



# Draft Sustainability Appraisal of North Hertfordshire Proposed Submission Local Plan

Report to North Hertfordshire District Council

September 2016

North Hertfordshire District Council  
**Draft Sustainability Appraisal of North Hertfordshire Proposed  
Submission Local Plan**  
A report by CAG Consultants

September 2016

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## Glossary

Development Plan Document (DPD)
National Planning Policy Framework (NPPF)
North Hertfordshire District Council (NHDC)
Strategic Environmental Assessment (SEA)
Strategic Housing Land Availability Assessment (SHLAA)
Supplementary Planning Document (SPD)
Sustainability Appraisal (SA)
Sustainable Drainage Systems (SuDS)

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# Non Technical Summary

## 1. Background and approach

### 1.1 Purpose and contents of this report

This report is a sustainability appraisal (SA) and Strategic Environmental Assessment (SEA) of the North Hertfordshire Proposed Submission Local Plan. It has been prepared to accompany the public consultation on the Local Plan document. In simple terms it aims to provide information on the social, economic and environmental effects of the Local Plan.

### 1.2 About the Local Plan

#### 1.2.1 Overview

The new Local Plan will replace the 1996 Local Plan. It will cover the period 2011-2031 and will set targets for new homes, employment and retail development, and identify areas of land where these developments should be built. It will also consider what infrastructure is needed to support development.

The development of the Local Plan was restarted following changes to the planning system in March 2012.<sup>1</sup> Development of a replacement Local Plan had begun in 2005, with the publication of an Issues and Options Paper<sup>2</sup> for the Core Strategy and a Sustainability Appraisal Scoping Report<sup>3</sup>. That development work is referred to in this Sustainability Appraisal report.

#### 1.2.2 Local Plan objectives

The Plan objectives are informed by the National Planning Policy Framework (NPPF), which at paragraph 156 sets the strategic priorities that all local plans need to consider. The Plan objectives are shown in the table below.

**Table 1 Local Plan objectives**

<b><u>Environmental:</u></b>	
ENV1	Direct development towards the most sustainable locations which seek to maintain the existing settlement pattern.
ENV2	Protect and enhance the historic character of North Hertfordshire's towns, villages, hamlets and landscape by promoting good design that creates a distinctive sense of place.
ENV3	Protect, maintain and enhance the District's historic and natural environment, its cultural assets and network of open spaces, urban and rural landscapes.
ENV4	Mitigate the effects of climate change by encouraging the use of sustainable construction techniques, the appropriate use of renewable energy technologies and reducing the risk of flooding.
ENV5	Reduce water consumption, increase biodiversity and protect and enhance the quality of existing environmental assets by enhancing new green spaces and networks of green space for both recreation and wildlife.
<b><u>Economic:</u></b>	

<sup>1</sup> With the introduction of the National Planning Policy Framework

<sup>2</sup> September 2005

<sup>3</sup> September 2005

ECON1	Support a vibrant, diverse and competitive local economy that provides a range of job opportunities enabling new and existing businesses to grow and thrive.
ECON2	Ensure an adequate supply of employment land, office accommodation and support facilities to meet the needs of new and existing businesses within our urban and rural areas.
ECON3	Provide for a greater mix of skilled jobs as well as providing opportunities for further education and skills training to promote investor confidence in locating to, or remaining in the District.
ECON4	Maintain and enhance the vitality and viability of our town, neighbourhood and village centres, as well as strengthening the retail roles of our town centres ensuring that they remain competitive and attractive for modern-day use.
ECON5	Support and enhance local businesses, services and facilities in urban and rural areas through tourism.
ECON6	Sustain the vitality of our villages and the rural economy in supporting rural diversification whilst ensuring development is of an appropriate scale and character.
ECON7	Improve access opportunities, minimise the need to travel, and encourage journeys to be made by sustainable means of transport to ease congestion, reduce carbon emissions and the impacts on air quality management areas.
ECON8	Ensure all development is supported by the necessary provision of, or improvements to infrastructure, services and facilities in an effective and timely manner to make development sustainable and minimise its effect upon existing communities
<b>Social:</b>	
SCO1	Identify locations for a range of types and tenures of homes, including affordable homes, to meet identified needs and provide adequate housing for an increasing and ageing population.
SCO2	Encourage safe and vibrant mixed communities that provide for the needs of all North Hertfordshire's residents.
SCO3	Improve access to, maintain and make provision for new facilities including community, sports, leisure, health and cultural facilities, that meet the needs of all North Hertfordshire's communities
SCO4	Enable rural communities to plan to meet their own local needs, especially through neighbourhood planning

### 1.3 Approach used

The appraisal process is shown in the table below. It also shows how the different tasks relate to the preparation stages for a Local Plan. This report is the draft SA report, referred to as Stage C. It contains the results of Stage B of the process. Consultation on this report is part of Stage D.

**Table 2: Sustainability appraisal stages and tasks**

<b>Local Plan Stage 1: Pre-production – Evidence gathering</b>
<b>Appraisal stage A: Setting the context and objectives, establishing the baseline and deciding on the scope of the sustainability appraisal</b>
A1 Identifying other relevant policies, plans, programmes and sustainability objectives
A2 Collecting baseline information
A3 Identifying sustainability issues and problems
A4 Developing the sustainability appraisal framework
A5 Consulting on the scope of the sustainability appraisal

<b>Local Plan Stage 2: Production</b>
<b>Appraisal stage B: Developing and refining options and assessing effects</b>
B1 Testing the plan objectives against the sustainability appraisal framework
B2 Appraising the plan options
B3 Predicting the effects of the plan
B4 Evaluating the effects of the plan
B5 Considering ways of mitigating adverse effects and maximising beneficial effects
B6 Proposing measures to monitor the significant effects of implementing the plan
<b>Appraisal stage C: Preparing the Sustainability Appraisal Report</b>
C1 Preparing the SA Report
<b>Appraisal stage D: Consulting on the preferred options of the Local Plan Sustainability Appraisal report</b>
D1 Public participation on the preferred options of the Local Plan and the Sustainability Appraisal report
D2 (i) Appraising significant changes
<b>Local Plan Stage 3: Examination</b>
D2 (ii) Appraising significant changes resulting from representations
<b>Local Plan Stage 4: Adoption and monitoring</b>
D3 Making decisions and providing information
<b>Appraisal stage E: Monitoring the significant effects of implementing the Local Plan</b>
E1 Finalising aims and methods for monitoring
E2 Responding to adverse effects

#### 1.4 Comments on the process including difficulties experienced

The table below show comments on difficulties and issues which were experienced in different stages of the appraisal process, and also where information is provided on each stage of the process.

**Table 3: Comments on the process and links to information**

<b>Appraisal stage</b>	<b>Comments and difficulties and where information can be found</b>
A1 Identifying other relevant policies plans and programmes and sustainability objectives	Many policies could potentially be relevant to the plan. Those ones reviewed were judged to be the key strategic documents relevant to the plan and the appraisal. The results of this stage of the process are summarised in section 2.5 below and the detail is provided in Appendix 1.
A2 Collecting baseline information	Some difficulties were experienced in updating the original data. Most information remains available, although a number of data production agencies have changed or disbanded. Information on North Hertfordshire is included in section 2, and the detailed baseline data is provided in Appendix 2.
A3 Identifying sustainability issues and problems	Quantitative data was not always available to inform the identification of key issues. In addition some strategy documents which originally informed the review of issues were not updated. However, enough information was available to produce the 2016 SA. The issues are summarised in section

Appraisal stage	Comments and difficulties and where information can be found
	2.6 below.
A4 Developing the SA framework	The framework was reviewed as part of the 2016 SA. This resulted in a clearer statement of the assumptions behind site appraisal judgements. The framework is shown in section 3 below.
A5 Consulting on the scope of the SA	The comments from consultees and how they were taken account of are noted in Appendix 12.
B1 Testing the Local Plan Objectives against the SA Framework	The ongoing assessment of the local plan objectives was one way the SA influenced the Plan development. Results of the testing process, and changes made, are shown in Appendix 4.
B2 Developing the options	The policy context has changed significantly during the plan development process, particularly the requirement to develop a target for housing numbers, and this has required several reviews of options for housing provision. Options are discussed in section 4 below.
B3 Predicting the effects of the Local Plan B4 Evaluating the effects of the Local Plan B5 Considering ways of mitigating adverse effects and maximising beneficial effects	There were some issues in gathering data to test the effect of the Plan. These are discussed in Appendix 5. Detailed information on testing the plan policies is included in Appendices 10 and 11. Information on testing the sites is included in Appendices 6 and 7. It will not be possible to mitigate all adverse affects of the Plan. This is discussed in section 6 below and detailed information is provided in Appendices 8 and 9.
B6 Proposing measures to monitor the significant effects of the Local Plan	Monitoring is resource intensive and therefore needs to be realistic and measurable. Information on monitoring is included in section 7.2 below.

## 2. About North Hertfordshire

The following gives a brief profile of the district. More detailed information on the current state of the District has been collected to support the SA and is contained in Appendix 2.

### 2.1 Environment

North Hertfordshire comprises a broad band of 375km<sup>2</sup> of attractive undulating countryside following the chalk escarpment of the Chiltern Hills and East Anglian Heights, which are separated by the 'Hitchin Gap' through which the East Coast Main Line railway passes. Most of the rural area is farmland, although there is some woodland, especially in the west of the district. Part of the district around Lilley and Hexton is within the Chilterns Area of Outstanding Natural Beauty. The district contains a variety of habitats for wildlife and plants, including areas of high biodiversity - notably the chalk grasslands and chalky boulder clay woodlands and meadows in the east of the district, the oak and hornbeam



woodlands of the west of the district and the wet meadows and fens along the River Hiz and its tributaries.

The district has four main settlements: the historic market towns of Hitchin, Baldock and Royston and the world's first Garden City, Letchworth. It also includes most of the Great Ashby estate, which is part of the urban area of Stevenage, and numerous villages and hamlets. The district has 35 civil parishes and three unparished areas (Hitchin, Letchworth and Baldock). All the towns and many of the villages have historic areas and buildings; there are 40 conservation areas and approximately 2750 listed buildings. The district has a long history of human habitation and is crossed by the prehistoric Icknield Way. It also contains many ancient monuments, including the Iron Age Ravensburgh Castle at Hexton, the largest fort in south-east England.

In common with the rest of the world, the district needs to look at how to minimise the impacts of climate change, both by minimising the contribution human life makes to climate change and by adapting to new climate patterns. Whilst the district is highly unlikely to be directly affected by rising sea levels (although if all the world's ice sheets melted, Hitchin and Royston would likely <sup>4</sup>be submerged), the changing climate will have a profound effect on our water and food supplies and way of life in general.

## 2.2 Society

The district has a population of about 127,100<sup>5</sup> people. Just over 75% of the population live in the four towns or Great Ashby. A combination of factors, including people living longer, fewer people living in each home, proximity to London and relatively low interest rates have been causing housing costs to rise. The cost of housing relative to local incomes in the district is high and is beyond the reach of many, especially young adults. This is reflected in a skewed age profile - the district has significantly fewer people aged 18 - 30 than it does under 18s and over 30s.

All the towns have a range of sport, recreation and community facilities, schools and libraries. Knebworth, the largest village, also has a library. There are three public indoor swimming pools, two public outdoor swimming pools and three major leisure centres. There are several museums and a three screen cinema at Letchworth Garden City. There are several community and village halls across the district.

## 2.3 Economy

The district has good rail and road links. There is a range of local bus services, although services can be infrequent, particularly in the rural area. Car usage and ownership is high in the district, and traffic congestion is seen as one of the areas where residents would most like to see improvements<sup>6</sup>.

The district is also near to two international airports, London Luton Airport immediately adjoining the district boundary to the west and London Stansted Airport a further away to the east. They are a source of employment and bring economic benefits, but they also bring environmental impacts from noise, air pollution and vibrations, both from the air traffic itself and from land traffic to and from the airports.

There is no one dominant centre serving the district. Hitchin town centre is the largest retail destination, followed by Letchworth and there are large employment areas in Letchworth, Hitchin and Royston. There are traditional markets in Hitchin, Baldock and Royston and Business Improvement Districts are currently operating in Hitchin, Letchworth Garden City and Royston. The district's settlements have a complex system of interdependencies with each other and with surrounding larger towns, notably Stevenage, Luton, Cambridge, Welwyn Garden City, Milton Keynes and London. A substantial proportion of the district's population commutes to these larger centres for work and for shopping.

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<sup>4</sup> National Geographic Climate Change Map

<sup>5</sup> From 2011 Census

<sup>6</sup> Census 2011 / NHDC Local Plan Preferred Options consultation responses

There is noteworthy leakage of retail expenditure from the district's population using retail centres elsewhere<sup>7</sup>. In the rural areas, there are a number of village shops and services, although these have declined in recent years.

## 2.4 What would happen without the Plan?

Government Guidance requires the SA report to consider the likely evolution of the environment without implementation of the plan.

By not preparing a Local Plan the Council would lose control of where development occurs. This would mean that any potential development could be considered favourably depending on the merits of the application. Whilst NPPF policies and other national guidance would apply, locally set policies that could deliver local benefits and take account of local circumstances would not be implemented. It would also not be possible to plan strategically for development.

The table below outlines what could happen against each of the sustainable development objectives used in this appraisal.

**Table 4: What would happen without the Plan?**

SA objective	What could happen in the absence of a plan
1 Achieve sustainable levels of prosperity and economic growth	Economic development and redevelopment would continue within the existing designated areas and in accordance with the NPPF, however, additional land for economic development as detailed in evidence to the local plan, would not come forward as some of it is proposed in areas that are currently designated Green Belt.
2(a) Minimise the development of greenfield land and other land with high environmental and amenity value?	Whilst national policy encourages use of brownfield land, the potential for development to occur anywhere means that development would not prioritise the use of brownfield sites and land of low environmental and amenity value.
2(b) Provide access to green spaces	Whilst national policy would apply, locally defined policies providing guidance on improving access for all residents of the District to green spaces would not necessarily occur.
2 (c) Deliver more sustainable location patterns and reduce the use of motor vehicles	Unplanned development wouldn't necessarily locate development so as to reduce the need to travel or reduce car reliance, encourage walking, cycle, bus, and train use. As development wouldn't be coordinated there's no guarantee that it would provide affordable and accessible public transport in towns and in rural areas.
3(a) Protect and enhance biodiversity	Whilst national policies and guidance to protect biodiversity will still apply; protection of locally identified habitats and creation of links between habitats may not be taken into account.
3(b) Protect and enhance landscapes	Whilst national policies and guidance to protect and enhance landscapes, especially those of historic, recreational or amenity value, and within the Chilterns AONB will apply the unplanned development may have a cumulative impact.
3(c) Conserve and where appropriate, enhance the historic environment	Whilst national policies and guidance to conserve and enhance the historic built character of the District's towns and villages may apply locally designated assets may not be adequately protected.

<sup>7</sup> NHDC Town Centre and Retail Study (2016)

3(d) Reduce pollution from any source	National legislation would apply and so legally protected issues would be mitigated, but cumulative impacts and local issues may not be considered adequately.
4(a) Reduce greenhouse gas emissions	Locations of developments would not be planned and so opportunities for minimising energy consumption by transport and in buildings would not be realised.
4(b) Improve the District's ability to adapt to climate change	National guidance on flood risk would still apply, but sequential testing of sites would not occur in advance of application process and so areas at risk of flooding may not be considered.
5(a) Share benefits of prosperity fairly	Without a plan development would still occur within settlement boundaries, which may contribute to deprived areas, however pressure for residential development may impact on employment areas and the opportunities they bring.
5(b) Provide access to services and facilities for all	Without a plan development would still occur within settlement boundaries, which may contribute to local infrastructure, however there would be no large scale residential allocations which will include opportunities for improved infrastructure on a larger scale.
5(c) Promote community cohesion	Without a plan development would still occur within settlement boundaries, which may contribute to local community infrastructure, however there would be no large scale residential allocations which will include opportunities for improved community infrastructure on a larger scale.
5(d) Increase access to decent and affordable housing	Without a plan development would still occur within settlement boundaries, however the levels of affordable housing would not reflect the levels required by the new plan and larger sites are traditionally more viable, meaning the overall quantum would be significantly reduced.
5(e) Reduce crime rates and fear of crime	Without a plan development would still occur which may or may not impact on crime and fear of crime. Large-scale development may present greater opportunities to reduce crime through design as apposed to unplanned ad-hoc locations.
5(f) Improve conditions and services that engender good health and reduce health inequalities	Unplanned development may not help promote healthy lifestyles as it wouldn't necessarily be located to deliver solutions in the right location. The ad hoc nature of development mean private cars would be the main mode of transport. That said, without a plan the level of housing would not be as high and so there wouldn't be as many additional cars and noise pollution.
5(g) Increase participation in education and life-long learning	Without a plan development could still contribute to education facilities, however large-scale development provides the opportunity for large scale, new facilities as well as an increase in employment land.
5(h) Maintain and improve culture, leisure and recreational activities that are available to all	New large scale development provides potential for additional greenspaces and facilities. Without the plan spaces within urban areas will come under increasing pressure for development. The existing facilities may also be overcrowded.
6(a) Use natural resources efficiently; reuse, use recycled where possible	National standards would ensure water consumption to levels is supportable by natural process and storage systems. However, uncoordinated development would not minimise the demand for raw materials or minimise wastage caused by

	construction methods.
6(b) Reduce waste	Whilst national policies would apply there is no guarantee that development would reduce, reuse or recycle waste generated.
7 Promote sustainable urban living	Without a plan redevelopment of town centre sites for mixed use could still occur depending on market share and increased population. However, it may not provide facilities in the locations that people want them and may mean an increase in out of town retail applications if sites in the town centre aren't deliverable.

