (Lancaster University Annual Review 2016).

There are strong transport links that intersect the AAP area including the A6, M6 motorway and WCML rail link all of which run north/south through the area.

The A6 links the AAP area to the adjacent settlements of Galgate, Scotforth and into Lancaster City Centre. The M6 provides a more strategic link through the north west of England and the borders of Scotland to the north and provides links to other major cities to the south of the area such as Liverpool, Manchester and Birmingham. The nearest junction to enter and exit the M6 motorway is Junction 33 approximately 1.6km south of the AAP area.

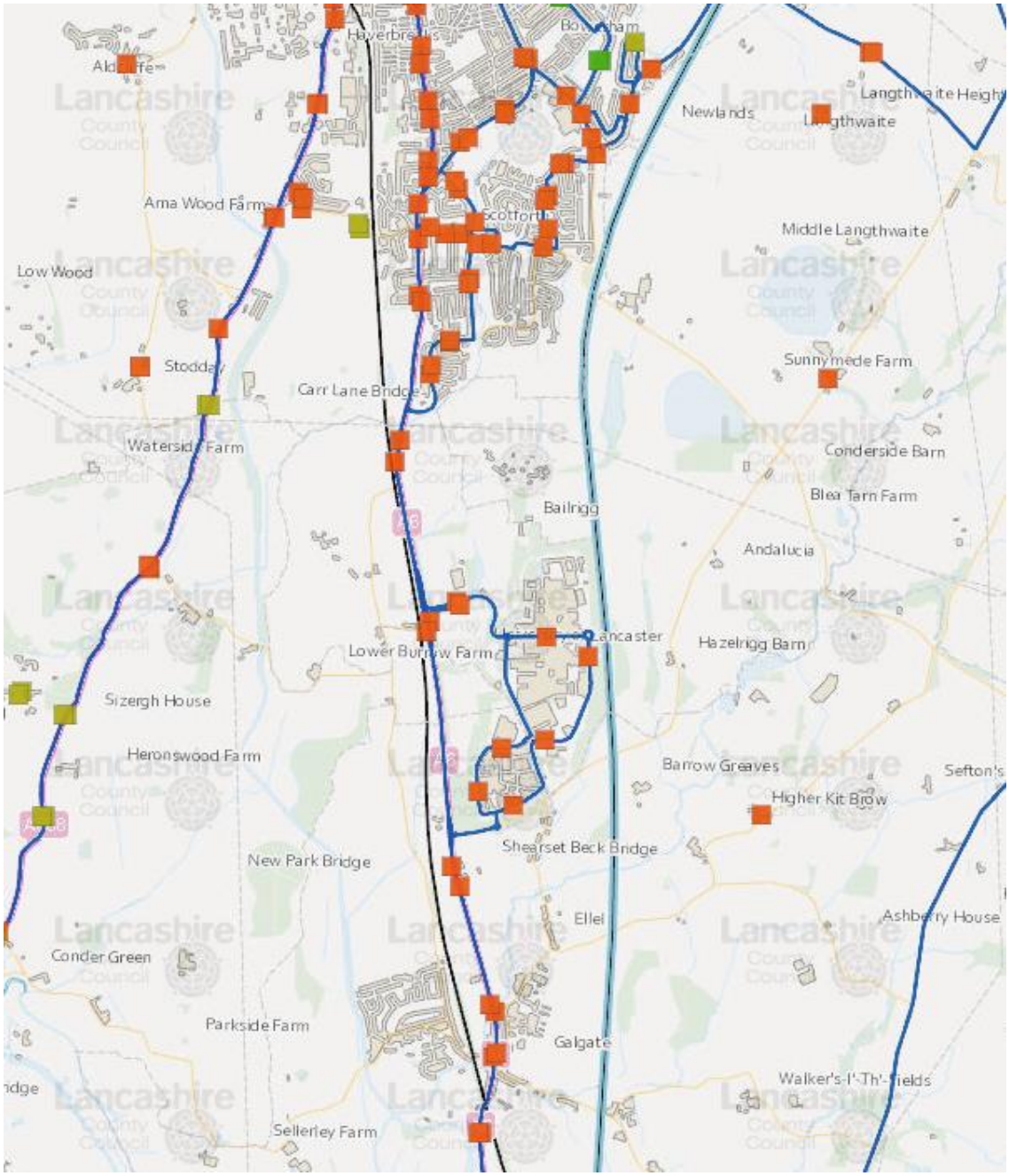
The WCML provides a rail link that runs between Glasgow and London with the nearest station with access to this route being Lancaster Station in the City Centre. This route also provides links to east/west rail lines linking the likes of Liverpool and Manchester to the East Coast Main Line (ECML).

The closest airports operating passenger's flights to the AAP area are Manchester Airport approximately 57 miles south and Liverpool John Lennon Airport approximately 65 miles south.

The nearest port is Heysham Port which takes ferry passengers to Isle of Man and the next closest port but the largest in terms of passenger destinations is the Port of Liverpool most commonly ferrying passengers to Isle of Man, Northern Ireland and Ireland.

The closest bus station is located in Lancaster city centre approximately four miles north of the AAP area. There is an existing main bus route travelling north-south with multiple bus stops along the A6 transecting the AAP area. This provides good links into Lancaster city centre and to settlements in the south. The A588 bus route transects the north western area of the site also providing links into Lancaster city centre as shown on Figure B35 below.

Figure B35 – Location and distribution of main local bus routes (blue) and bus stops (orange and green) within the AAP area (MARIO, Lancashire County Council).



As covered in the Health section of this document, there are a number of PRoWs that are within the AAP area boundary including: PRoW 1, 3, 14, 15, 23, 24, 25, 49, 54, 55 and 57. Bridleway 1 also falls within the AAP area. There are no National Cycle Network (NCN) routes within the AAP area (Sustrans) however, there are a number of local cycle routes that fall within the AAP boundary mainly serving Lancaster University, as shown on Figure B9.