## 2.5 Links to other policies, plans and programmes

As part of the sustainability appraisal process, research was undertaken into other relevant policies, plans and programmes which might have an influence on the Local Plan. Relevant documents at international, national, regional and local level have been reviewed and the results are included as Appendix 1 to the report. This information was used in later stages of the appraisal process. Key messages from this review are shown in the table below.

**Table 5: Key messages from review of other policies, plans and programmes**

SA Theme	Key messages from PPP Review
Economic Activity	<ul style="list-style-type: none"> <li>• Promote green growth</li> <li>• Use infrastructure levy to help fund infrastructure projects that support growth</li> <li>• Investment in infrastructure, including public transport infrastructure</li> <li>• Recognise the economic value of ecosystem services</li> <li>• Encourage and enable housing growth</li> <li>• Create local employment opportunities</li> <li>• Enhance skills to reduce unemployment and deprivation</li> <li>• Ensure that there is an adequate supply of employment land to meet local needs and to attract inward investment</li> <li>• Encourage growth in science and technology and creative industries.</li> <li>• Support small businesses</li> </ul>
Land-use and development patterns	<ul style="list-style-type: none"> <li>• Encourage the use of previously developed (brownfield) land</li> <li>• Promote the re-use of derelict land and buildings</li> <li>• Reduce amount of contaminated land</li> <li>• Avoid using best and most versatile agricultural land for development</li> <li>• Encourage land management that will protect water quality</li> <li>• Improve public transport</li> <li>• Improve cycling and walking infrastructure</li> <li>• Deliver networks of green infrastructure and open space</li> <li>• Encourage sustainable transport and reduce the need to travel</li> <li>• Promote access to the countryside and green space</li> <li>• Reduce traffic and congestion</li> </ul>
Environmental protection	<ul style="list-style-type: none"> <li>• Halt biodiversity loss, support well-functioning ecosystems, and establish coherent ecological networks</li> <li>• Protect and enhance designated sites, priority species and habitats and ecological networks</li> <li>• Combat alien species</li> <li>• Reduce / minimise water pollution</li> </ul>

	<ul style="list-style-type: none"> <li>• Protect surface and groundwater quality</li> <li>• Prevent further deterioration of aquatic ecosystems in accordance with the Water Framework Directive</li> <li>• Protect and enhance natural landscapes and townscapes</li> <li>• Promote high quality design that protects the natural and historic environment</li> <li>• Respect cultural heritage assets and their settings</li> <li>• Improve the quality of the built environment</li> </ul>
Climate change	<ul style="list-style-type: none"> <li>• Reduce greenhouse gas emissions</li> <li>• Move towards a low carbon economy</li> <li>• Build resilience to climate change, and in particular flood risk</li> <li>• Support renewable energy</li> <li>• Avoid development in areas of flood risk</li> <li>• Reduce the risk of flooding arising from new development</li> <li>• Promote the use of Sustainable Drainage Systems (SuDS)</li> </ul>
A just society	<ul style="list-style-type: none"> <li>• Reduce fuel poverty</li> <li>• Promote improvements in health and wellbeing</li> <li>• Connect people with nature to deliver health and well-being improvements</li> <li>• Ensure social equality and prosperity for all</li> <li>• Promote integrated communities and foster social capital</li> <li>• Make appropriate provision for travellers</li> <li>• Encourage and enable housing growth and deliver an appropriate mix of housing to meet local needs, built to high design quality and environmental standards</li> <li>• Improve road safety</li> <li>• Promote walking and cycling as a healthy lifestyle choice</li> <li>• Ensure that air quality is maintained or improved and that air pollutants are minimised</li> </ul>
Resource use and waste	<ul style="list-style-type: none"> <li>• Improve water efficiency</li> <li>• Ensure sustainable water catchment management</li> <li>• Ensure appropriate investment in water and waste management infrastructure to accommodate new development</li> <li>• Work towards a more sustainable and efficient approach to resource use and waste management</li> <li>• Drive waste management up the waste hierarchy</li> </ul>
Town centres	<ul style="list-style-type: none"> <li>• Reinvigorate Hertfordshire's places</li> <li>• Address localised disadvantage in the New Towns</li> <li>• Improve vitality of town centres</li> </ul>

## 2.6 Key sustainability issues

A review of key problems facing the District was undertaken. This drew on the collection of data about the District and the review of plans, programmes and policies, both described above. The issues identified are summarised in the table below.

**Table 6: Key sustainability issues**

Economic activity
Need to provide more highly-skilled employment opportunities in the District. There is a significant net daily outflow of commuters, with the average out commuter being more highly skilled than the average in-commuter.

Difficulties in competing with large urban centres for the provision of employment and facilities.
Promotion of rural tourism. Visitors can be important to rural areas, but the District is not seen as a prime tourist location.
<b>Land use and development patterns</b>
Significant and increasing pressure on greenfield sites in order to meet the needs for housing and economic growth.
The development of greenfield sites on the edges of existing settlements may reduce access to open countryside for existing residents.
Population and mobility factors have changed the function of villages from employment service centres to dormitory/residential functions reducing their social and physical diversity.
The density of traffic on the principal road network is high and increasing but the rural nature of the District makes the provision of sustainable travel modes more challenging.
<b>Environmental protection</b>
Pressures on locally significant habitats and species in the District. These include fragmentation of habitats, loss of corridors and the direct impacts of agriculture and new development, including waste water treatment and water extraction.
Landscape and townscape character likely to be impacted by the significant level of new development needed in the District.
The District's rich heritage of market towns and the Garden City suggest that there are localised heritage issues which will arise over more detailed site selection.
Quality of surface and ground water could be threatened by the water supply needs and drainage from future developments. North Hertfordshire is in an area of groundwater sensitivity and there are constraints on sewage infrastructure around Royston and Stevenage.
Although data is limited, air quality issues could become more significant with continued growth in development and traffic.
<b>Climate change</b>
Emissions of greenhouse gases in the District could rise with further development in the District and associated growth in transport.
A significant number of existing homes and potential new development sites face surface water flood risks.
<b>A just society</b>
Whilst the District is relatively prosperous there are pockets of income and/ or multiple deprivation in relation to national standards. In the towns these occur in parts of Hitchin and Letchworth. In the rural areas specific issues are isolation and lack of access to services.
There has been a reduction in village services and employment over the last 20 years. This particularly affects the elderly and young people.
Although lower than the County average, high and increasing property prices mean home ownership is out of the reach of many households.
Noise from air and road transport has a significant effect on quality of life in the District. Proposed developments will have significant additional impacts.
<b>Resource use and waste</b>
Although not yet a barrier to new development, water supply in the District could become constrained in future decades.
The costs of and constraints on landfilling waste and the need to reduce emissions mean there is a need for ongoing improvements to waste reduction, reuse and recycling.

### 3. Appraisal objectives

In the sustainability appraisal process, the potential effects of a plan are tested against a series of objectives for sustainable development. For example, for an objective *to use resources efficiently*, the appraisal asks whether the plan will have a positive or negative effect on this objective.

The objectives are combined into an appraisal framework. The framework used for testing the Plan is shown in the table below, along with the questions used in the testing process. It was used for testing **objectives, strategic alternatives and policies**. A slightly modified version was used for testing **proposed sites**. The objectives which address the issues which are required to be covered by the SEA Regulations<sup>8</sup> are shown underlined. The SA objectives were drawn up using the themes from the review of other Policies, Plans and Programmes, and drawing on the baseline review, and specifically the key sustainability issues listed above.

**Table 7: Appraisal framework**

SA Objective <sup>9</sup>	SA Sub Objective: <i>will the policy or proposal help to...</i>
<b>ECONOMIC ACTIVITY</b>	
1 Achieve sustainable levels of prosperity and economic growth	<ul style="list-style-type: none"> <li>• maintain a diversified economy, with increased resilience to external shocks?</li> <li>• encourage new business to start-up and thrive in the District?</li> <li>• support and encourage the rural economy and diversification?</li> <li>• support and promote sustainable tourism in towns and rural areas?</li> <li>• improve the quality of local jobs available to people in the District?</li> <li>• increase the skills base?</li> <li>• make the cost of housing more affordable to those employed in the District?</li> </ul>
<b>LAND USE AND DEVELOPMENT PATTERNS</b>	
<u>2(a) Minimise the development of greenfield land and other land with high environmental and amenity value?</u>	<ul style="list-style-type: none"> <li>• promote the use of brownfield sites and if brownfield sites are not available, land of low environmental and amenity value?</li> <li>• maximise reuse of vacant buildings and derelict land?</li> <li>• minimise the loss of the best and most versatile agricultural land?</li> <li>• reduce quantity of unremediated contaminated land?</li> </ul>
<u>2(b) Provide access to green spaces</u>	<ul style="list-style-type: none"> <li>• provide/improve access for all residents of the District to green spaces?</li> <li>• provide opportunities for people to come into contact with and appreciate wildlife and wild places?</li> <li>• maintain/improve the public right of way network?</li> </ul>
<u>2 (c) Deliver more sustainable location patterns and reduce the use of motor vehicles</u>	<ul style="list-style-type: none"> <li>• locate development so as to reduce the need to travel?</li> <li>• reduce car reliance, encourage walking, cycle, bus, and train use?</li> <li>• reduce road freight movements?</li> <li>• avoid exacerbating local traffic congestion?</li> <li>• provide affordable, accessible public transport in towns and in rural areas?</li> </ul>
<b>ENVIRONMENTAL PROTECTION</b>	
<u>3(a) Protect and</u>	<ul style="list-style-type: none"> <li>• protect habitats and species, especially those designated as being of importance, and provide opportunities for creation of new</li> </ul>

<sup>8</sup> Listed in Schedule 2

<sup>9</sup> Those relevant to the SEA Regulations are shown underlined

<b>SA Objective<sup>9</sup></b>	<b>SA Sub Objective: <i>will the policy or proposal help to...</i></b>
<u>enhance biodiversity</u>	habitats? <ul style="list-style-type: none"> <li>• support and maintain extent of wetland habitat and river habitats?</li> </ul>
<u>3(b) Protect and enhance landscapes</u>	<ul style="list-style-type: none"> <li>• protect and enhance landscapes, especially those of historic, recreational or amenity value, and within the Chilterns AONB?</li> </ul>
<u>3(c) Conserve and where appropriate, enhance the historic environment</u>	<ul style="list-style-type: none"> <li>• conserve and enhance the historic built character of the District's town's and villages?</li> <li>• protect sites of archaeological and historic importance, whether designated or not?</li> </ul>
<u>3(d) Reduce pollution from any source</u>	<ul style="list-style-type: none"> <li>• improve the water quality of rivers and groundwater supplies?</li> <li>• achieve good air quality?</li> <li>• reduce ambient noise, especially from traffic?</li> <li>• reduce light pollution in the District?</li> <li>• protect soil quality?</li> </ul>
<b>CLIMATE CHANGE</b>	
<u>4(a) Reduce greenhouse gas emissions</u>	<ul style="list-style-type: none"> <li>• minimise energy consumption by transport and in buildings?</li> <li>• increase proportion of energy generated by renewable sources?</li> <li>• encourage use of local suppliers and the consumption of local produce?</li> </ul>
<u>4(b) Improve the District's ability to adapt to climate change</u>	<ul style="list-style-type: none"> <li>• reduce vulnerability to climate change, exploit any benefits?</li> <li>• avoid development in areas at risk from flooding?</li> </ul>
<b>A JUST SOCIETY</b>	
<u>5(a) Share benefits of prosperity fairly</u>	<ul style="list-style-type: none"> <li>• reduce disparities in income levels?</li> <li>• contribute to regeneration of deprived areas (estates in Letchworth and Hitchin)?</li> <li>• provide employment and other opportunities for unemployed, especially long term unemployed and the disabled?</li> <li>• encourage entrepreneurial activity in deprived areas?</li> </ul>
<u>5(b) Provide access to services and facilities for all</u>	<ul style="list-style-type: none"> <li>• provide access to services and facilities without need to use a car?</li> <li>• retain rural services, especially shops, post offices, schools, health centres and bus services?</li> <li>• recognise the needs of specific groups such as minority ethnic groups, the young, the elderly and the disabled?</li> </ul>
<u>5(c) Promote community cohesion</u>	<ul style="list-style-type: none"> <li>• support development of voluntary sector?</li> <li>• encourage development of community run business?</li> <li>• encourage people's feelings of belonging, for example by providing community meeting places?</li> <li>• recognise and value cultural and ethnic diversity?</li> </ul>
<u>5(d) Increase access to decent and affordable housing</u>	<ul style="list-style-type: none"> <li>• help improve the quality of the housing stock and reduce the number of unfit homes?</li> <li>• increase access to affordable housing, particularly for the young, the disabled and key workers?</li> </ul>
<u>5(e) Reduce crime rates and fear of crime</u>	<ul style="list-style-type: none"> <li>• encourage crime reduction, particularly through the appropriate design of new development?</li> <li>• help reduce the fear of crime?</li> </ul>
<u>5(f) Improve conditions</u>	<ul style="list-style-type: none"> <li>• help promote healthy lifestyles?</li> </ul>



<b>SA Objective<sup>9</sup></b>	<b>SA Sub Objective:</b> <i>will the policy or proposal help to...</i>
<u>and services that engender good health and reduce health inequalities</u>	<ul style="list-style-type: none"> <li>• improve access to health services by means other than private cars?</li> <li>• reduce ambient noise near residential and amenity areas?</li> <li>• reduce road accidents?</li> <li>• reduce accidents and damage from fires?</li> </ul>
5(g) Increase participation in education and life-long learning	<ul style="list-style-type: none"> <li>• improve access to skills learning by young people?</li> <li>• improve access to skills learning by adults?</li> </ul>
5(h) Maintain and improve culture, leisure and recreational activities that are available to all	<ul style="list-style-type: none"> <li>• increase access to culture, leisure and recreational activities?</li> </ul>
<b>RESOURCE USE AND WASTE</b>	
<u>6(a) Use natural resources efficiently; reuse, use recycled where possible</u>	<ul style="list-style-type: none"> <li>• minimise the demand for raw materials?</li> <li>• encourage sustainable design, use of sustainable building materials and minimise wastage caused by construction methods?</li> <li>• limit water consumption to levels supportable by natural process and storage systems?</li> <li>• protect groundwater resources?</li> <li>• promote sustainable drainage systems?</li> <li>• reduce minerals extracted and imported?</li> </ul>
<u>6(b) Reduce waste</u>	<ul style="list-style-type: none"> <li>• reduce, reuse or recycle waste generated?</li> </ul>
<b>TOWN CENTRES</b>	
7 Promote sustainable urban living	<ul style="list-style-type: none"> <li>• encourage wider range of shops and services in town centres?</li> <li>• encourage more people to live in town centres?</li> <li>• encourage mixed use developments in town centres?</li> <li>• improve transport connections in, and to, town centres?</li> <li>• encourage synergy in land uses, which supports the continued and enhanced viability of a wide range of shops and services?</li> <li>• protect or improve the quality of the public realm in towns?</li> </ul>

## 4. Options development and testing

### 4.1 Overview

A key part of the process of producing the Local Plan has been to identify different approaches to how the District should develop and in particular where development should happen, and how much development there should be. These different approaches are called options. The following sections describe the most important options which were considered by the Council, and the reasons for choosing them. Other more detailed options about the types of policies to include in the Plan were also considered. These are described in Appendix 3, along with the reasons for choosing the options preferred by the Council.

## 4.2 Housing numbers

Options for the amount of housing have been considered throughout the Local Plan development process. A new appraisal of housing options was undertaken in 2016 to assess the likely significant effect of the amount of housing proposed. Three options have been considered for provision of additional housing over the Local Plan period:

- a. 17,000 houses (the total provision included for consideration in the Draft Local Plan)
- b. 11,000 houses (an intermediate figure between a and c)
- c. 6,500 houses (this is the “business as usual option, which assumes there is no Local Plan produced, and excludes the use of Green Belt sites).

The numbers for each option include 2,500 new houses which have already been completed, or have planning permission. The Council has chosen option a), as this is the only option which meets the objectively assessed need for North Hertfordshire and contributes to the unmet need for Luton. Full details of how each option was tested against the sustainability objectives can be found in Appendix 4.

## 4.3 Other options for housing and employment sites

Other issues considered by the Council about the location of housing and employment sites are discussed below. Full details of how each option was tested against the sustainability objectives can be found in Appendix 3.