As a result of Lancaster University implementing a Travel Plan, more than half of staff and 88% of students use sustainable methods of transport, resulting in carbon emission reductions of 25%. Measures to encourage people to leave their cars behind included the highly popular subsidised university staff bus passes (with 30% increase in staff take-up) and major timetable improvements and the introduction of a bike to work and bike pool scheme (Lancaster University Annual Review 2016).

Data Gaps and Uncertainties

- Number of ICT schemes implemented in the AAP area.
- Number of homes with broadband internet access in the AAP area.
- Journey to work by mode
- Public transport patronage
- Additional information to be added following completion of transport study

Key Issues and Opportunities

- Opportunities should be sought to reduce the growing dependence on the private car and increase public transport use and other sustainable modes of transport such as walking and cycling. It will be important to ensure that any new employment sites can be easily accessed by public transport. Such proposals would need to be safe and secure and should benefit levels of activity and health.
- North-south public transport links are strong however, these could be improved with the introduction of east-west routes linking up the network.
- The M6 is currently a barrier to development to the east with only one crossing point within the AAP area.
- Traffic currently is routed from the M6 via Galgate which causes congestion in the village. New development at Bailrigg has potential to exacerbate this and a new motorway junction is being considered.
- The good road connections to other parts of Lancaster and proximity to the M6 motorway network are both an opportunity and a threat to the AAP as they could help to encourage inward investment but they also could enable the AAP areas residents to easily commute to neighbouring authorities for employment purposes leading to a leakage of skills and also daily spending from the local area and the District in general.

Economy

The following baseline indicators have been used to characterise economic conditions across the District:

- Economic activity rate by ward (NOMIS, 2011).
- Employment by occupation by ward (NOMIS, 2011).
- Number of wards with LSOAs in the bottom 30% most deprived for employment deprivation (IMD, 2015).
- Percentage of working age population claiming Jobseekers' Allowance in January 2018 by ward (NOMIS).
- Visitor numbers and tourist revenue data (Tourism Strategy - Morecambe, Lancaster and the Lune Valley 2006 -2010 and 2008 Update).
- Number and distribution of wards with LSOAs in the bottom 30% most deprived for income deprivation (IMD, 2015).
- Lancaster University employment figures (Lancaster University Annual Review 2016).

The AAP area itself is dominated by agriculture and small farm holdings with the single largest employer in the area (and one of the largest in the Lancaster District) being Lancaster University employing a total of 2,618 staff as full-time equivalents (FTE), 45% of staff are employed in an academic role with 55% employed in a non-academic role.

As presented in Table B12 below, Scotforth East has the highest economic activity rate of the areas that fall within the AAP at 76.1%, further to this, it is the only area that is higher than the District rate of 72.5%. Scotforth West falls just below the District rate at 72.3% and Ellel, University is significantly

lower than the District rate at 45.3% which is due to the high student population of this particular area. Ellel, University also holds the highest economically active unemployment rate out of all the area at 11.4% almost double the rate of Scotforth West and well over the District rate of 6.7%.

Table B12 -Economic activity by ward (2011)

	Ellel, University	Scotforth East	Scotforth West	Lancaster District
Economically Active (%)	45.3	76.1	72.3	72.5
Employed (%)	40.1	71.8	68.6	67.6
Unemployed (%)	11.4	5.7	5.1	6.7

Source: NOMIS

Table B13 below, presents the percentage of employment by occupation, Scotforth West holds the highest percentage of Professional occupations at 31.7% well above the District rate of 18.1%. Administrative & secretarial occupations, Caring, leisure and other service occupations as well as Process plant & machine operative occupations were all under the District rates for all areas within the AAP area.

Table B13 - Employment by Occupation (2011)

Occupation	Ellel, University (%)	Scotforth East (%)	Scotforth West (%)	Lancaster District (%)
1 Managers, directors and senior officials	9.4	8.1	8.5	9.3
2 Professional occupations	20.1	25.3	31.7	18.1
3 Associate professional & technical	8.7	9.3	11.8	10.7
4 Administrative & secretarial	8.3	8.4	9.4	9.7
5 Skilled trades occupations	15.3	12.7	8.3	12.3
6 Caring, leisure and Other Service occupations	8.0	11.5	10.3	12.0
7 Sales and customer service occupations	11.9	7.9	7.3	8.9
8 Process plant & machine operatives	3.7	6.0	3.4	6.9
9 Elementary occupations	14.7	11.0	9.3	12.0

Source: NOMIS

In January 2018, 2.7% of the District's working age population were claiming Jobseeker's Allowance (JSA) this figure is higher than all the areas that are contained within the AAP area. The highest percentage of claimants were in Scotforth East at 1.9% with the lowest rate recorded in Ellel, University at 0.5%.