### 4.3.1 Housing location

The following options for housing delivery were identified:

- a. Continue current policy of focusing development on the four towns and fourteen villages, which may include limited development of greenfield sites;
- b. Focus development on previously developed land (PDL) within existing urban areas;
- c. Urban extensions on greenfield land adjoining existing towns;
- d. Build a new settlement; and
- e. Use smaller greenfield sites in the villages.

In summary the Council has chosen a combination of options a), b) and c) and e) as part of the solution to providing additional housing to meet the District’s need. The development is spread across the district combining a number of the spatial options. Sites have been assessed against planning issues and those performing well in terms of constraints as well as being located closer to services and facilities have been chosen.

The option to build a new settlement has not been pursued. This is because no options for new settlements have been put to the Council and with the amount of deliverable land submitted as part the local plan process by developers and landowners, compulsory purchase would not be considered in the public interest.

### 4.3.2 How to identify which villages within the rural area might be able to accommodate development

The Council has chosen to identify villages which may take further development based on the level of facilities in the village. The Housing and Green Belt Background Paper and Policy SP2 define a list of villages based on those which have schools and appropriate services. New development is fairly substantial in certain locations. Villages will have a boundary drawn around their existing built up areas within which additional infill development is acceptable.

The reasons for choosing this option are that the North Hertfordshire villages tend to be more expensive than the towns and are therefore finding it harder to retain young families, which is leading to a skewed age population. Allowing additional development in these villages will help safeguard existing facilities in the villages. Using village schools as an example, they act as a focus point for the villages and ensure that villages continue to attract and retain young families, which prevents them stagnating as dormitories for older families and retirees. Schools also provide local employment.

### 4.3.3 Location of additional employment land

The Council has chosen these options for employment land:

- Completely new Employment Areas should be designated within or adjoining existing settlements
- There should be extensions to existing Employment Areas, but only within existing settlements.

For Baldock, the reason is to allow the provision of a significant new employment site to be developed at the east of Baldock, supporting the proposed increase in residential development in the town. The allocation benefits from proximity to existing employment uses as well as existing and planned residential development. It has access to the strategic road network via the A505 Baldock Bypass, which is important as economic activity is not contained by the District boundary

Within Hitchin and Letchworth Garden City, employment area designations from the previous local plan will be broadly retained, as this relates to some modest releases of sustainable, brownfield sites for residential development. Within Letchworth, the former power station site at Works Road has been brought back into use for employment purposes and is reflected in a new planning designation.

For Royston, the economy is influenced by both Hertfordshire and Cambridgeshire economies. Consequently, the employment area has a low vacancy rate. The allocation of further land here as a planned extension to the York Way employment area is a sustainable approach that will enable flexibility in the long term, especially in conjunction with the additional residential growth allocated to this area.

## 5. Site appraisals

### 5.1 Overview

All of the sites included in the Proposed Submission Local Plan have been tested against the sustainability objectives listed above in Section 3<sup>10</sup>. This includes some sites which were appraised in earlier versions of the sustainability appraisal. Full details of how each site was tested against the sustainability objectives can be found in Appendices 6 and 7.

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<sup>10</sup> Slightly modified to reflect issues relating to land use. The full framework used can be seen in Appendix 5.

## 5.2 Reasons for selecting sites

### 5.2.1 Housing sites

The SHLAA process helped identify sites which were deliverable. It considered sites which may be available for residential development over the period between 1 April 2011 and 31 March 2031. It assessed sites against three tests:

- Is the site suitable for development? This question is about the physical ability of the site to accommodate development and identification of (potential) policy constraints which might influence how desirable it is to develop it.
- Is the site available for development? This is about landowner intentions.
- Would development here be achievable? This question is about whether development would be financially viable or whether there might be any other reasons why it may not be delivered.

Sites which met all three tests in the SHLAA were then reviewed by the Council and a final decision made on which sites to include based on a number of key planning considerations. This information is reported in the evidence base and included in the Housing and Green Belt Background Paper. A summary showing the reasons for selecting each preferred site is included in Appendix 13 to this SA report.

### 5.2.2 Other sites

The process for selecting employment sites and retail sites largely took into account of the same considerations as those for residential. Again the information is reported in evidence base documents and concluded in the Employment and Retail Background Papers. A summary showing the reasons for selecting each preferred site is included in Appendix 13 to this SA report.

## 6. Reducing the negative effects of the Plan

Many of the significant negative effects and uncertainties identified in the appraisal of the Plan can be reduced, or avoided altogether. This is called mitigation. When the appraisal testing the effects of the plan policies, and provisions of sites, it identified ways in which the negative effects could be mitigated. Much of this mitigation is delivered by policies in the Plan itself. The table below gives an overview of mitigation measures identified for specific negative effects and uncertainties. More detail on mitigation measures for specific sites is included in Appendices 8 and 9 and for policies in Appendices 10 and 11.

**Table 8: Mitigation measures identified for significant negative effects and uncertainties**

<b>Significant negative effects and uncertainties (by SA Objective)</b>	<b>Policies which mitigate these effects and any remaining significant effects</b>	<b>Additional mitigation measures</b>
1 - Site poorly located with respect to services, facilities and accessibility of labour or customers	Policy SP6 requires a range of alternative transport options to be made available to occupants or users, which may include new or improved pedestrian, cycle and passenger transport links and routes. Policy T2 requires satisfactory Transport Statements, Transport Assessments and / or Travel Plans to be provided	None necessary
1 - Loss of employment land in active use	Policy SP3 supports the development of new employment space and the protection of existing employment space but does not require replacement provision in the case of the loss of existing employment space. The employment background paper will set out the amount of employment land lost and how it is being replaced.	None necessary
2(a) - Greenfield site which impacts on AONB	Policy SP12 requires development to consider landscape character and respect locally sensitive features. Policy NE3 requires developments in the AONB to conserve and enhance the AONB's qualities and character.	Require a site-specific landscape assessment to ensure compliance with policy NE3
2(a) - Greenfield site which impacts on SSSI or Wildlife Sites	Policy SP12 seeks to protect, enhance and manage biodiversity networks and seek opportunities for net gains for biodiversity. Policy NE6 requires developments affecting designated sites to be accompanied by an ecological survey and sets out a hierarchy of mitigation responses.	None necessary

<b>Significant negative effects and uncertainties (by SA Objective)</b>	<b>Policies which mitigate these effects and any remaining significant effects</b>	<b>Additional mitigation measures</b>
2(b) - Increases distance or reduces accessibility to green space from existing residential properties	Policy D1 requires proposals to maximise accessibility, legibility and connectivity, which should help to ensure that through-routes are incorporated in new development. Policy NE5 requires the provision of open space in new development in accordance with the Council's open space standards.	None necessary
2(b) - Housing further than 800 metres from green space	Policy SP10 requires the application of open space standards in new development. Policy NE5 requires the provision of open space in new development in accordance with the Council's open space standards. Nevertheless, the distance from this site to designated open space will mean that local provision is somewhat limited.	None necessary
2(c) - In a village without a regular bus service	Policy SP6 requires a range of alternative transport options to be made available to occupants or users, which may include new or improved pedestrian, cycle and passenger transport links and routes.	None necessary
2(c) - Further than 800m from a station and more than 400m from a bus stop with a regular bus service	Policy SP6 requires a range of alternative transport options to be made available to occupants or users, which may include new or improved pedestrian, cycle and passenger transport links and routes.	None necessary
3(a) Potential impact on sites designated for their ecological value or features of ecological interest	Policy SP12 seeks to protect, enhance and manage biodiversity networks and seek opportunities for net gains for biodiversity. Policy NE6 requires developments affecting designated sites to be accompanied by an ecological survey and sets out a hierarchy of mitigation responses.	None necessary
3(b) - Location in an area of low or moderate landscape capacity or moderate or high sensitivity	Policy SP12 requires development to consider landscape character and respect locally sensitive features. Policy NE1 includes a range of landscape criteria that proposals must meet.	For sites of <100 homes - Require a site-specific landscape assessment. For sites >100 homes - Ensure landscape issues are addressed in the Design & Access Statement.

<b>Significant negative effects and uncertainties (by SA Objective)</b>	<b>Policies which mitigate these effects and any remaining significant effects</b>	<b>Additional mitigation measures</b>
3(c) - Potential direct or indirect impact on heritage assets	Policy SP13 seeks to protect the historic environment. Policy HE1 requires proposals to conserve and enhance designated heritage assets, and includes a number of related requirements, including production of a heritage assessment.	None necessary.
3(d) - Pollution risk - site located in source protection zone 1	Policy SP11 includes general support for the principles of the Water Framework Directive and seeks improvements to the water environment. Site-specific measures are likely to be necessary in this instance Policy NE10 stipulates that new development should not result in the deterioration of any watercourse in accordance with the Water Framework Directive	Site specific assessment to ensure compliance with policy NE10
3(d) - Pollution risk - site located in source protection zone 2 or bordering a watercourse	Policy SP11 includes general support for the principles of the Water Framework Directive and seeks improvements to the water environment. Site-specific measures are likely to be necessary in this instance Policy NE9 requires a buffer zone along all watercourses Policy NE10 stipulates that new development should not result in the deterioration of any watercourse in accordance with the Water Framework Directive	None necessary
3(d) - Pollution risk - site with known or potential land contamination issues	Policy SP11 includes a requirement to give consideration to land contamination issues. Site-specific assessment likely to be necessary. Policy NE11 provides specific guidance and includes a requirement for a contaminated land study	None necessary
4(a) - Site in flood zone 2 or 3	Policy SP11 requires the use of SUDS and other appropriate measures where necessary Policy NE8 stipulates that all types of development within flood zone 2 & 3 will need to submit a Flood Risk Assessment and that a reduction in flood risk must be managed through flood resistant design and construction.	None
4(a) - Surface water flood risk	Policy SP11 requires the use of SUDS and other appropriate measures where necessary. Policy NE8 stipulates that the most sustainable drainage solutions will be sought for each development to reduce the risk of surface water flooding and that sites should aim to mimic the drainage of an undeveloped greenfield site	None

<b>Significant negative effects and uncertainties (by SA Objective)</b>	<b>Policies which mitigate these effects and any remaining significant effects</b>	<b>Additional mitigation measures</b>
5(c) - Housing site within or impacting on a AQMA	Policy D4 requires appropriate levels of mitigation to negate emissions to the atmosphere and their potential effects upon health and the local environment	None necessary
5(c) - Housing or mixed use site within 100m of a nuisance use (major roads, railway lines, waste uses, employment areas and airport noise contours) or within 400m of Sewage Treatment Works (STW)	Policy D3 states that where the living conditions of proposed developments would be affected by an existing use, the council will consider whether there are mitigation measures that can be taken to mitigate the harm to an acceptable level. If the mitigation proposals would not address the identified harm the development will not be permitted	Require an odour assessment and appropriate mitigation for STW
5(c) - Major development located near existing residential area - noise/amenity impacts	Policy D3 provides specific guidance on what may cause unacceptable harm. However, there could still be noise/amenity impacts on existing residents	Require construction management plan. Consideration of development layout and landscaping to minimise impact on neighbouring residents.
6 - In an area with significant constraints on water resources	Policy SP9 includes requiring the Government's technical standards for water efficiency. Policy NE10 states that states that new development around Stevenage within the Rye Meads Sewage Treatment Works Catchment will need to demonstrate that additional potable water supply and wastewater treatment capacity can be achieved and implemented ahead of development without significant environmental impact, including adverse effects on designated sites. It is understood that a technically feasible solution to accommodate growth around Royston has been identified but there remains some uncertainty about the solution for sites around Stevenage beyond 2026.	The council is not permitted to require higher standards of water efficiency beyond the Government's technical standards



Significant negative effects and uncertainties (by SA Objective)	Policies which mitigate these effects and any remaining significant effects	Additional mitigation measures
6 - In an area with significant constraints on water treatment infrastructure (all sites in Royston and Stevenage)	Policy NE10 states that states that new development around Stevenage within the Rye Meads Sewage Treatment Works Catchment will need to demonstrate that additional potable water supply and wastewater treatment capacity can be achieved and implemented ahead of development without significant environmental impact, including adverse effects on designated sites. It is understood that a technically feasible solution to accommodate growth around Royston has been identified but there remains some uncertainty about the solution for sites around Stevenage beyond 2026	None necessary
7 - Out of town development of shops or services which is likely to compete with shops and services in town centres	Policy ETC4 requires the application of the sequential test and for proposals to demonstrate that there is no unacceptable harm to the vitality or viability of a designated centre	None necessary

## 7. Effects of the Plan and monitoring

### 7.1 Identifying the effects of the Plan after mitigation

As the Plan objectives make clear, the role of the Local Plan is to provide for homes and jobs and associated services, development and infrastructure, while minimising environmental impacts and identifying opportunities for environmental improvement.

When testing the effects of site allocations, and of the policies, we have identified ways of mitigating these effects and noted any remaining effects which cannot be mitigated.

The appraisal also identified cumulative effects. This means where several individual insignificant effects have a combined significant effect, or where individual effects interact to produce a total effect greater than the sum of the individual effects. Mitigation measures were identified for these cumulative effects, and any remaining effects of the plan were noted.

The table below summarises the combined remaining effects of the sites and policies and cumulative effects, called residual effects, after all the identified mitigation measures have been applied.

**Table 9: Residual significant sustainability effects of the Plan**

Residual effect	Cause	Nature of the effect
Significant loss of agricultural land and land of high environmental and amenity value	Large developments on the edge of towns	The loss of agricultural land is cumulative across the Plan area, of high probability, permanent and irreversible. Individual sites affected are listed in Appendices 8 and 9
Reduced access to open countryside	New development on greenfield land on the edge of existing settlements, particularly Royston, Baldock, Great Ashby and Knebworth	The reduction in access is cumulative across the Plan area, and in the clusters of Royston, Baldock, Great Ashby and Knebworth. It is of high probability, permanent and irreversible. Individual sites affected are listed in Appendices 8 and 9.
Provision of new housing without access to greenspace	Housing further than 800 metres from green space in Hitchin Knebworth and Royston (HT10, KB1 and RY8)	The effect is of medium probability (depending on the development of the specific sites) and could be reversed or reduced if new local greenspace was provided.
Traffic congestion and associated pollution	Combined effects of planned development in Central Bedfordshire, St Albans and North Hertfordshire	The effect is trans-boundary, (which means it impacts on neighbouring areas as well), and is a cumulative effect of Plans in Central Bedfordshire, St Albans and North Hertfordshire. It is of medium probability as it depends on a number of factors including the actual amount of development and the effectiveness of mitigation, e.g. improvements in public transport.
Reduction in quality of landscape and townscape character	Development of greenfield sites for housing at edge of towns and villages, and particularly on the edges of Royston, Baldock, north Stevenage, Knebworth and Codicote	The reduction in access is cumulative across the Plan area, and in the clusters of Royston, Baldock, north Stevenage, Knebworth and Codicote. It is of high probability, permanent and irreversible. Individual sites affected are listed in Appendices 8 and 9.

<b>Residual effect</b>	<b>Cause</b>	<b>Nature of the effect</b>
Impact on setting of heritage assets	Development affecting the setting of conservation areas, listed buildings and Scheduled Ancient Monuments	The effect is of medium probability (depending on the design and layout of the development) and some of the affects are cumulative within a local area, as detailed in section 7.2. Mitigation is provided for in Local Plan policy but some effects cannot be fully mitigated, e.g. impacts on the setting of Scheduled Ancient Monuments relating to sites AS1 and RY1.
Surface water flooding	Development across the District and particularly in the north and east of Baldock (BA1, BA10, BA4, BA3) – all sites lie within a linked area of high surface water flood risk	The effect is of medium probability (depending on the development of the specific sites) and could be reduced depending on the effectiveness of mitigation. Individual sites affected are listed in Appendices 8 and 9.
Climate change	Greenhouse gas emissions from increases in traffic from current and new housing and from energy use in new housing	The effect is the cumulative effect of the Plan, of high probability and of course is worldwide in its impact.
Reduction in water quality	Development within Groundwater Source Protection Zones Expansion of sewerage capacity at Rye Meads STW due to growth in this part of the region Increased water abstraction due to increased growth Possible pressures on sewerage infrastructure at Royston STW	This is an uncertain cumulative effect across the Plan area, which could impact on: Groundwater Source Protection Zones; rivers included in Rye Meads Study catchment and their habitats- the Lee, Mimram, Beane, Rib, Ash; and Stort; and Whaddon Brook (in the case of Royston STW). The likelihood and magnitude of the effect depends on the extent to which the necessary mitigation measures are enforced.
Increased pressure on water resources	Large quantity of new housing In an area with significant constraints on water , particularly around Stevenage and Royston	The effect is of high probability and irreversible once new housing has been built. It is also trans-boundary as it will affect neighbouring authorities.
Noise pollution	Development north of Letchworth Garden City (LG1, LG3, LG4, LG10) – all lie close together and adjacent to residential properties in the northern part of the town. Development of other individual sites particularly in Hitchin, Knebworth and Royston	There is a cumulative effect to the north of Letchworth, as well as effects on individual sites, particularly in Hitchin, Knebworth and Royston. The magnitude of the effect is likely to be greater in the short term, during the construction phase. Individual sites affected are listed in Appendices 8 and 9.
Impacts on amenity and reduction in tranquility for existing residents	Development of large strategic housing sites, specifically BA1, LG1, GA2 and EL1,2,3	The impacts on amenity and tranquility are permanent and irreversible. As noted above the magnitude of the noise pollution element is likely to be greater in the short term, during the construction phase. Effects on individual sites are described in Appendix 8.