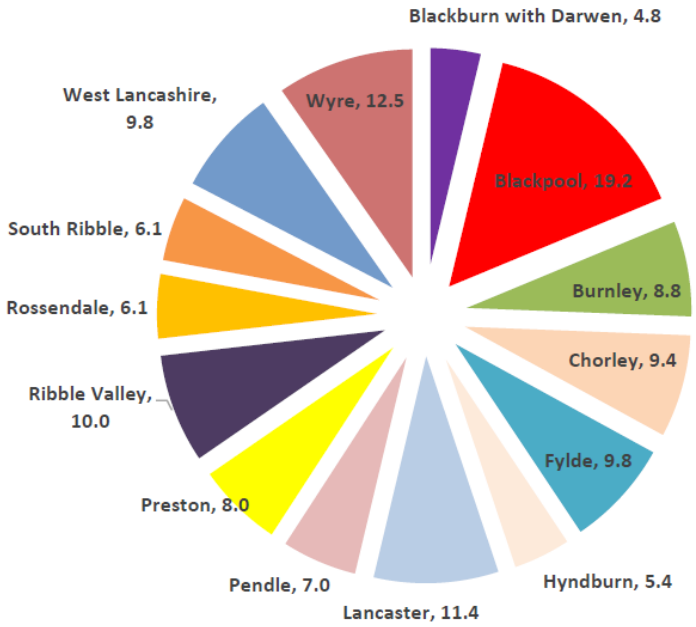
Table B14 – Percentage of Job Seekers Allowance Claimants by ward (January 2018)

	Ellel, University	Scotforth East	Scotforth West	Lancaster District
JSA Claimants (%)	0.5	1.9	1.5	2.7

Source: NOMIS

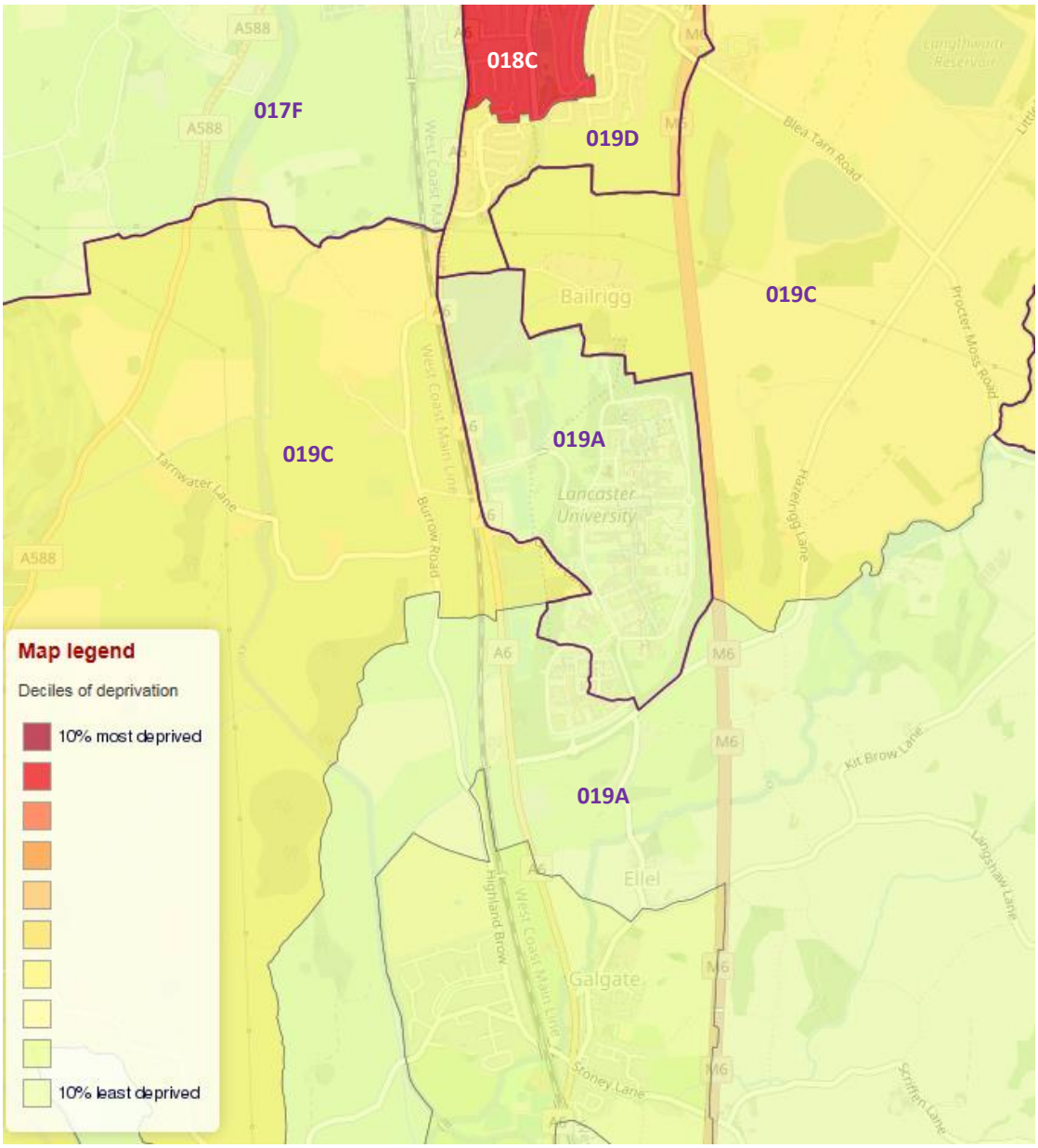
The Visitor Economy is worth over £260 million in Lancaster as a District, supporting over 6,000 jobs, with more than 4.6 million visits a year to main visitor destinations of Morecambe, Lancaster and the rural areas. Figure B36 shows the importance of the visitor economy to the District. It can be seen that Lancaster has the third largest visitor economy by number and the sector accounts for 11.4% of total employment with only Blackpool (19.2%) and Wyre (12.5%) being higher (Business Register and Employment Survey, 2013).

Figure B36 - Visitor economy employment as a percentage of all employment by district (ONS – Business Register and Employment Survey 2013)



None of the four LSOAs within the AAP area are amongst the bottom 30% for employment deprivation however Scotforth East LSOA (018C) immediately north of the AAP boundary does fall within the 20% most deprived for employment deprivation. Scotforth West (017F) and Ellel (019A) LSOAs are both among the 10% least deprived for employment deprivation with both Ellel (019C) and Scotforth East (019D) in the 40% least deprived for employment deprivation as shown on Figure B37 below.

Figure B37 - Employment Deprivation (IMD, 2015)



The Income Deprivation Domain of the Indices of Multiple Deprivation (IMD) 2015, measures the proportion of the population experiencing deprivation relating to low income. The definition of low income used includes both those people that are out-of-work, and those that are in work but who have low earnings.

The overall Income Deprivation Domain score for Lancaster is 0.136. Within Lancaster this varies from 0.008 in University & Scotforth Rural to 0.272 in Poulton ward. The mean for all wards in England is 0.149. Overall the Income Deprivation Domain scores are relatively low across all four of the wards that fall within the AAP area in comparison to below the District and national scores as presented in Table B15 below (Local Government Association).

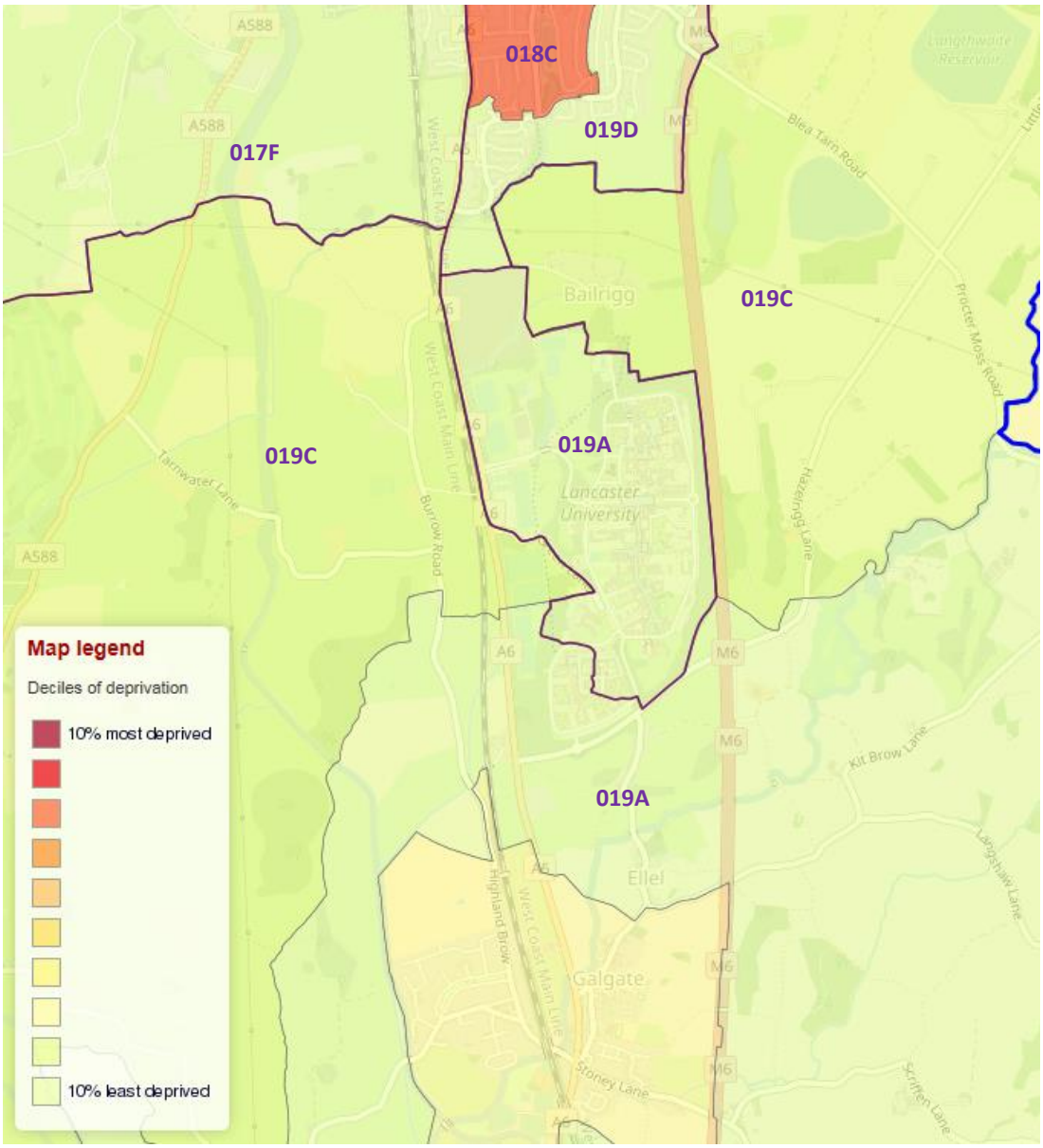
Table B15 -Income Deprivation Domain Scores for the four wards within the AAP area

	Ellel	Scotforth East	Scotforth West	University & Scotforth Rural
Income Deprivation Score	0.029	0.099	0.073	0.008

Source: Local Government Association

None of the four LSOAs within the AAP area are amongst the bottom 30% for income deprivation however Scotforth East LSOA (018C) immediately north of the AAP boundary does fall within the 30% most deprived for income deprivation. Scotforth West (017F) and Scotforth East (019D) LSOAs are both amongst the 20% least deprived for income deprivation with bot Ellel LSOAs (019A and 019C) in the 10% least deprived for income deprivation.

Figure B-38 Income Deprivation



The current level of employment land available for development within the AAP area is currently unknown however, the emerging Local Plan Part 1: Strategic Policies and Land Allocations Development Plan Document (DPD) identifies further future growth around the University area including for the new Lancaster University Innovation Park which when fully realised, has the potential to deliver in the region of 2,000 new jobs for the district and attract up to £100 million of investment over the course of the local plan period.

Data Gaps and Uncertainties

When collating baseline data for this topic area, difficulties were identified in obtaining information about inward investment in the District and research and development opportunities.