Residual effect	Cause	Nature of the effect
Potential negative effects on Letchworth town centre	Development of strategic site LG1	The effect is uncertain; it depends on whether access is through the Grange which would ensure that the development relates to Letchworth. An additional access (onto Stotfold Road) would reduce traffic congestion in the Grange, but would mean the development faces away from the existing town, and could result in negative effects on this objective.

## 8. Monitoring the effects of the Plan

It is important to check whether these predicted negative effects actually happen. To do this we have identified indicators (information to be collected) for each negative effect. The Council will include these indicators in future Annual Monitoring Reports. The indicators are shown in the table below.

**Table 10: Indicators of residual significant effects**

Residual significant effect	Suggested indicator
Loss of land with high agricultural value	High grade (1-3) agricultural land lost to new development
Loss of greenfield land and reduction in access to open countryside	Greenfield land (ha.) lost to new development
Provision of new housing without access to greenspace	Number of dwellings granted permission on sites without access to greenspace within 800m.
Traffic congestion and associated pollution	Average annual vehicle speeds (flow-weighted) during the weekday morning peak on locally managed 'A' roads
	Local air quality monitoring data
Landscape and townscape impacts	Number of planning applications granted on sites of moderate or high landscape sensitivity
Impacts on heritage assets	Number of planning applications granted contrary to the advice of Historic England
Reduction in water quality	The number of applications granted contrary to the advice of the EA on water quality grounds.
Development in flood risk areas	Number of planning applications granted contrary to the advice of the Environment Agency on flood defence grounds
Surface water flooding	Percentage of new developments with adopted SUDS schemes
Climate change	Local authority carbon dioxide emissions estimates for domestic and transport
Amenity impacts on existing residents	Number of noise complaints divided by type
Water usage	Percentage of new dwellings achieving the optional Building Regulations requirement of 110 litres per person per day
Potential negative effects on Letchworth town centre	Vacancy rates in Letchworth

# 1 Background and methodology

## 1.1 Purpose and contents of this report

This report is a sustainability appraisal (SA) and Strategic Environmental Assessment (SEA) of the North Hertfordshire Proposed Submission Local Plan. It has been prepared to accompany the public consultation on the Local Plan. In simple terms it aims to provide information on the social, economic and environmental effects of the Proposed Submission Local Plan.

This report draws together and updates the previous appraisals undertaken in the Local Plan development process. It describes how the appraisal has been undertaken throughout the different stages of the Local Plan development, starting with the original work on developing the Core Strategy in 2005. It describes how it meets legal and regulatory requirements, gives information on the results of each stage of the appraisal process, and outlines the likely effects of the Plan.

## 1.2 Strategic Environmental Assessment and Sustainability Appraisal

As noted in Planning Practice Guidance<sup>11</sup> “sustainability appraisal is a systematic process that must be carried out during the preparation of a Local Plan. Its role is to promote sustainable development by assessing the extent to which the emerging plan, when judged against reasonable alternatives, will help to achieve relevant environmental, economic and social objectives.”

An SA of a Local Plan also must meet the requirements of Statutory Instrument 2004 No. 1633 the Environmental Assessment of Plans and Programmes Regulations 2004 (known as “the SEA Regulations”), which implement the European Directive on Strategic Environmental Assessment (European Union Directive 2001/42/EC), into English law.<sup>12</sup> SEA is similar to SA; the most substantial difference is that it focuses on environmental objectives.

The SEA Regulations require the preparation of an Environmental Report, which: “shall identify, describe and evaluate the likely significant effects on the environment of— (a) implementing the plan or programme; and (b) reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme<sup>13</sup>.”

The United Kingdom Government has included guidance on SA and SEA in the National Planning Policy Guidance quoted above<sup>14</sup> (referred to as ‘The Guidance in this report). This appraisal, which incorporates a full SA and SEA, has been carried out in accordance with that guidance. Throughout the document reference to sustainability appraisal also incorporates a SEA meeting the requirements of the SEA Regulations. Where necessary, the appraisal draws on the additional guidance outlined in *A Practical Guide on the Strategic Environmental Assessment Directive*<sup>15</sup>, published in 2005 (referred to as “the Practical Guide” in this report).

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<sup>11</sup> Paragraph: 001 Reference ID: 11-001-20140306

<sup>12</sup> As outlined in the National Planning Policy Framework Para 165

<sup>13</sup> Para 12(2)

<sup>14</sup> See <http://planningguidance.communities.gov.uk/blog/guidance/strategic-environmental-assessment-and-sustainability-appraisal/>; last accessed 22/08/2016. ID 11

<sup>15</sup> See <https://www.gov.uk/government/publications/strategic-environmental-assessment-directive-guidance>; last accessed 22/08/2016. ISBN 1851127887.

The table below sets out the information required to be given in an Environmental Report<sup>16</sup> and where it can be found in this report.

**Table 11: Information required in the Environmental Report**

<b>The information required to be in the Environmental Report</b>	<b>Where covered in this SA report</b>
a) An outline of the contents, main objectives of the plan or programme, and relationship with other relevant plans and programmes;	1.4 , 2.2 and Appendix 1
b) The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme;	2.1,2.3 , 2.5 and Appendix 2
c) The environmental characteristics of areas likely to be significantly affected;	Appendix 2
d) Any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC and 92/43/EEC;	2.4 and Appendix 2
e) The environmental protection objectives, established at international, community or national 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;	2.2 and Appendix 1
f) The likely significant effects on the environment, including on issues such as biodiversity, population, human health, & fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors. (Footnote: These effects should include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects);	Sections 3-8 and Appendices 3-11
g) The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme;	Appendices 3-11
h) An outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information;	Section 4 and 5.2 and Appendix 13 and 1.6
i) a description of measures envisaged concerning monitoring in accordance with Article 10;	Section 9
j) a non-technical summary of the information provided under the above headings.	Front of document and also published separately

### 1.3 Habitats Regulation Assessment

The Council is also required to undertake a screening determination on the need for Appropriate Assessment of the Local Plan under the Conservation of Habitats and Species Regulations 2010. The [screening determination](#) was initially undertaken in February 2013<sup>17</sup> and was updated in August 2016. The determination reviewed the likely effects on European sites within 15km of North Hertfordshire. In doing so, it screened the following sites:

<sup>16</sup> As set out in Schedule 2 of the SEA Regulations

<sup>17</sup> See [http://www.north-herts.gov.uk/sites/northherts-cms/files/hra\\_screening\\_determination\\_final\\_february\\_2013\\_0.pdf](http://www.north-herts.gov.uk/sites/northherts-cms/files/hra_screening_determination_final_february_2013_0.pdf); last accessed 22/08/2016.

- Eversden and Wimpole Woods Special Area of Conservation;
- Wormley-Hoddesdonpark Woods Special Area of Conservation; and
- Lee Valley Special Protection Area.

The determination found that the Local Plan is not likely to have significant effects on any of these sites. The determination made some recommendations for the Local Plan, which have been taken account of in this SA report.

## 1.4 Development of the Local Plan

### 1.4.1 Overview

The new Local Plan will replace the 1996 Local Plan. It will cover the period 2011-2031 and will set targets for new homes, employment and retail development, and identify areas of land where these developments should be built. It will also consider what infrastructure is needed to support development.

The development of the Local Plan was restarted following changes to the planning system in March 2012.<sup>18</sup> Development of a replacement Local Plan had begun in 2005, with the publication of an Issues and Options Paper<sup>19</sup> for the Core Strategy and a Sustainability Appraisal Scoping Report<sup>20</sup>. That development work is referred to in this Sustainability Appraisal report.

The Local Plan contains five main sections, not including the appendices. A separate Local Plan Proposals Map is published alongside the Local Plan to show the spatial implications of policies.

- **Section One: Introduction and Context** – This section explains the planning system and provides an overview of North Hertfordshire and the wider area.
- **Section Two: Spatial Strategy and Strategic Policies** – This section sets out the spatial strategy and vision for the future of the District and links this to the strategic policies which provide the guidance on the main issues that the plan seeks to address. It sets out the overall approach to topics such as housing, employment, Green Belt and countryside. It also contains a separate policy for each of the Strategic Housing Sites (defined as sites of 500 or more homes) which will make a substantial contribution towards housing requirements over the plan period.
- **Section Three: Detailed Development Management Policies** – This section sets out the detailed requirements that new development must meet to be granted planning permission. It addresses issues such as open space, design and car parking.
- **Section Four: Communities** – This section sets out the site allocations for each community on a parish or settlement basis. It identifies the detailed site-specific criteria for each local housing allocation. Retail and employment allocations are also identified.
- **Section Five: Implementation, Monitoring and Review** – This section sets out how the proposals in the plan will be delivered. It identifies key supporting infrastructure and the partners that will help

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<sup>18</sup> With the introduction of the National Planning Policy Framework

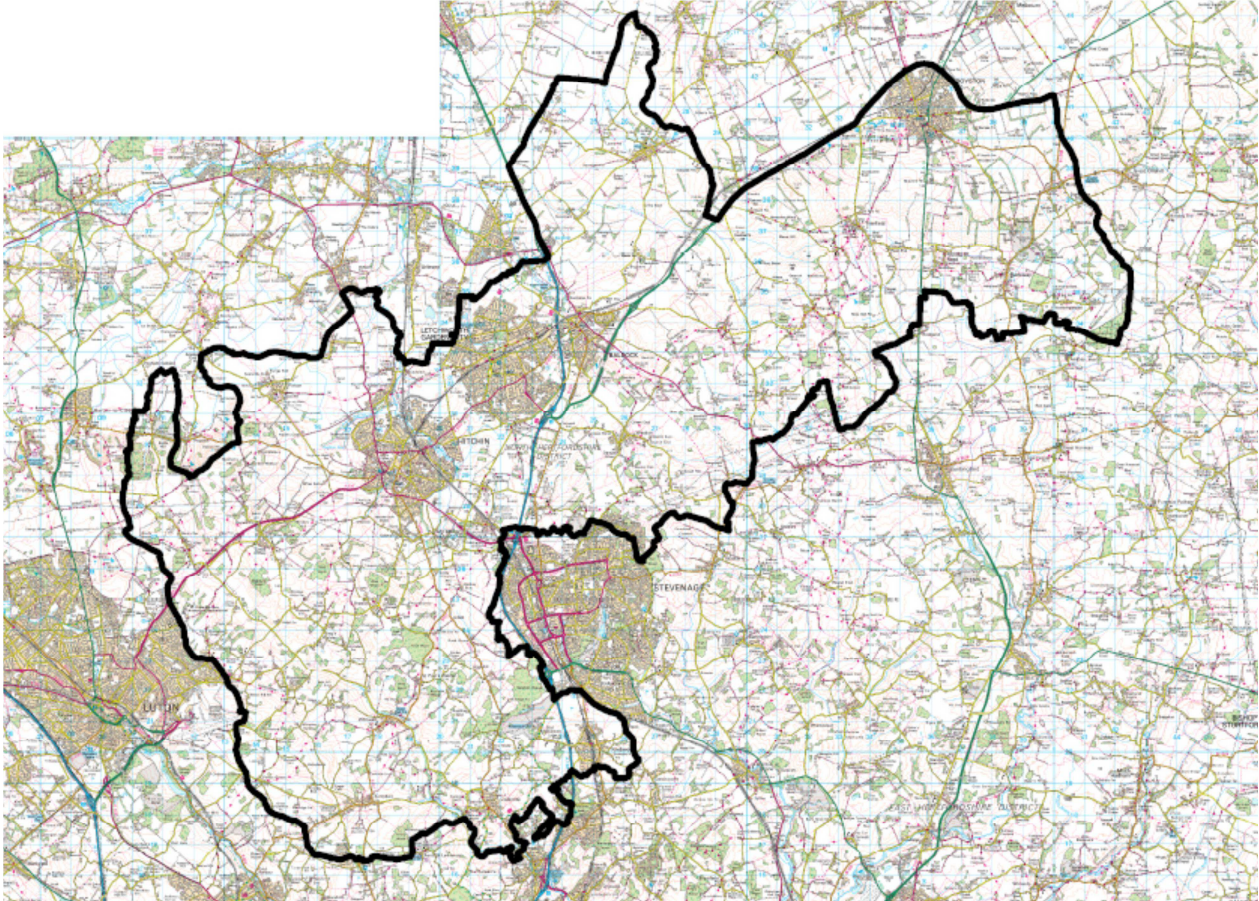
<sup>19</sup> September 2005

<sup>20</sup> September 2005

to deliver this. It sets out a monitoring framework that will be used to ensure that the vision and strategic policies are being met and sets out an approach to a future review of the plan.

The area covered by the Local Plan is shown in the map below.

Figure 1.1: North Hertfordshire District Council area



Source: NHDC 2016

### 1.4.2 Objectives of the Local Plan

The Plan objectives are informed by the National Planning Policy Framework (NPPF), which at paragraph 156 sets the strategic priorities that all local plans need to consider. The Plan objectives are shown in the table below.

Table 12 Local Plan objectives

<b><u>Environmental:</u></b>	
ENV1	Direct development towards the most sustainable locations which seek to maintain the existing settlement pattern.
ENV2	Protect and enhance the historic character of North Hertfordshire's towns, villages, hamlets and landscape by promoting good design that creates a distinctive sense of place.
ENV3	Protect, maintain and enhance the District's historic and natural environment, its cultural assets and network of open spaces, urban and rural landscapes.
ENV4	Mitigate the effects of climate change by encouraging the use of sustainable construction techniques, the appropriate use of renewable energy technologies and reducing the risk of flooding.



ENV5	Reduce water consumption, increase biodiversity and protect and enhance the quality of existing environmental assets by enhancing new green spaces and networks of green space for both recreation and wildlife.
<b><u>Economic:</u></b>	
ECON1	Support a vibrant, diverse and competitive local economy that provides a range of job opportunities enabling new and existing businesses to grow and thrive.
ECON2	Ensure an adequate supply of employment land, office accommodation and support facilities to meet the needs of new and existing businesses within our urban and rural areas.
ECON3	Provide for a greater mix of skilled jobs as well as providing opportunities for further education and skills training to promote investor confidence in locating to, or remaining in the District.
ECON4	Maintain and enhance the vitality and viability of our town, neighbourhood and village centres, as well as strengthening the retail roles of our town centres ensuring that they remain competitive and attractive for modern-day use.
ECON5	Support and enhance local businesses, services and facilities in urban and rural areas through tourism.
ECON6	Sustain the vitality of our villages and the rural economy in supporting rural diversification whilst ensuring development is of an appropriate scale and character.
ECON7	Improve access opportunities, minimise the need to travel, and encourage journeys to be made by sustainable means of transport to ease congestion, reduce carbon emissions and the impacts on air quality management areas.
ECON8	Ensure all development is supported by the necessary provision of, or improvements to infrastructure, services and facilities in an effective and timely manner to make development sustainable and minimise its effect upon existing communities
<b><u>Social:</u></b>	
SCO1	Identify locations for a range of types and tenures of homes, including affordable homes, to meet identified needs and provide adequate housing for an increasing and ageing population.
SCO2	Encourage safe and vibrant mixed communities that provide for the needs of all North Hertfordshire's residents.
SCO3	Improve access to, maintain and make provision for new facilities including community, sports, leisure, health and cultural facilities, that meet the needs of all North Hertfordshire's communities
SCO4	Enable rural communities to plan to meet their own local needs, especially through neighbourhood planning

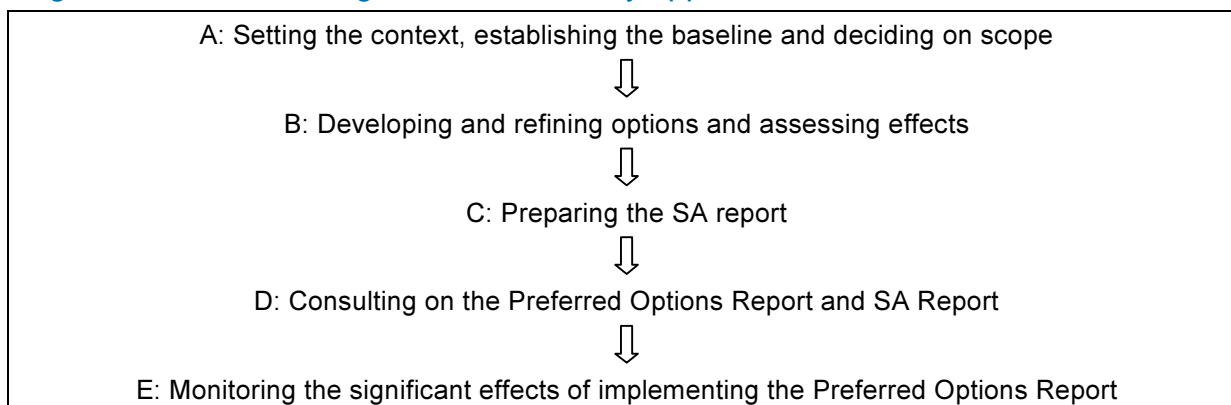
### 1.4.3 Options development

The development of strategic, policy and site options for the Plan is described in detail in section 4.

## 1.5 The five stages of Sustainability Appraisal

There are five stages (A to E) to the Appraisal, shown in Figure 1 below. The stages follow those indicated in the Practical Guide.

Figure 1.2: The five stages of sustainability appraisal



The table below provides further detail regarding the tasks included within the five stages and how they relate to the preparation stages for a Local Plan. This report is the draft SA report, referred to as Stage C. It contains the results of Stage B of the process. Consultation on this report is part of Stage D.

Table 13: Sustainability appraisal stages and tasks

<b>Local Plan Stage 1: Pre-production – Evidence gathering</b>
<b>Appraisal stage A: Setting the context and objectives, establishing the baseline and deciding on the scope of the sustainability appraisal</b>
A1 Identifying other relevant policies, plans, programmes and sustainability objectives
A2 Collecting baseline information
A3 Identifying sustainability issues and problems
A4 Developing the sustainability appraisal framework
A5 Consulting on the scope of the sustainability appraisal
<b>Local Plan Stage 2: Production</b>
<b>Appraisal stage B: Developing and refining options and assessing effects</b>
B1 Testing the plan objectives against the sustainability appraisal framework
B2 Appraising the plan options
B3 Predicting the effects of the plan
B4 Evaluating the effects of the plan
B5 Considering ways of mitigating adverse effects and maximising beneficial effects
B6 Proposing measures to monitor the significant effects of implementing the plan
<b>Appraisal stage C: Preparing the Sustainability Appraisal Report</b>
C1 Preparing the SA Report
<b>Appraisal stage D: Consulting on the preferred options of the Local Plan Sustainability Appraisal report</b>
D1 Public participation on the preferred options of the Local Plan and the Sustainability Appraisal report
D2 (i) Appraising significant changes
<b>Local Plan Stage 3: Examination</b>
D2 (ii) Appraising significant changes resulting from representations
<b>Local Plan Stage 4: Adoption and monitoring</b>
D3 Making decisions and providing information

<b>Appraisal stage E: Monitoring the significant effects of implementing the Local Plan</b>
E1 Finalising aims and methods for monitoring
E2 Responding to adverse effects

## 1.6 How the appraisal was carried out

### 1.6.1 Overview

As noted above, the development of the Local Plan started in 2005. The Council commissioned CAG Consultants to undertake most elements of the sustainability appraisal of earlier documents that have comprised the Local Plan process. Development of policy options was undertaken by the Council at all stages.

The long timescale over which the Plan has been developed, the number of different iterations, and the changes in planning policy over that time has been a key procedural challenge in undertaking this SA. However, with Proposed Submission Local Plan, all previous SA stages and outputs have been thoroughly reviewed to ensure they are relevant, up-to-date and address current planning policy and SA practice. This review has been undertaken by a consultancy independent of CAG Consultants.

The table below summarises the stages of the appraisal of the Local Plan. It shows the tasks that have been carried out to date, when they were carried out, any difficulties encountered, assumptions and uncertainties. It does not record SA work on earlier stages of the Local Plan which have since been discarded.

**Table 14: How the appraisal was carried out**

<b>Appraisal stage</b>	<b>When</b>	<b>Comments or Difficulties</b>
A1 Identifying other relevant policies plans and programmes and sustainability objectives	This stage has taken place during all stages of the documents' production. It was first undertaken as part of the Core Strategy Scoping Report in 2005. It was completely reviewed and updated in June 2012 to reflect changes in national planning policy and the introduction of the NPPF, and again in July 2016.	Many policies could potentially be relevant to the plan. Those ones reviewed were judged to be the key strategic documents relevant to the plan and the appraisal.
A2 Collecting baseline information	This stage was first undertaken as part of the production of the Scoping Report in 2005. The information was subsequently updated in November/December 2012 and July 2016.	Some difficulties were experienced in updating the original data. Most information remains available, although a number of data production agencies have changed or disbanded. At a regional level, with the demise of the East of England Development Agency and East of England Regional Assembly and the revocation of East of England Plan the regional data is becoming much more difficult to find and update.  The regional assessment has been

Appraisal stage	When	Comments or Difficulties
		updated as far as possible and the lack of data is not considered to influence the outcome of the assessment.
A3 Identifying sustainability issues and problems	This stage was also first completed with the production of the Scoping Report in 2005. It was then updated by the Council as part of the SA/SEA of the Housing Targets Consultation in March 2012. This was then further updated in June 2012, again in August 2014 and completely reviewed and updated in July 2016.	Quantitative data was not always available to inform the identification of key issues. In addition some strategy documents which originally informed the review of issues were not updated. However, the review of the baseline data in 2016 provided sufficient information to inform the 2016 update of issues.
A4 Developing the SA framework	<p>The initial framework was included in the 2005 Scoping Report for the Core Strategy and Development Policies and updated October 2006 and October 2007 in response to consultation comments.</p> <p>A revised version of the framework (to reflect how the objectives relate to site provision) was included in the 2007 Land Allocations Scoping Report, and updated in response to consultation comments.</p> <p>Both frameworks were reviewed in June 2012 to check whether any changes were needed as a result of the review of policy, plans and programmes and sustainability issues. They were reviewed again in August 2014 and July 2016, and have been used to undertake the assessments in the current report.</p>	<p>June 2012 and August 2014 reviews concluded no changes were needed to the framework.</p> <p>The July 2016 review included a detailed review and update of the significance criteria for site appraisals, which resulted in a clearer statement of the assumptions behind site appraisal judgements.</p>
A5 Consulting on the scope of the SA	<p>June –July 2005 (Core Strategy/Development Control Policies)</p> <p>Oct – Nov 2007 Land Allocations Development Plan Document (DPD)</p>	<p>The comments from statutory consultees and how they were taken account of are noted in Appendix 12. No topics were eliminated from the assessment as a result of the scoping process.</p> <p>As noted above, the frameworks included in these Scoping Reports have been used to undertake the assessments in the current report. There have been no changes to the appraisal framework,</p> <p>There have been a number of SA Reports produced since the scoping report accompanying consultations</p>

Appraisal stage	When	Comments or Difficulties
		on the emerging local plan, which have been sent to the 3 statutory consultees and been made available for public comment. No comments have been raised in relation to the scope of the SA.
B1 Testing the Local Plan Objectives against the SA Framework	Undertaken August 2005 as part of the appraisal of the Core Strategy and Development Policies. Local Plan objectives were reappraised in September 2014. New local plan objectives were appraised in August 2016 as outlined in this report.	The ongoing assessment of the local plan objectives was one way the SA influenced the plan development.
B2 Developing the options	The process of developing the options is outlined in detail in section 4 and section 5. This was lengthy and entailed a number of different types and scales of options.	The policy context has changed significantly during the plan development process, particularly the requirement to develop a target for housing numbers, and this has required several reviews of options for housing provision.
B3 Predicting the effects of the Local Plan B4 Evaluating the effects of the Local Plan B5 Considering ways of mitigating adverse effects and maximising beneficial effects	Appraisal of initial strategic and policy options completed August 2005, as part of the appraisal of the Core Strategy and Development Policies. Appraisal of options for housing numbers was undertaken in July 2016 and included in this report. Site options have been appraised in various previous documents in 2007, 2009, 2013, and 2014. In July 2016 all viable site options included in the Strategic Housing Land Availability Assessment (SHLAA) have been appraised, either by updating an existing appraisal of an earlier document, or undertaking a new appraisal. A review was undertaken of all significant negative effects, and how these could be mitigated. All policies were appraised in July and August 2016.	Data issues are discussed in the significance criteria which are contained in Appendix 5.
B6 Proposing measures to monitor the significant effects of the Local Plan	Significant effects indicators are to be included in the Local Plan Annual Monitoring Report as detailed in Section 9 of this report.	Monitoring is resource intensive and therefore needs to be realistic and measurable.

### 1.6.2 The testing process

This Sustainability Appraisal is an objectives-led process. This means that the potential effects of a plan are tested against a series of objectives for sustainable development (e.g. an objective *to use resources efficiently*). The development and detail of these objectives (called the **appraisal framework**) are described in section 2.6 below.

The SEA Regulations require the appraisal to identify significant effects of the Plan. In practice this involves assessing each aspect of the Plan against each of the sustainability objectives included in the appraisal framework. This was done using a formal matrix and has occurred at different stages of policy and site appraisal.

The effect of the option or policy on the SA objective was scored as follows: Major positive  $\sqrt{\checkmark}$ ; positive  $\checkmark$ ; major negative **XX**; negative **X**; uncertain **?**; or neutral **O**. In testing the plan objectives we used the same symbols, except that no double tick or cross was used. The testing process assessed the effect in the short, medium and long term, and included an explanation of the reasons for making the judgement. At the bottom a matrix, a summary of the strengths and weaknesses was provided, along with suggested mitigation measures. The next section gives more detail on the testing process. The full matrices and summary conclusions for sites are included in Appendix 6 and 7, for the objectives in Appendix 3 and for policies in Appendix 10 and 11.

In completing the appraisal matrices a range of information was used. The assessment was based on the expert opinion of consultants and relevant technical officers, drawing on the baseline data and analysis of key sustainability issues, relevant research and site specific information.

For site assessments a wide range of other information was used. In order to make the assessment process of the sites consistent, significance criteria were developed before the assessment was undertaken. These defined the criteria used for identifying significant positive and negative effects for site, and are included as Appendix 5. The criteria included reference to accepted standards and thresholds where relevant. The full list of data used in the assessment against each objective is included in the significance criteria.

### 1.6.3 Defining significant effects

The SEA Regulations require the appraisal to identify significant effects. In our appraisal, major positive, positive, major negative and negative effects can all be defined as “significant”. Significance is assessed in terms of the **size** of the effect (e.g. whether a development will use a large or small amount of greenfield space) and the **importance** (e.g. will it take place on an important biodiversity site). In addition, the **cumulative** effect of a number of small insignificant effects, when taken together can produce a significant effect (e.g. the effect on landscape of a number of small developments in the countryside).

The Regulations also require the SEA to consider different characteristics of effects. These include: probability, duration, frequency and reversibility; the cumulative nature of the effects; the trans-boundary nature of the effects; (d) the risks to human health or the environment (for example, due to accidents); (e) the magnitude and spatial extent of the effects (geographical area and size of the population likely to be affected). These characteristics are considered through the appraisal matrices and the commentary in the matrices. For example the matrices define short, medium, term and long effects, and also include an assessment of impacts on human health. Where relevant they comment on the other characteristics. The residual effects of the plan after mitigation are also summarised in section 8, and where relevant characteristics of effects are described. Cumulative effects are discussed further in section 7.

When appraising effects, the Regulations also require that value and vulnerability of the area likely to be affected be taken into account. This could be due to: the special natural characteristics or cultural heritage; exceeded environmental quality standards or limit values; intensive land-use; and the effects on areas or landscapes which have a recognised national, community or international protection status. These factors have been included in the significance criteria, and are addressed where relevant in the commentary in individual appraisal matrices.

#### 1.6.4 Consultation

In order to meet the requirements of the SEA Regulations, the planning authority must seek the views of the three designated environmental consultation bodies on the scope of the appraisal and on the draft report. It must also consult with the public on the draft report. The tables below show the consultation process to date and planned for the future. Appendix 10 lists comments made by the consultees on the previous stages of the process, and how they have been addressed.

**Table 15: Consultation process**

<b>Planning Document</b>	<b>Stage of SA</b>	<b>Date</b>	<b>Consultation methods</b>
<b>Core Strategy and Development Control Policies</b>	Draft Scoping report: tasks A1-A4	June and July 2005	It was sent to a range of consultees, including the statutory consultees, who were given a five week period to respond with comments. It was also made available on the Council's website.
	Appraisal of Options	September and October 2005.	Issues and Options paper sent out to same consultees and made available on the Council's website. They were also directed to the Options Appraisal Report, which was available on the Council's website.
<b>Land Allocations Development Plan Document (DPD)</b>	Draft Scoping report: tasks A1-A4	October and November 2007	It was sent to the statutory consultees, who were given a five week period to respond with comments. It was also made available on the Council's website.
	Development and Appraisal of Options	January-March 2008 June-August 2009	The Land Allocations Issues and Options paper was sent out to the same consultees and made available on the Council's website. They were directed to the SA/SEA report which was available on the Council's website.  A consultation meeting for key stakeholders was held on 19 <sup>th</sup> March 2008 to comment on the appraisal of the Issues and Options.  The Additional Suggested Sites Issues and Options and the Housing Growth Targets documents were also sent out to the same consultees and made available on the Council's

			website. They were directed to the relevant SA/SEA reports which were available on the Council's website.
<b>Local Plan</b>	Housing Options	February-March 2013	The Housing Options consultation documents were sent out to statutory consultees and other key stakeholders, and made available on the Council's website. The Housing Options Appraisal Report was also made available on the Council's website.
	Housing Additional location Options	July-August 2013	The Housing Additional Location Options consultation documents were sent out to statutory consultees and other key stakeholders, and made available on the Council's website. The Housing Additional Location Options Appraisal Report was also made available on the Council's website.
	Preferred Options	December 2014 - January 2015	The Preferred Options consultation documents were sent out to statutory consultees and other key stakeholders, and made available on the Council's website. The Preferred Options Appraisal Report was also made available on the Council's website.
	Proposed Submission version	October – November 2016	The Proposed Submission Local Plan will be sent out to statutory consultees and other key stakeholders, and made available on the Council's website. This Appraisal Report will be made available on the Council's website.



# 2 Context, baseline and sustainability objectives

## 2.1 North Hertfordshire - overview

The following gives a brief profile of the district. More detailed baseline information is discussed in 2.3 below.

### 2.1.1 Environment

North Hertfordshire comprises a broad band of 375km<sup>2</sup> of attractive undulating countryside following the chalk escarpment of the Chiltern Hills and East Anglian Heights, which are separated by the 'Hitchin Gap' through which the East Coast Main Line railway passes. This ridge forms the watershed between the river basins of the Thames and the Wash. The highest point is Telegraph Hill at Lilley, at 184m above sea level and the lowest point of 32m above sea level is where the River Rhee leaves the district north of Ashwell. Most of the rural area is farmland, although there is some woodland, especially in the west of the district. Part of the district around Lilley and Hexton is within the Chilterns Area of Outstanding Natural Beauty. The district contains a variety of habitats for wildlife and plants, including areas of high biodiversity - notably the chalk grasslands and chalky boulder clay woodlands and meadows in the east of the district, the oak and hornbeam woodlands of the west of the district and the wet meadows and fens along the River Hiz and its tributaries.

The district has four main settlements: the historic market towns of Hitchin, Baldock and Royston and the world's first Garden City, Letchworth. It also includes most of the Great Ashby estate, which is part of the urban area of Stevenage, and numerous villages and hamlets. The district has 35 civil parishes and three unparished areas (Hitchin, Letchworth and Baldock). All the towns and many of the villages have historic areas and buildings; there are 40 conservation areas and approximately 2750 listed buildings. The district has a long history of human habitation and is crossed by the prehistoric Icknield Way. It also contains many ancient monuments, including the Iron Age Ravensburgh Castle at Hexton, the largest fort in south-east England.

In common with the rest of the world, the district needs to look at how to minimise the impacts of climate change, both by minimising the contribution human life makes to climate change and by adapting to new climate patterns. Whilst the district is highly unlikely to be directly affected by rising sea levels (although if all the world's ice sheets melted, Hitchin and Royston would likely <sup>21</sup>be submerged), the changing climate will have a profound effect on our water and food supplies and way of life in general.

### 2.1.2 Society

The district has a population of about 127,100<sup>22</sup> people. Just over 75% of the population live in the four towns or Great Ashby. A combination of factors, including people living longer, fewer people living in each home, proximity to London and relatively low interest rates have been causing housing costs to rise. The cost of housing relative to local incomes in the district is high and is beyond the reach of many, especially young adults. This is reflected in a skewed age profile - the district has significantly fewer people aged 18 - 30 than it does under 18s and over 30s.

All the towns have a range of sport, recreation and community facilities, schools and libraries. Knebworth, the largest village, also has a library. There are three public indoor swimming pools, two

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<sup>21</sup> National Geographic Climate Change Map

<sup>22</sup> From 2011 Census

public outdoor swimming pools and three major leisure centres. There are several museums and a three screen cinema at Letchworth Garden City. There are several community and village halls across the district.

### 2.1.3 Economy

The district has good rail and road links. There are five stations in the district and one just 300m outside it (Ashwell & Morden). Direct services from the district's stations run north to Peterborough, north east to Cambridge and King's Lynn and south to London and Hertford. There are direct rail services between each of the stations in the district and also to Stevenage for connections to the inter-city service to the north east and Scotland. However, there are no rail links from the district's stations to the west. There is a range of local bus services, although services can be infrequent, particularly in the rural area. The A1 from London to Edinburgh passes through the district, and for most of its length in the district is a motorway. The A505 is the main east-west route, from Leighton Buzzard to the M11 near Duxford. Other main roads include the A600, A602 and A507. Car usage and ownership is high in the district, and traffic congestion is seen as one of the areas where residents would most like to see improvements<sup>23</sup>.