Key Sustainability Issues and Opportunities

- Economic activity levels are particularly low in the Ellel and the University area with unemployment levels also being the highest in the AAP area and significantly higher than the District level. However, note that these figures are averaged across the wards so may not be directly relevant to the AAP boundary.
- None of the four LSOAs within the AAP area are amongst the bottom 30% for employment deprivation or income deprivation. However, Scotforth East, to the north of the area does show elevated levels of deprivation.
- The AAP area is dominated by agriculture and the University. Agricultural holdings are likely to be affected by the Garden Village proposal. The University could be a key catalyst in the area for new high-tech or science businesses within the AAP.
- The strong strategic transport links (M6, A6, WCML) and direct access to the City Centre employment sites could benefit business growth in the area subject to appropriate transport and access improvements.
- There are potential opportunities to capitalise upon the AAP area's environmental and cultural assets and to develop the tourist industry.

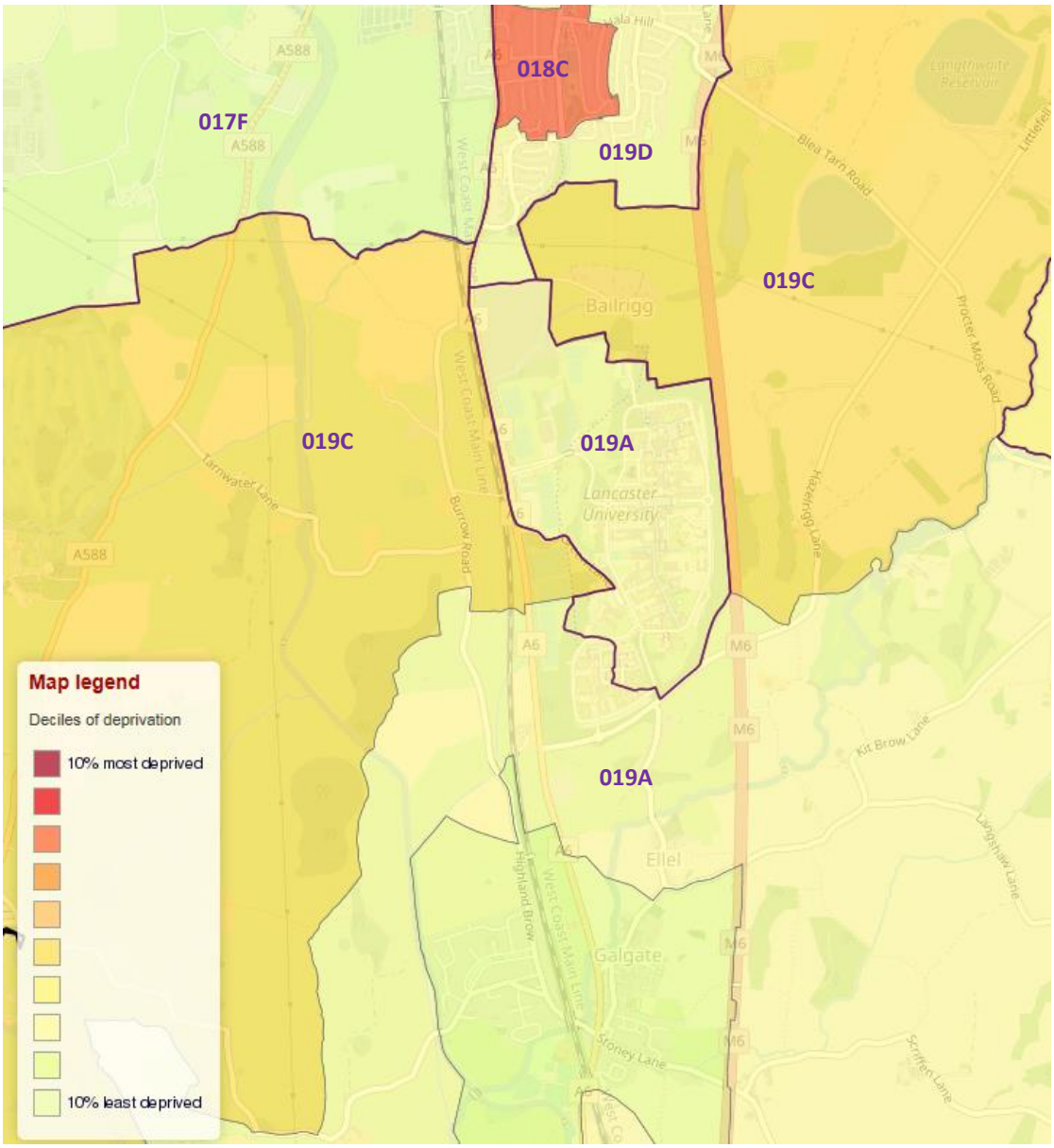
Deprivation and Living Environment

The following baseline data has been identified:

- Number and distribution of LSOAs that fall within the AAP area in the bottom 30% most deprived in the Index of Multiple Deprivation (IMD, 2015).
- Number and distribution of LSOAs that fall within the AAP area in the bottom 30% most deprived for living environment (IMD, 2015).
- Number and distribution of LSOAs that fall within the AAP area in the bottom 30% most deprived in terms of barriers to housing and services provision (IMD, 2015).

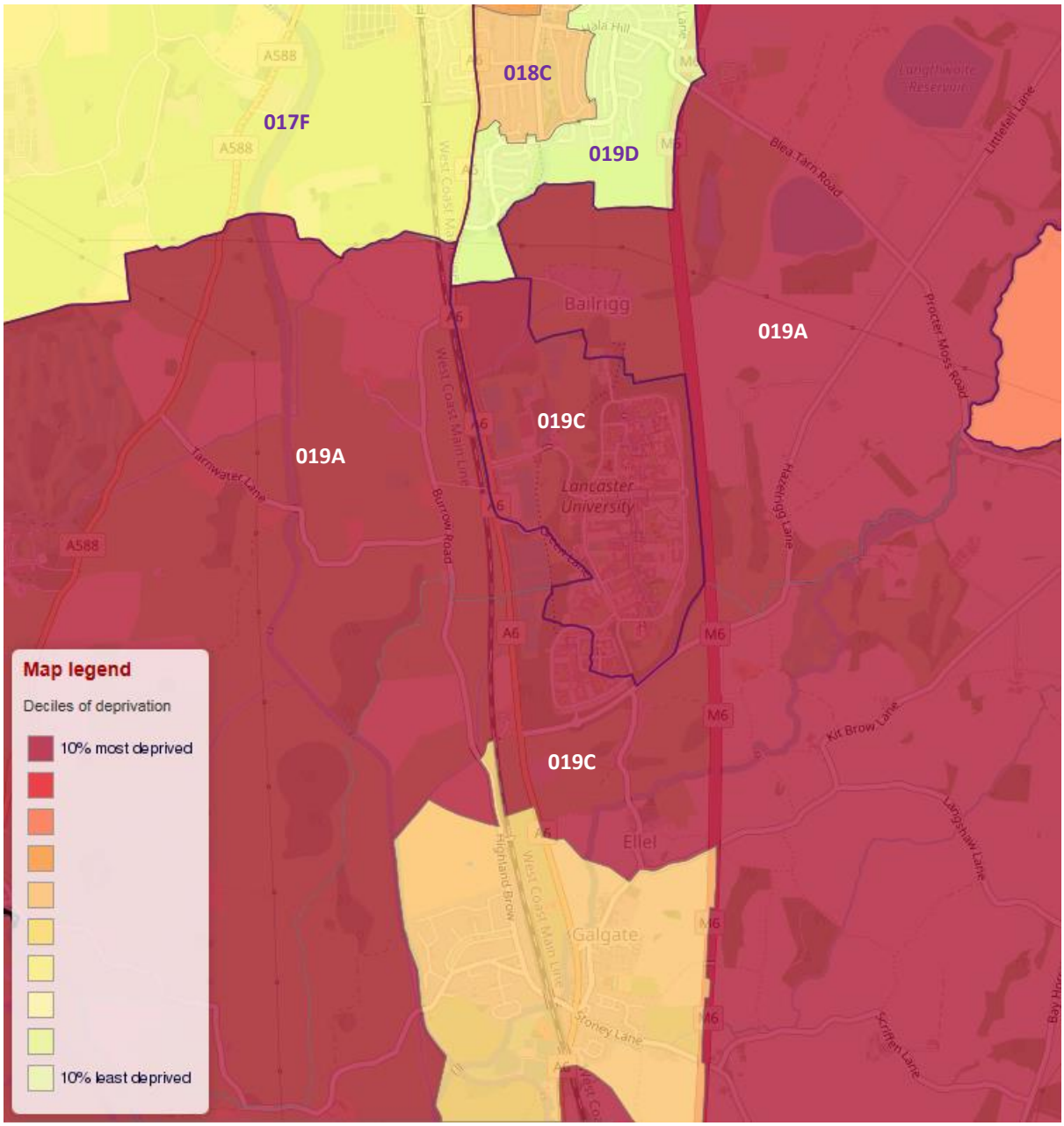
Deprivation is a multi-faceted and complex problem which influences and is influenced by a wide range of factors. No LSOAs within the AAP area fall within the 30% most deprived in the Index of Multiple Deprivation. Ellel LSOA (019C) is in the least 50% deprived areas in the Index of Multiple Deprivation Scotforth East (019D) and Ellel (019A) fall within the 30% least deprived areas. Scotforth West LSOA (017F) falls within the least 10% deprived areas in the Index of Multiple Deprivation as shown in Figure B39 below. However, although just outside the AAP area Scotforth East (018C) LSOA does fall within the 30% most deprived areas for the Index of Multiple Deprivation.

Figure B39 - Index of Multiple Deprivation (IMD, 2015)