The district is also near to two international airports, London Luton Airport immediately adjoining the district boundary to the west and London Stansted Airport a further away to the east. They are a source of employment and bring economic benefits, but they also bring environmental impacts from noise, air pollution and vibrations, both from the air traffic itself and from land traffic to and from the airports. There is no one dominant centre serving the district. Hitchin town centre is the largest retail destination, followed by Letchworth and there are large employment areas in Letchworth, Hitchin and Royston. There are traditional markets in Hitchin, Baldock and Royston and Business Improvement Districts are currently operating in Hitchin, Letchworth Garden City and Royston. The district's settlements have a complex system of interdependencies with each other and with surrounding larger towns, notably Stevenage, Luton, Cambridge, Welwyn Garden City, Milton Keynes and London. A substantial proportion of the district's population commutes to these larger centres for work and for shopping. There is noteworthy leakage of retail expenditure from the district's population using retail centres elsewhere<sup>24</sup>. In the rural areas, there are a number of village shops and services, although these have declined in recent years.

## 2.2 Links to other policies, plans and programmes

Task A1 of the appraisal process involves identifying other relevant policies, plans, programmes and sustainability objectives.

Relevant documents at international, national, regional and local level have been reviewed. For each document the following information has been collated:

1. Key objectives relevant to the Local Plan and SA
2. Key targets and indicators relevant to the Local Plan and SA
3. Implications for the Local Plan
4. Implications for SA

Key messages from the review are shown in the table below.

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<sup>23</sup> Census 2011 / NHDC Local Plan Preferred Options consultation responses

<sup>24</sup> NHDC Town Centre and Retail Study (2016)

Table 16: Key messages from review of other policies plans and programmes.

SA Theme	Key messages from PPP Review
Economic Activity	<ul style="list-style-type: none"> <li>• Promote green growth</li> <li>• Use infrastructure levy to help fund infrastructure projects that support growth</li> <li>• Investment in infrastructure, including public transport infrastructure</li> <li>• Recognise the economic value of ecosystem services</li> <li>• Encourage and enable housing growth</li> <li>• Create local employment opportunities</li> <li>• Enhance skills to reduce unemployment and deprivation</li> <li>• Ensure that there is an adequate supply of employment land to meet local needs and to attract inward investment</li> <li>• Encourage growth in science and technology and creative industries.</li> <li>• Support small businesses</li> </ul>
Land-use and development patterns	<ul style="list-style-type: none"> <li>• Encourage the use of previously developed (brownfield) land</li> <li>• Promote the re-use of derelict land and buildings</li> <li>• Reduce amount of contaminated land</li> <li>• Avoid using best and most versatile agricultural land for development</li> <li>• Encourage land management that will protect water quality</li> <li>• Improve public transport</li> <li>• Improve cycling and walking infrastructure</li> <li>• Deliver networks of green infrastructure and open space</li> <li>• Encourage sustainable transport and reduce the need to travel</li> <li>• Promote access to the countryside and green space</li> <li>• Reduce traffic and congestion</li> </ul>
Environmental protection	<ul style="list-style-type: none"> <li>• Halt biodiversity loss, support well-functioning ecosystems, and establish coherent ecological networks</li> <li>• Protect and enhance designated sites, priority species and habitats and ecological networks</li> <li>• Combat alien species</li> <li>• Reduce / minimise water pollution</li> <li>• Protect surface and groundwater quality</li> <li>• Prevent further deterioration of aquatic ecosystems in accordance with the Water Framework Directive</li> <li>• Protect and enhance natural landscapes and townscapes</li> <li>• Promote high quality design that protects the natural and historic environment</li> <li>• Respect cultural heritage assets and their settings</li> <li>• Improve the quality of the built environment</li> </ul>
Climate change	<ul style="list-style-type: none"> <li>• Reduce greenhouse gas emissions</li> <li>• Move towards a low carbon economy</li> <li>• Build resilience to climate change, and in particular flood risk</li> <li>• Support renewable energy</li> <li>• Avoid development in areas of flood risk</li> <li>• Reduce the risk of flooding arising from new development</li> <li>• Promote the use of Sustainable Drainage Systems (SuDS)</li> </ul>
A just society	<ul style="list-style-type: none"> <li>• Reduce fuel poverty</li> <li>• Promote improvements in health and wellbeing</li> </ul>

	<ul style="list-style-type: none"> <li>• Connect people with nature to deliver health and well-being improvements</li> <li>• Ensure social equality and prosperity for all</li> <li>• Promote integrated communities and foster social capital</li> <li>• Make appropriate provision for travellers</li> <li>• Encourage and enable housing growth and deliver an appropriate mix of housing to meet local needs, built to high design quality and environmental standards</li> <li>• Improve road safety</li> <li>• Promote walking and cycling as a healthy lifestyle choice</li> <li>• Ensure that air quality is maintained or improved and that air pollutants are minimised</li> </ul>
Resource use and waste	<ul style="list-style-type: none"> <li>• Improve water efficiency</li> <li>• Ensure sustainable water catchment management</li> <li>• Ensure appropriate investment in water and waste management infrastructure to accommodate new development</li> <li>• Work towards a more sustainable and efficient approach to resource use and waste management</li> <li>• Drive waste management up the waste hierarchy</li> </ul>
Town centres	<ul style="list-style-type: none"> <li>• Reinvigorate Hertfordshire's places</li> <li>• Address localised disadvantage in the New Towns</li> <li>• Improve vitality of town centres</li> </ul>

This information has been used to inform the subsequent stages of the SA and local plan process, which are covered in later sections of this document. The themes arising from the review, and the key messages were used in the following stages of the SA:

- Identification of sustainability issues (task A3);
- Development of the SA framework (task A4); and
- Baseline review (task A2).

The review was updated in July 2012 to reflect the changes in the planning system, and further updated in April 2016. The updated review is included as Appendix 1 to this report.

## 2.3 Baseline review

Task A2 of the appraisal process involves collecting relevant social, environmental and economic baseline information and producing a characterisation of North Hertfordshire.

As its name implies, the baseline review describes the current social, economic and environmental conditions in the District. The Practical Guide notes that baseline information provides the basis for predicting and monitoring effects and helps to identify problems and alternative ways of dealing with them<sup>25</sup>.

Collecting baseline information therefore contributes to the effectiveness of the appraisal. The aim is to collect information relating to each of the sustainability objectives. However, in reality there will be gaps in data availability. The Practical Guide comments that *not all information may be available immediately*.

<sup>25</sup> See page 27 of the Practical Guide.

*The SEA team may need to consider whether improvements are needed to current information collection to fill existing gaps.*<sup>26</sup>

The baseline review meets the requirements of the SEA Regulations to provide information on *the environmental characteristics of the area likely to be affected*<sup>27</sup>.

The baseline review for North Hertfordshire was first undertaken in 2005, fully updated in January 2009, reviewed and partly updated in December 2012, and completely updated in August 2016. It is included as Appendix 2. It also summarises data for a series of indicators associated with each of the sustainability appraisal objectives. Where it is available, the review gives comparable data for Hertfordshire, the East of England region, and the UK.

The information from the baseline review was used to identify key sustainability issues, and identify the objectives to be used in the appraisal framework. Both of these are discussed in the following sections.

## 2.4 Sustainability Issues

Task A3 of the appraisal process involves identifying key sustainability issues for the SA to address.

The identification of sustainability issues helps to define key issues for the Local Plan and develop sustainable plan objectives and options and also provides useful information for the sustainability appraisal process itself. It informed stage B of the process where options and policies were tested against the appraisal objectives. For example, when testing options for development in villages, information that *access to services for those in villages without a car* is a sustainability problem informed the judgements made in the testing process and influenced the choice of options.

The identification of sustainability issues meets the requirements of the SEA Regulations to identify *any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance*<sup>28</sup>.

The key sustainability issues were developed from the review of plans, programmes and policies and the baseline review, both discussed above.

The list was then refined, based on discussions with the Officer Steering Group at a meeting on May 18<sup>th</sup> 2005, which included other sources of information. It was then updated in January 2009 along with the baseline review. It was also updated by the Council as part of the SA/SEA of the Core Strategy in May 2011. This was then further updated in June 2012 and reviewed with a minor update in September 2014, with a full update in August 2016. The revised list is shown in Appendix 2 and is summarised in the table below, under the themes identified through the review of other Plans, Policies and Programmes.

**Table 17: Key sustainability issues**

<b>Economic activity</b>
Need to provide more highly-skilled employment opportunities in the District. There is a significant net daily outflow of commuters, with the average out commuter being more highly skilled than the average in-commuter.

<sup>26</sup> See page 50 of the Practical Guide

<sup>27</sup> Schedule 2

<sup>28</sup> Ibid

Difficulties in competing with large urban centres for the provision of employment and facilities.
Promotion of rural tourism. Visitors can be important to rural areas, but the District is not seen as a prime tourist location.
<b>Land use and development patterns</b>
Significant and increasing pressure on greenfield sites in order to meet the needs for housing and economic growth.
The development of greenfield sites on the edges of existing settlements may reduce access to open countryside for existing residents.
Population and mobility factors have changed the function of villages from employment service centres to dormitory/residential functions reducing their social and physical diversity.
The density of traffic on the principal road network is high and increasing but the rural nature of the District makes the provision of sustainable travel modes more challenging.
<b>Environmental protection</b>
Pressures on locally significant habitats and species in the District. These include fragmentation of habitats, loss of corridors and the direct impacts of agriculture and new development, including waste water treatment and water extraction.
Landscape and townscape character likely to be impacted by the significant level of new development needed in the District.
The District's rich heritage of market towns and the Garden City suggest that there are localised heritage issues which will arise over more detailed site selection.
Quality of surface and ground water could be threatened by the water supply needs and drainage from future developments. North Hertfordshire is in an area of groundwater sensitivity and there are constraints on sewage infrastructure around Royston and Stevenage.
Although data is limited, air quality issues could become more significant with continued growth in development and traffic.
<b>Climate change</b>
Emissions of greenhouse gases in the District could rise with further development in the District and associated growth in transport.
A significant number of existing homes and potential new development sites face surface water flood risks.
<b>A just society</b>
Whilst the District is relatively prosperous there are pockets of income and/ or multiple deprivation in relation to national standards. In the towns these occur in parts of Hitchin and Letchworth. In the rural areas specific issues are isolation and lack of access to services.
There has been a reduction in village services and employment over the last 20 years. This particularly affects the elderly and young people.
Although lower than the County average, high and increasing property prices mean home ownership is out of the reach of many households.
Noise from air and road transport has a significant effect on quality of life in the District. Proposed developments will have significant additional impacts.
<b>Resource use and waste</b>
Although not yet a barrier to new development, water supply in the District could become constrained in future decades.
The costs of and constraints on landfilling waste and the need to reduce emissions mean there is a need for ongoing improvements to waste reduction, reuse and recycling.

## 2.5 What would happen without the Plan?

The Guidance requires the SA report to consider the likely evolution of the environment without implementation of the plan.

By not preparing a Local Plan the Council would lose control of where development occurs. This would mean that any potential development could be considered favourably depending on the merits of the application. Whilst NPPF policies and other national guidance would apply, locally set policies that could deliver local benefits and take account of local circumstances would not be implemented. It would also not be possible to plan strategically for development.

This could mean that the need for delivering housing in an area of high demand might be considered through the planning process to outweigh any potential environmental impacts and so impacts could be substantial and potentially not mitigated.

There would be no cumulative assessment of the sites; on a case by case basis a site may be considered acceptable but in combination with another it may not. By not preparing a local plan this assessment will not happen and small impacts of sites may combine to create more significant impacts.

The table below outlines what could happen against each of the sustainability objectives developed for the Plan (as discussed in the next section).

**Table 18: What could happen in the absence of a plan?**

SA objective	What could happen in the absence of a plan
1 Achieve sustainable levels of prosperity and economic growth	<p>Economic development and redevelopment would continue within the existing designated areas and in accordance with the NPPF, however, additional land for economic development as detailed in evidence to the local plan, would not come forward as some of it is proposed in areas that are currently designated Green Belt.</p> <p>As a result economic activity would be stifled and pressure for residential may in fact reduce in the amount of land available for employment and economic uses in the long term.</p>
2(a) Minimise the development of greenfield land and other land with high environmental and amenity value?	<p>Whilst national policy encourages use of brownfield land, the potential for development to occur anywhere means that development would not prioritise the use of brownfield sites and land of low environmental and amenity value.</p> <p>A do nothing approach would also not maximise reuse of vacant buildings and derelict land or minimise the loss of the best and most versatile agricultural land as development could occur anywhere.</p> <p>It may reduce the quantity of unremediated contaminated land as all potential sites would be considered as acceptable in principle.</p>
2(b) Provide access to green spaces	<p>Whilst national policy would apply, locally defined policies providing guidance on improving access for all residents of the District to green spaces would not necessarily occur.</p> <p>Unplanned development would not facilitate opportunities for people to come into contact with and appreciate wildlife and wild places.</p> <p>There is no certainty that this would maintain/improve the public right of way network.</p>
2 (c) Deliver more sustainable location patterns and reduce the use of motor	<p>Unplanned development wouldn't necessarily locate development so as to reduce the need to travel or reduce car</p>

vehicles	reliance, encourage walking, cycle, bus, and train use. It wouldn't reduce road freight movements or avoid exacerbating local traffic congestion As development wouldn't be coordinated there's no guarantee that it would provide affordable and accessible public transport in towns and in rural areas.
3(a) Protect and enhance biodiversity	Whilst national policies and guidance to protect biodiversity will still apply; protection of locally identified habitats and creation of links between habitats may not be taken into account.
3(b) Protect and enhance landscapes	Whilst national policies and guidance to protect and enhance landscapes, especially those of historic, recreational or amenity value, and within the Chilterns AONB will apply the unplanned development may have a cumulative impact.
3(c) Conserve and where appropriate, enhance the historic environment	Whilst national policies and guidance to conserve and enhance the historic built character of the District's towns and villages may apply locally designated assets may not be adequately protected.
3(d) Reduce pollution from any source	National legislation would apply and so legally protected issues would be mitigated, but cumulative impacts and local issues may not be considered adequately.
4(a) Reduce greenhouse gas emissions	Locations of developments would not be planned and so opportunities for minimising energy consumption by transport and in buildings would not be realised.
4(b) Improve the District's ability to adapt to climate change	National guidance on flood risk would still apply, but sequential testing of sites would not occur in advance of application process and so areas at risk of flooding may not be considered.
5(a) Share benefits of prosperity fairly	Without a plan development would still occur within settlement boundaries, which may contribute to deprived areas, however pressure for residential development may impact on employment areas and the opportunities they bring.
5(b) Provide access to services and facilities for all	Without a plan development would still occur within settlement boundaries, which may contribute to local infrastructure, however there would be no large scale residential allocations which will include opportunities for improved infrastructure on a larger scale.
5(c) Promote community cohesion	Without a plan development would still occur within settlement boundaries, which may contribute to local community infrastructure, however there would be no large scale residential allocations which will include opportunities for improved community infrastructure on a larger scale.
5(d) Increase access to decent and affordable housing	Without a plan development would still occur within settlement boundaries, however the levels of affordable housing would not reflect the levels required by the new plan and larger sites are traditionally more viable, meaning the overall quantum would be significantly reduced.
5(e) Reduce crime rates and fear of crime	Without a plan development would still occur which may or may not impact on crime and fear of crime. Large-scale development may present greater opportunities to reduce crime through design as apposed to unplanned ad-hoc locations.
5(f) Improve conditions and services that engender good health and reduce	Unplanned development may not help promote healthy lifestyles as it wouldn't necessarily be located to deliver



health inequalities	<p>solutions in the right location, especially cumulatively and in combination with other developments. The ad hoc nature of development mean private cars would be the main mode of transport.</p> <p>New development provides potential for additional greenspaces and facilities, without the plan spaces within urban areas will come under increasing pressure for development.</p> <p>That said, without a plan the level of housing would not be as high and so there wouldn't be as many additional cars and noise pollution.</p>
5(g) Increase participation in education and life-long learning	Without a plan development could still contribute to education facilities, however large-scale development provides the opportunity for large scale, new facilities as well as an increase in employment land.
5(h) Maintain and improve culture, leisure and recreational activities that are available to all	New large scale development provides potential for additional greenspaces and facilities. Without the plan spaces within urban areas will come under increasing pressure for development. The existing facilities may also be overcrowded.
6(a) Use natural resources efficiently; reuse, use recycled where possible	<p>Development would not minimise the demand for raw materials or minimise wastage caused by construction methods as development would be uncoordinated.</p> <p>National standards would ensure water consumption to levels is supportable by natural process and storage systems.</p>
6(b) Reduce waste	Whilst national policies would apply there is no guarantee that development would reduce, reuse or recycle waste generated.
7 Promote sustainable urban living	<p>Without a plan redevelopment of town centre sites for mixed use could still occur depending on market share and increased population.</p> <p>Without large scale development identified in the plan, which includes additional retail floorspace in the form of strategic sites, the vitality and trade draw of the district's town centres may also increase, however, it may not provide facilities in the locations that people want them and may mean an increase in out of town retail applications if sites in the town centre aren't deliverable.</p>

## 2.6 The sustainability appraisal framework

As outlined earlier, Sustainability Appraisal is an objectives-led process. Task A4 of the appraisal process involves developing the SA framework, consisting of the sustainability objectives<sup>29</sup>.

The Practical Guide suggests that planning authorities may also choose to include more detailed sub-objectives in their SA Framework. Sub-objectives can help to ensure that all the key issues to be considered in the SA are incorporated in the SA Framework. An example of a sub-objective for resource efficiency could be to reduce water use.

<sup>29</sup> We have chosen not to link the framework itself to targets and indicators, however the Baseline Review includes indicators and any targets related to each of the Sustainability Objectives.

It should be noted that the SA objectives are distinct from the Plan objectives though they may in some cases overlap with them.

The SA objectives were drawn up using the themes from the review of other Policies, Plans and Programmes, and drawing on the baseline review, and specifically the key sustainability issues listed above. It was refined in consultation with council officers<sup>30</sup> and in response to consultation comments received. Consultation comments received on the appraisal framework are included in Appendix 12, which outlines the changes made as a result. All topics required by the SEA Regulations have been addressed by the objectives, and none have been scoped out.

The framework was reviewed again in December 2012 and in August 2016. These reviews took account of the review of plans, programmes and policies (particularly the introduction of the NPPF), and of key sustainability issues. In each review it was not considered that any changes were needed to the framework, as it meets the requirements of the NPPF and the other new plans, programmes and policies and addresses new sustainability issues identified.

This framework was used for the **appraisal of objectives, alternatives and policies** and is shown in the table below. The objectives which address the issues which are required to be covered by the SEA Regulations<sup>31</sup> are shown underlined. It should be noted that the appraisal method used did not involve using baseline and monitoring indicators as part of the assessment.

**Table 19: Appraisal framework**

<b>SA Objective<sup>32</sup></b>	<b>SA Sub Objective: <i>will the policy or proposal help to...</i></b>
<b>ECONOMIC ACTIVITY</b>	
1 Achieve sustainable levels of prosperity and economic growth	<ul style="list-style-type: none"> <li>• maintain a diversified economy, with increased resilience to external shocks?</li> <li>• encourage new business to start-up and thrive in the District?</li> <li>• support and encourage the rural economy and diversification?</li> <li>• support and promote sustainable tourism in towns and rural areas?</li> <li>• improve the quality of local jobs available to people in the District?</li> <li>• increase the skills base?</li> <li>• make the cost of housing more affordable to those employed in the District?</li> </ul>
<b>LAND USE AND DEVELOPMENT PATTERNS</b>	
<u>2(a) Minimise the development of greenfield land and other land with high environmental and amenity value?</u>	<ul style="list-style-type: none"> <li>• promote the use of brownfield sites and if brownfield sites are not available, land of low environmental and amenity value?</li> <li>• maximise reuse of vacant buildings and derelict land?</li> <li>• minimise the loss of the best and most versatile agricultural land?</li> <li>• reduce quantity of unremediated contaminated land?</li> </ul>
<u>2(b) Provide access to green spaces</u>	<ul style="list-style-type: none"> <li>• provide/improve access for all residents of the District to green spaces?</li> <li>• provide opportunities for people to come into contact with and appreciate wildlife and wild places?</li> <li>• maintain/improve the public right of way network?</li> </ul>
<u>2 (c) Deliver more</u>	<ul style="list-style-type: none"> <li>• locate development so as to reduce the need to travel?</li> </ul>

<sup>30</sup> Officer Steering Group at a meeting on May 18th 2005

<sup>31</sup> Listed in Schedule 2

<sup>32</sup> Those relevant to the SEA Regulations are shown underlined

<b>SA Objective<sup>32</sup></b>	<b>SA Sub Objective:</b> <i>will the policy or proposal help to...</i>
<u>sustainable location patterns and reduce the use of motor vehicles</u>	<ul style="list-style-type: none"> <li>• reduce car reliance, encourage walking, cycle, bus, and train use?</li> <li>• reduce road freight movements?</li> <li>• avoid exacerbating local traffic congestion?</li> <li>• provide affordable, accessible public transport in towns and in rural areas?</li> </ul>
<b>ENVIRONMENTAL PROTECTION</b>	
<u>3(a) Protect and enhance biodiversity</u>	<ul style="list-style-type: none"> <li>• protect habitats and species, especially those designated as being of importance, and provide opportunities for creation of new habitats?</li> <li>• support and maintain extent of wetland habitat and river habitats?</li> </ul>
<u>3(b) Protect and enhance landscapes</u>	<ul style="list-style-type: none"> <li>• protect and enhance landscapes, especially those of historic, recreational or amenity value, and within the Chilterns AONB?</li> </ul>
<u>3(c) Conserve and where appropriate, enhance the historic environment</u>	<ul style="list-style-type: none"> <li>• conserve and enhance the historic built character of the District's town's and villages?</li> <li>• protect sites of archaeological and historic importance, whether designated or not?</li> </ul>
<u>3(d) Reduce pollution from any source</u>	<ul style="list-style-type: none"> <li>• improve the water quality of rivers and groundwater supplies?</li> <li>• achieve good air quality?</li> <li>• reduce ambient noise, especially from traffic?</li> <li>• reduce light pollution in the District?</li> <li>• protect soil quality?</li> </ul>
<b>CLIMATE CHANGE</b>	
<u>4(a) Reduce greenhouse gas emissions</u>	<ul style="list-style-type: none"> <li>• minimise energy consumption by transport and in buildings?</li> <li>• increase proportion of energy generated by renewable sources?</li> <li>• encourage use of local suppliers and the consumption of local produce?</li> </ul>
<u>4(b) Improve the District's ability to adapt to climate change</u>	<ul style="list-style-type: none"> <li>• reduce vulnerability to climate change, exploit any benefits?</li> <li>• avoid development in areas at risk from flooding?</li> </ul>
<b>A JUST SOCIETY</b>	
<u>5(a) Share benefits of prosperity fairly</u>	<ul style="list-style-type: none"> <li>• reduce disparities in income levels?</li> <li>• contribute to regeneration of deprived areas (estates in Letchworth and Hitchin)?</li> <li>• provide employment and other opportunities for unemployed, especially long term unemployed and the disabled?</li> <li>• encourage entrepreneurial activity in deprived areas?</li> </ul>
<u>5(b) Provide access to services and facilities for all</u>	<ul style="list-style-type: none"> <li>• provide access to services and facilities without need to use a car?</li> <li>• retain rural services, especially shops, post offices, schools, health centres and bus services?</li> <li>• recognise the needs of specific groups such as minority ethnic groups, the young, the elderly and the disabled?</li> </ul>
<u>5(c) Promote community cohesion</u>	<ul style="list-style-type: none"> <li>• support development of voluntary sector?</li> <li>• encourage development of community run business?</li> <li>• encourage people's feelings of belonging, for example by providing community meeting places?</li> <li>• recognise and value cultural and ethnic diversity?</li> </ul>

<b>SA Objective<sup>32</sup></b>	<b>SA Sub Objective: <i>will the policy or proposal help to...</i></b>
5(d) Increase access to decent and affordable housing	<ul style="list-style-type: none"> <li>• help improve the quality of the housing stock and reduce the number of unfit homes?</li> <li>• increase access to affordable housing, particularly for the young, the disabled and key workers?</li> </ul>
5(e) Reduce crime rates and fear of crime	<ul style="list-style-type: none"> <li>• encourage crime reduction, particularly through the appropriate design of new development?</li> <li>• help reduce the fear of crime?</li> </ul>
<u>5(f) Improve conditions and services that engender good health and reduce health inequalities</u>	<ul style="list-style-type: none"> <li>• help promote healthy lifestyles?</li> <li>• improve access to health services by means other than private cars?</li> <li>• reduce ambient noise near residential and amenity areas?</li> <li>• reduce road accidents?</li> <li>• reduce accidents and damage from fires?</li> </ul>
5(g) Increase participation in education and life-long learning	<ul style="list-style-type: none"> <li>• improve access to skills learning by young people?</li> <li>• improve access to skills learning by adults?</li> </ul>
5(h) Maintain and improve culture, leisure and recreational activities that are available to all	<ul style="list-style-type: none"> <li>• increase access to culture, leisure and recreational activities?</li> </ul>
<b>RESOURCE USE AND WASTE</b>	
<u>6(a) Use natural resources efficiently; reuse, use recycled where possible</u>	<ul style="list-style-type: none"> <li>• minimise the demand for raw materials?</li> <li>• encourage sustainable design, use of sustainable building materials and minimise wastage caused by construction methods?</li> <li>• limit water consumption to levels supportable by natural process and storage systems?</li> <li>• protect groundwater resources?</li> <li>• promote sustainable drainage systems?</li> <li>• reduce minerals extracted and imported?</li> </ul>
<u>6(b) Reduce waste</u>	<ul style="list-style-type: none"> <li>• reduce, reuse or recycle waste generated?</li> </ul>
<b>TOWN CENTRES</b>	
7 Promote sustainable urban living	<ul style="list-style-type: none"> <li>• encourage wider range of shops and services in town centres?</li> <li>• encourage more people to live in town centres?</li> <li>• encourage mixed use developments in town centres?</li> <li>• improve transport connections in, and to, town centres?</li> <li>• encourage synergy in land uses, which supports the continued and enhanced viability of a wide range of shops and services?</li> <li>• protect or improve the quality of the public realm in towns?</li> </ul>

A modified version of this framework was used for the appraisal of sites. This modified framework includes specific sub-questions related to site allocations and excludes issues which are addressed in the Local Plan and cannot be influenced by site allocations. It was also modified in response to consultation comments on the Land Allocations SA/SEA Scoping Report (September 2007). These comments and the changes made as a result can also be viewed in Appendix 12. The modified framework is shown in Appendix 5.

# 3 Testing the Plan objectives

## 3.1 Results of testing process

Task B1 requires that the Plan objectives be tested against the Sustainability Appraisal objectives. The Local Plan includes a set of objectives which are quoted in section 1.3 above. A previous iteration of the objectives was tested against the appraisal framework. The conclusions are shown in the table below. The wording of the strategic objectives has been amended by the Council to take account of the recommendations. The detailed testing matrix is contained in appendix 3.

**Table 20: Conclusions of appraisal of objectives**

<p><b>Conclusions</b></p> <ol style="list-style-type: none"> <li>1. Almost all the Local Plan objectives are positively compatible or neutral when tested against the sustainability appraisal objectives.</li> <li>2. There is a tension evidenced in the points of conflict between promoting town centres and brown field development and associated impacts in settlements, such a health impacts on existing residents and built heritage setting impacts. There is also a tension in the points of conflicted noted between supporting town centre and brownfield development and supporting rural development, which often has a greenfield impact. These tensions are expected, standard mitigation is available to address many of the impacts, and will be considered in more detail at the project stage.</li> <li>3. Employment land and housing are proposed, which can have a greenfield impact, but these are proposed to be located in the most sustainable locations which seek to maintain existing settlement patterns and protecting the areas of highest amenity value. There may be some greenfield development, and arising impacts to biodiversity and landscape, but these should be limited and there is standard mitigation to address these issues at the project level.</li> <li>4. Environmental Objective 1 seeks to protect areas of highest environmental value but not enhance them. It is thus in conflict with SA objects 3a, and 3d which seek to protect and <u>enhance</u> areas of high environmental value.</li> <li>5. Economic Objective 3 has the potential to provide a benefit in sharing the benefits of prosperity, but there may need to be targeted intervention to ensure benefits go to deprived areas, unemployed or other specific groups who could benefit. This could align with SA objective 5g, which currently has limited positive compatibility with the plan objectives.</li> <li>6. There may be the possibility of enhancing some benefits cumulatively. For example:            Environmental Objective 2 which addresses climate change could be modified to maximise benefits to disadvantaged groups. The economic benefits from sustainable construction techniques and renewable energy technology could be focused on those with a skills disadvantaged, such as through the provision of training courses, local skills contracts and apprenticeship programmes.            Environmental Objective 4 in protecting local character and promoting good design could be used to create positive impacts in social justice (SA obj 6-h) and reduction to waste (6a-b) if could improve local skills through training and apprenticeships in local build trades/traditional crafts and reuse of materials.            Environmental Objective 2 could help to meet SA objective 6b if commitment to reusing and recycling waste was included. (i.e., recycled building materials, waste to energy proposals).</li> </ol>
<p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>• Add “enhance” to Environmental Objective 1.</li> <li>• Modify Economic Objective 3, to include commitment to “promote opportunities for this greater mix of skilled jobs to those in deprived areas, unemployed, at a skills disadvantage or other specific groups who could benefit.”</li> <li>• Consider other opportunities to enhance cumulative benefits, such as include reference to reusing and recycling waste in Environmental Objective 2.</li> </ul>

# 4 Options development and appraisal

## 4.1 Introduction

A key part of the process of producing the Local Plan has been to identify policy options for how the District should develop, and in particular where development should happen, and how much development there should be. Options development (known as alternatives in the language of the SEA Regulations), but referred to as options in this report to reflect common practice in planning in the UK) is also an important part of the SA/SEA process.

Options for housing numbers have been considered throughout the Local Plan development process. In order to reflect changing circumstances and support the decision-making process, a new set of options for housing numbers was identified and appraised in 2016. The purpose of this was to assess the likely significant effect of the amount of housing proposed and understand the impacts of potential reasonable alternatives. The results are summarised in 4.2 below and full matrices for each option can be found in Appendix 4.

Strategic and policy options were initially outlined, appraised and consulted on in 2005.<sup>33</sup> These covered a range of issues including options for the location of new housing. These options were then reconsidered by the Council at a number of stages in the Local Plan development process. The Council's preferred options for each of the policy areas, and the reason for choosing them are outlined in the sections starting from 4.3 below.

Options were assessed for seven topics: 1. Natural and Built Environment, 2. Rural Areas and Settlement Pattern, 3. Housing, 4. Employment and Tourism, 5. Town Centres, 6. Transport, 7. Leisure and Community Facilities. Housing is discussed first, followed by the other six topics. The appraisal matrices and summaries for these options are included as Appendix 3 to this report. Site options are addressed in Section 5 below.

## 4.2 Options for housing numbers

An appraisal of housing options was undertaken in 2016 to assess the likely significant effect of the amount of housing proposed. Three options have been considered for provision of additional housing over the Local Plan period:

- d. 17,000 houses (the total provision included for consideration in the Draft Local Plan)
- e. 11,000 houses (an intermediate figure between a and c)
- f. 6,500 houses (this is the "business as usual option, which assumes there is no Local Plan produced, and excludes the use of Green Belt sites).

The numbers for each option include 2,500 new houses which have already been completed, or have planning permission.

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<sup>33</sup> See <http://www.north-herts.gov.uk/planning/planning-policy/local-plan-emerging-policy/core-strategy/core-strategy-sustainability>

The Council has chosen option a), as this is the only option which meets the objectively assessed need for North Hertfordshire and contributes to the unmet need for Luton. The table below summarises the difference between the three options against each of the appraisal objectives. Full matrices for each option can be found in Appendix 4.

**Table 21: Summary of appraisal of housing numbers options**

Sustainability objective	Summary assessment of each option (long term effect)			How the three options perform against these criteria
	a)	b)	c)	
1 Achieve sustainable levels of prosperity and economic growth	√	√	0	In the medium and long term, options a) and b) are likely to provide significant support to existing rural businesses, whilst option c) will not as it would not be of sufficient scale. The additional housing provision from these options may also have a significant positive effect in the long term on affordability of housing in the District. Option c) is not likely to have a significant effect.
2(a) Minimise the development of greenfield land and other land with high environmental and amenity value?	X	X	X	The vast majority of the development in all three options would be located on greenfield sites, much of which is grade 2 or 3 agricultural land. Much is also of amenity value in the sense of providing accessible open countryside on the edges of settlements. Therefore all three options would have a significant negative effect, though of course the effect is worse for option a).
2(b) Provide access to green spaces	√?	√?	0	The development of the large edge of town sites in option a) and to a lesser degree option b) could make a contribution to improving footpaths and green infrastructure in the medium to long term. However, some of the sites in option a) would increase distance to accessible open countryside for existing residents.
2 (c) Deliver more sustainable location patterns and reduce the use of motor vehicles	X	X	X	The available sites tend to be located in edge-of-settlement locations so all three options are likely to have a significant negative effect on this objective. While the strategic sites included in option a) and to a lesser degree in option b) are likely to be able to provide for additional public transport options as well as footpaths and cycleways, most of the large sites are not within walking distance of stations, and are likely to result in increased car reliance. New development could also exacerbate local traffic congestion.