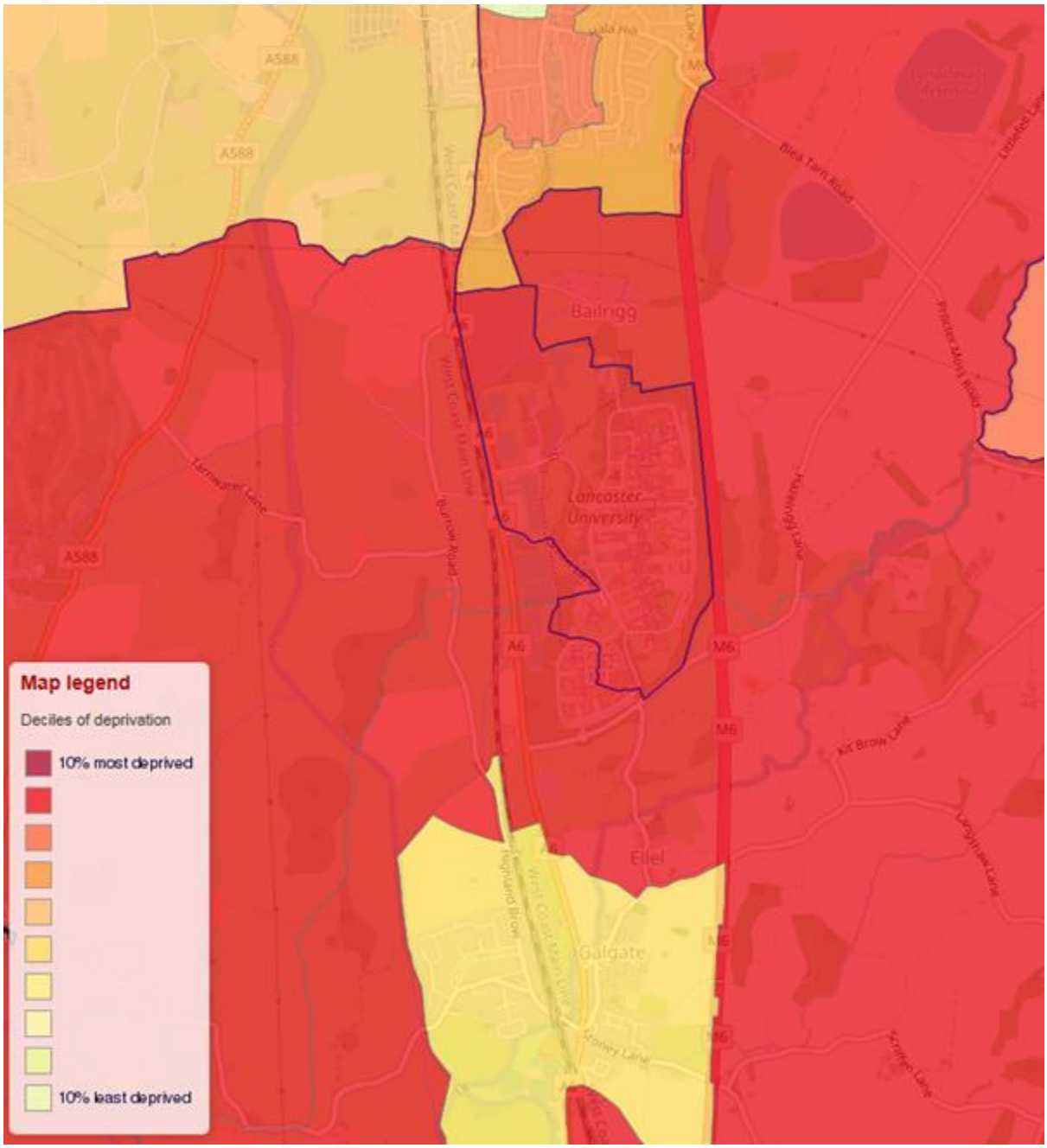
Both Ellel LSOAs (019A and 019C) that fall within the AAP area are among the 10% most deprived areas for Living Environment Deprivation. Scotforth West LSOA is among the 40% least deprived areas for Living Environment Deprivation whilst Scotforth East (019D) falls within the 20% least deprived areas as shown on Figure B40 below.

Figure B40 - Living Environment Deprivation (IMD, 2015)



Both Ellel LSOAs (019A and 019C) that fall within the AAP area are among the 20% most deprived areas for Barriers to Housing and Services Deprivation. Scotforth West LSOA is among the 50% most deprived areas for Barriers to Housing and Services Deprivation whilst Scotforth East (019D) falls within the 40% most deprived areas as shown on Figure B41 below. However, although just outside the AAP area Scotforth East (018C) LSOA does fall within the 30% most deprived areas for Barriers to Housing and Services Deprivation.

Figure B41 - Barriers to Housing and Services Deprivation (IMD, 2015)



Overall deprivation in the AAP area is low however living environment and housing services provides a different picture. The two Ellel LSOAs are particularly deprived in these two areas.

Data Gaps and Uncertainties

- Average gross weekly pay within the wards covered by the AAP

Key Sustainability Issues and Opportunities

- Two of the LSOAs that make up the majority of the AAP area fall within the 20% most deprived areas for Barriers to Housing and Services Deprivation. Owing to its rural nature, there are issues associated with access to services and facilities. There are opportunities to amend this as part of the Garden Village proposals.

- Two of the LSOAs that make up the majority of the AAP area fall within the 10% most deprived areas for Living Environment Deprivation[3]. There are opportunities to address this as part of the Garden Village proposal.
- Although no LSOAs within the AAP area fall within the 30% most deprived in the Index of Multiple Deprivation Scotforth East (018C) LSOA, slightly to the north of the boundary, does fall within the 30% most deprived areas for the Index of Multiple Deprivation.

No LSOAs within the AAP area fall within the 30% most deprived in the Index of Multiple Deprivation. However, although just outside the AAP area Scotforth East (018C) LSOA does fall within the 30% most deprived areas for the Index of Multiple Deprivation.

Housing

The following baseline indicators have been used to characterise the status of housing across the District:

- Average house prices in Bailrigg, Ellel, Galgate and Scotforth (Rightmove.co.uk , 2017).
- Number of households owned (outright and mortgaged), privately rented and socially rented in the four wards of the AAP area (Local Government Association).

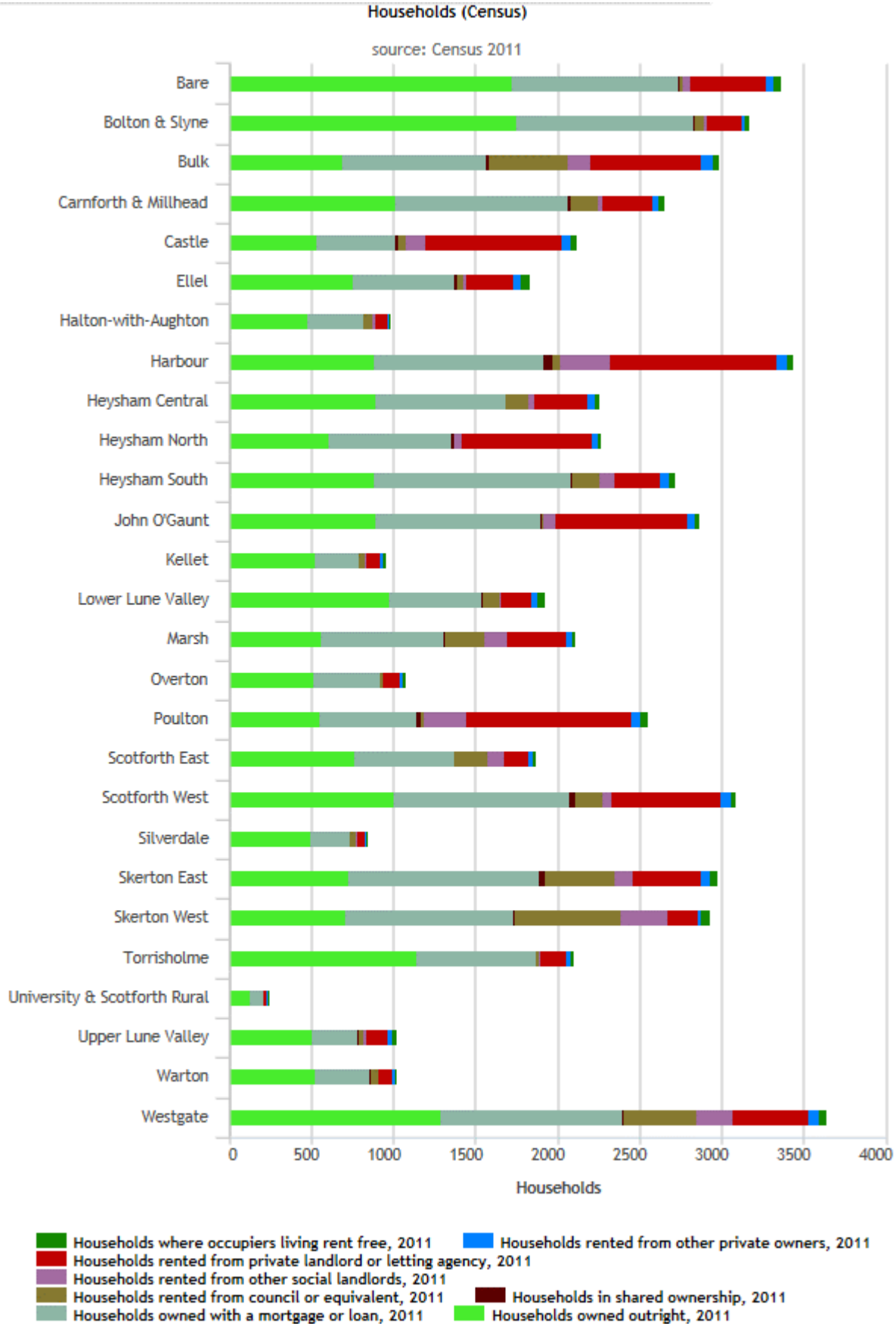
Bailrigg, with an overall average price of £347,667 was more expensive than Ellel (£153,689), Galgate (£196,280) and Scotforth (£212,614). Overall sold prices in Bailrigg in 2017 were 3% up on the previous year and 19% down on the 2009 level of £429,000. There were only 3 properties sold in the same period, therefore, the average prices may only reflect the mix of properties sold, rather than changes in the local market itself.

Most of the sales in Scotforth in 2017 were semi-detached properties which on average sold for £211,031. Terraced properties had an average sold price of £164,033 and flats averaged at £169,926. In the same period, house prices in Scotforth were 13% up on the year before and 7% up on 2013 when they averaged at £198,074. In 2017, house prices in Galgate were 5% up on the year before and 20% up on 2008 when they averaged at £163,614. Overall sold prices in Ellel in 2017 were 4% down on the previous year and 20% down on the 2014 level of £193,058. There were only 18 properties sold in the same period, therefore, the average prices may only reflect the mix of properties sold, rather than changes in the local market itself (Rightmove.co.uk).

In terms of households, Scotforth West has the highest number of homes that are either owned outright or with a loan or mortgage. University and Scotforth Rural has the lowest number of owned homes out of the four wards within the AAP area. This is also the case with privately rented houses, again Scotforth West has the highest number of homes that are rented from private landlords at 730 houses with University and Scotforth Rural having the lowest number of houses that are privately rented at just 28 homes. With regards to social housing, Scotforth East has the highest number of households that are rented from the council or other social landlords at 307 with the lowest number of the four wards being University and Scotforth Rural with no households being rented from social sources (ONS, 2011). For comparison purposes, household figures for all wards within the Lancaster District are presented in graph form in Figure B42 below.

[3] The Living Environment domain combines four indicators to give an overall score for the level of deprivation in the quality of the local environment. The indicators used in the latest update of this domain are; - Social and private housing in poor condition - Houses without central heating - Air quality - Road traffic accidents involving injury to pedestrians and cyclists (data.gov.uk, 2012).

Figure B42 – Households owned, privately rented and socially rented by ward (Local Government Association).



Data Gaps and Uncertainties

- Percentage of housing vacant
- Percentage of new dwellings built on previously developed land
- Percentage of new dwellings completed on previously developed land
- Number of affordable housing in the AAP area
- Percentage split of dwelling types

Key Sustainability Issues and Opportunities

- Currently, due to its largely greenfield nature, there are very few residential dwellings within the AAP area.
- Student accommodation at the University accounts for the majority of dwellings.
- House prices in Bailrigg are significantly higher than those in the surrounding settlements of Ellel, Galgate and Scotforth.
- The number of social housing rented from the Council or other social landlords is relatively low within the four wards of the AAP area with a high number of houses being owned or owned with a mortgage or loan.

Arcadis (UK) Limited

401 Faraday Street
Birchwood Park
Warrington
WA3 6GA
United Kingdom

T: +44 (0)1925 800 700

arcadis.com