Sustainability objective	Summary assessment of each option (long term effect)			How the three options perform against these criteria
	a)	b)	c)	
3(a) Protect and enhance biodiversity	?	?	?	All three options involve development of greenfield sites, and this is likely to have a negative effect on biodiversity, although the overall effect is uncertain due to the potential to mitigate and compensate for the impacts and the opportunity to enhance biodiversity in some cases. The worse potential effects will occur from option a) though it may be possible to mitigate and compensate for some of the impact in the medium to long term. The Habitats Regulation Assessment screening report produced in February 2013 concluded that in combination, there is not likely to be any significant combined impact on European sites from any plans or projects developed for the District, which would include any of these options.
3(b) Protect and enhance landscapes	X?	X?	X?	The development of greenfield sites in all three options is likely to have a negative effect, although the level of this will be determined by extent to which impacts can be mitigated through layout, design and landscaping and planting strategies.
3(c) Conserve and where appropriate, enhance the historic environment	?	?	?	Sites included in all three options are likely to contain designated areas of archaeological significance, and impact on the setting of heritage assets. The number of sites where this is the case would be greatest for option a). The overall effect is uncertain for all three options, as it will depend on the effectiveness of mitigation measures.
3(d) Reduce pollution from any source	X	X	?	The initial construction phase for developments is likely to be disruptive for local residents and have significant negative noise and dust impacts in the short term for all three options. Development on this scale would inevitably result in increased light, air and noise pollution, which in combination is likely to be significant for options a) and b) but uncertain for option c). Appropriate sewerage infrastructure will need to be provided to support new development and protect watercourses and groundwater for option a) and to a lesser degree option b). Option c) does not involve development in Stevenage, where the sewerage infrastructure constraints are most significant. A small number of sites included in option a) are in SPZ1 with more in SPZ2 and further work would be needed to ensure adequate protection of watercourses
4(a) Reduce greenhouse gas emissions and	X	X	X	All three options are likely to result in significant increases in carbon emissions, as will the additional car travel discussed in 2(c). However, option a) may provide some limited opportunity for site-wide renewable and low carbon energy.
4(b) Improve the District's ability to adapt to climate change	?	?	?	The effect of all three options is uncertain. Option a), and to a lesser degree option b) would provide a significant level of additional green infrastructure



Sustainability objective	Summary assessment of each option (long term effect)			How the three options perform against these criteria
	a)	b)	c)	
				which would contribute to mitigating the effects of rising temperatures. A number of sites in all options (but most in option a) have been identified as being at risk of surface water flooding.
5(a) Share benefits of prosperity fairly	?	?	?	The effect of all three options is uncertain. Provision of affordable housing may provide some economic support to those living in deprived areas of Letchworth, Hitchin and Luton. This greatest positive effect would come from option a) but is unlikely to be significant when other factors are taken into account.
5(b) Provide access to services and facilities for all	?	?	?	Option a) and to a lesser degree option b) are likely to be able to provide services within the developments. For all three options, many services and facilities would still require access by car. Therefore the overall effect for all three options is uncertain.
5(c) Promote community cohesion	?	?	0	Option a) and to a lesser degree option b) are likely to provide a range of community facilities, including community centres. However, option a) and to a lesser degree option b) would have significant effects on existing communities, which could include impacts on views and local distinctiveness, increased traffic, and reduced access to open countryside. These impacts could affect community cohesion. The overall effect for options a) and b) is uncertain. There is not likely to be a significant effect from option c)
5(d) Increase access to decent and affordable housing	√	√	√	All options would provide affordable housing, and therefore have a positive effect. However option a) is the only one which would meet the objectively assessed need for North Hertfordshire and contribute to the unmet need for Luton.
5(e) Reduce crime rates and fear of crime	?	?	?	The effect on this objective from all three options will depend on the design of new development.
<u>5(f) Improve conditions and services that engender good health and reduce health inequalities</u>	?	?	?	As discussed under 3(d), option a) will inevitably result in increased air and noise pollution, particularly from the strategic sites, while the effects from options b and c) are uncertain. Option a) also contains some sites which are adjacent to main roads and or railway lines, and within or close to Luton airport noise contours. The noise and vibration is a significant health issue that would require mitigation.  On the other hand, option a) and to a lesser degree option b) is also likely to include provision for health services.  For all options the initial construction phase for developments is likely to be disruptive for local residents and have significant negative noise and dust impacts in the short term.  For all three options the overall effect in the medium to long term is uncertain.
5(g) Increase participation in education	√?	?	?	There would need to be increased secondary and primary provision for all three options and specific

Sustainability objective	Summary assessment of each option (long term effect)			How the three options perform against these criteria
	a)	b)	c)	
and life-long learning				capacity issues have been identified for Baldock and Hitchin and some of the villages. However, option a) and to a lesser degree option b) are likely to contribute towards additional provision. Village developments in all options are likely to support the retention of village schools. The overall effect of all three options on this objective is uncertain, as it depends on delivery, though it is likely to be positive in the long term for option a).
5(h) Maintain and improve culture, leisure and recreational activities that are available to all	?	?	?	The overall effect of all three options is uncertain. New development will be required to provide green space and option a) and to a lesser degree option b) will also provide recreational facilities. However, it is unclear if this will improve access for existing residents, since some existing accessible open countryside will be lost.
6(a) Use natural resources efficiently; reuse, use recycled where possible	X	X	X	For all three options the new housing development will increase pressure on the sewerage and water supply infrastructure, and is likely to have a significant negative effect on this objective.
6(b) Reduce waste	0	0	0	Waste generation will depend on how site development is managed, but there is not likely to be a significant effect of any of the options.
7 Promote sustainable urban living	?	?	?	The overall effect of all three options is uncertain. Some edge of town sites are included in option a) and to a lesser degree option b) may contribute to the viability of services in the towns. However for all options the residents of village sites and those with poorer accessibility may be more likely to use out of town supermarkets or facilities in other centres.

## 4.3 Housing options

### 4.3.1 Housing location

The following options for housing delivery were identified:

- f. Continue current policy of focusing development on the four towns and fourteen villages, which may include limited development of greenfield sites;
- g. Focus development on previously developed land (PDL) within existing urban areas;
- h. Urban extensions on greenfield land adjoining existing towns;
- i. Build a new settlement; and
- j. Use smaller greenfield sites in the villages.

In summary the Council has chosen a combination of options a), b) and c) and e) as part of the solution to providing additional housing to meet the District's need. The development is spread across the district combining a number of the spatial options. Sites have been assessed against planning issues and those performing well in terms of constraints as well as being located closer to services and facilities have been chosen. The quantum of development is such that all options have been considered where deliverable sites are identified. There is also more development in the villages based on the amount of sites that have been submitted in these locations and the site's suitability based on the services that exist.

The option to build a new settlement has not been pursued. This is because no options for new settlements have been put to the Council and with the amount of deliverable land submitted as part the local plan process by developers and landowners, compulsory purchase would not be considered in the public interest.

### 4.3.2 Other housing options considered

A number of other policy options were considered for housing, and the preferred option and the reasons for choosing it are outlined in the table below. The full details of options and their appraisal are contained in Appendix 3.

**Table 22: Housing policy options**

Issue around which Options were Developed	Proposed Submission Policy Option	Council's Reasons for Selecting
3.2* Provision of affordable housing	<p>The following options form part of Policy HS2:</p> <ul style="list-style-type: none"> <li>• Increase the amount of affordable housing on larger sites to a higher percentage.</li> <li>• Lower the threshold to include smaller sites.</li> </ul> <p>The Council has previously issued supplementary guidance which provides further information on the provision of affordable homes in the District<sup>34</sup>. This will be updated and / or replaced over the lifetime of the plan.</p>	<p>The issue of affordable housing is well recognised across the country as a whole and the Government encourages local planning authorities to set out policies on affordable housing, based on assessments of local housing needs. The policy is based on what's viable, but recognises that larger sites have the potential to deliver a higher figure.</p> <p>The requirement starts at 10 houses reflecting current Government guidance in the PPG.</p>
3.3 How to obtain additional funding for affordable housing	This matter was not addressed in the Proposed Submission Plan and will be dealt in the Supplementary Planning Document on Affordable Housing.	-
3.4 Affordable housing in rural areas	Option to continue to encourage rural exception sites, in or adjacent to villages, where appropriate in environmental terms and where there is a proven local need has been pursued as policy CGB2.	Policy provides opportunity to deliver affordable housing in the rural area where issues of affordability are particularly acute. Applications would need to be supported by specific evidence of need commissioned, or otherwise

<sup>34</sup> Planning Obligations Supplementary Planning Document (SPD) (North Hertfordshire District Council, 2006)

Issue around which Options were Developed	Proposed Submission Policy Option	Council's Reasons for Selecting
		endorsed by, the relevant Parish Council.
3.5 Ensuring a range of housing types and styles	Option to include a policy which ensures that a mix of sizes and types of property is built on all sites over a certain size has been pursued as Policy HS3.	Policy applies to all residential allocations and requires a mix of housing that meets the requirements of different groups within the community.
3.6 Accommodation for Gypsy and Traveller families	Only the option to expand the existing site has been reflected within the Proposed Submission document. The Council has included a policy HS7 on sites for Gypsies and Travelling Showpeople. This is a criteria based policy to be used to assess any application for a site should it come forward. The Strategic housing policy (SP8) includes an allocation for seven pitches up to 2031.	The Plan includes an allocation adjoining the existing Gypsy and Traveller site as national guidance requires the council to meet our own need. Meeting need where it arises is the most sustainable option.
3.7 Contributions to local facilities	The option to include a policy requiring contributions from all new housing developments is reflect in the Proposed Submission document within restrictions of national government and the pooling restrictions. Strategic Policies SP14-SP19 set out the infrastructure requirements and mitigation measures for strategic sites. The communities chapter of the plan provides the same detail for the non-strategic sites. The IDP sets out the infrastructure requirements for the District which is translated into the infrastructure chapter of the Local Plan.	Approach to infrastructure is transparent and identifies what is required over the plan period.

\*Numbering of options is as per initial options assessments as outlined in Appendix 3.

## 4.4 Other strategic and policy options

### 4.4.1 Natural and Built Environment options considered

A number of policy options were considered for the natural and built environment, and the preferred option and the reasons for choosing it are outlined in the table below. The full details of options and their appraisal are contained in Appendix 3.

Table 23: Natural and built environment policy options

Issue around which Options were Developed	Proposed Submission Policy Option	Council's Reasons for Selecting
1.1* Protecting landscapes	The option to include policies protecting landscapes based on their amenity and recreational value and national designations (such as AONB) is reflected in NE1.	NPPF (para 109) requires the protection and enhancement of valued landscapes. The emphasis of the policy is to ensure that the design of a development proposal is sensitive to the local context to ensure that the scheme makes a positive contribution to the landscape.
1.2 Protecting biodiversity	The option to include a policy requiring all new developments to protect or enhance biodiversity <i>and</i> encouraging additional wildlife features, such as green corridors linking open spaces within urban areas to each other and the countryside is reflected in the Plan. The protection and enhancement of existing sites together with a clause which will encourage developers to contribute to the biodiversity of the district as part of the development scheme is set out in Policies NE5 and NE6. NE5 Biodiversity and open space encourages a net gain for biodiversity.	Policies provide protection to sites in line with NPPF, but provide opportunity for appropriate mitigation as last resort, the policy identifies a net gain for biodiversity
1.3 Minimising pollution	<p>The following options are reflected in the Plan:</p> <ul style="list-style-type: none"> <li>• To aim to protect watercourses and groundwater sources from pollution is reflected in the Plan.</li> <li>• Encourage alternative forms of drainage such as soakaways and filter strips which increase infiltration and natural recharge of groundwater resources</li> <li>• Prohibit development in natural floodplains and in locations where development would increase flood risk in areas downstream because of additional surface run-off, unless appropriate attenuation measures are put in place</li> </ul> <p>Policies SP11, NE10 and NE11 aim to protect watercourses and groundwater sources from pollution, including taking into account the impact of new housing developments.</p> <p>Policy NE8 encourages sustainable drainage solutions.</p> <p>Policy NE8 prohibits development in floodplains and areas of surface</p>	<p>The Water Framework Directive requires improvement to watercourses.</p> <p>Policies take account of the Flood and Management Act, NPPF and the NPPF and PPG.</p>

Issue around which Options were Developed	Proposed Submission Policy Option	Council's Reasons for Selecting
	water flood risk.	
1.4 Energy generation	The original options have been modified to take account of the Hertfordshire Renewable Energy Study, and recent ministerial statements on renewable energy. Policy NE12 seeks to guide renewable energy and energy efficiency to appropriate locations across the district.	Policy is positive in trying to deliver renewable energy schemes where acceptable – The National Planning Policy Framework says that Local Plans should maximise renewable and low carbon energy development while ensuring that adverse impacts are addressed satisfactorily.
1.5 Waste Management	The option to encourage the use of renewable resources and the re-use of building materials in new developments is reflected in the Plan. Policy D1 ensures that development uses sustainable design and sustainable materials.	Using innovative design to reduce energy consumption and waste from the construction and use of buildings can optimise the potential of the site and have a positive influence on the environment.
1.6 Local character	The Plan reflects the options to include a general policy requiring development to preserve or enhance local character and open space pattern. Policy D1 in relation to design includes a criterion on responding positively to the site's local context.	Development must respond positively to the site and the local context taking into consideration position, orientation, scale, height, layout, massing, detailing and use of materials.
1.7 Density of development	The Plan reflects the option of not including a specific policy on density. However there is guidance in Policy D1, HS3 and the Design SPD.	Given the design-led approach to development set out through this plan, district-wide density standards have not been prescribed. Development on the periphery of settlements should generally be at a lower density to mark the transition to the rural area beyond. In town centres and close to the railway stations higher densities will be considered appropriate in principle but will require particular care in the design with respect to avoiding the sense of overcrowding or congestion.
1.8 Historic environment	<p>The Plan reflects the following options:</p> <ul style="list-style-type: none"> <li>• Ensure that developers carry out investigation and evaluation of archaeological sites if it is established there is a potential interest</li> <li>• Make sure that development does not adversely affect or lead to the loss of important areas and features of the historic landscape.</li> <li>• Ensure that developments related to Listed Buildings are not detrimental to their setting</li> </ul>	The Council recognises the significance of designated heritage assets within the District and the contribution they make to defining local character, providing a sense of place and achieving sustainable development. Their conservation and preservation is an important consideration within the planning process and is recognised within specific legislation.

Issue around which Options were Developed	Proposed Submission Policy Option	Council's Reasons for Selecting
	<p>and that materials are sympathetic to those used in the original dwelling</p> <ul style="list-style-type: none"> <li>• Make sure that any development proposals respect or enhance the special character or appearance of Conservation Areas, especially in terms of scale, mass, height or materials.</li> </ul> <p>Strategic policy sets the context for historic environment in North Hertfordshire. There are specific development management policies relating to archaeology, conservation areas and listed buildings. Policies HE1-HE4 set specific requirements for local issues, providing appropriate protection of the historic environment.</p>	

\*Numbering of options is as per initial options assessments as outlined in Appendix 3.

#### 4.4.2 Rural areas and settlement pattern options considered

A number of policy options were considered for rural areas and the settlement pattern, and the preferred option and the reasons for choosing it are outlined in the table below. The full details of options and their appraisal are contained in Appendix 3.

**Table 24: Rural areas and settlement pattern policy options**

Issue around which Options were Developed	Proposed Submission Policy Option	Council's Reasons for Selecting
<p>2.1* How to identify which villages within the rural area might be able to accommodate development</p>	<p>The Plan reflects the option to identify villages which may take further development based on the level of facilities in the village. The Housing and Green Belt Background Paper and Policy SP2 defines a list of villages based on those which have schools and appropriate services. New development is fairly substantial in certain locations. Villages will have a boundary drawn around their existing built up areas within which additional infill development is acceptable.</p>	<p>The North Hertfordshire villages tend to be more expensive than the towns and are therefore finding it harder to retain young families, which is leading to a skewed age population.</p> <p>On the need to travel, modelling to show modal share arising from new development in these villages would give an incomplete answer. One justification for allowing additional development in these villages is in order to safeguard existing facilities. Using the schools as an example, villages without schools export all their children every day to other villages or towns for schooling. If the schools in any of these villages closed, there would be a significant increase in journeys to and from these villages. A small amount of additional development as infill or for local needs (which would</p>

Issue around which Options were Developed	Proposed Submission Policy Option	Council's Reasons for Selecting
		<p>by definition be for people who already live or work in the area) will therefore give a small increase in travel, but may prevent the even larger increase in travel that would arise if the schools closed.</p> <p>On social and economic aspects of sustainability, village schools act as a focus point for the villages and ensure that villages continue to attract and retain young families, which prevents them stagnating as dormitories for older families and retirees. Schools also provide local employment.</p>
<p>2.2 Whether to distinguish between levels of development appropriate at different villages</p>	<p>The Plan reflects the option to treat all identified villages the same, though this is modified by the preferred option to base development on the level of facilities in the village.</p> <p>Major development may be allowed in two of the villages (Knebworth and Codicote), however a number of additional Category A villages as described in SP2 are accommodating significant development over the plan period as well. There is no specific difference between the Category A villages in the settlement hierarchy, although clearly Knebworth and Codicote include a greater number of services and facilities and so have a greater ability to potentially accommodate growth.</p>	<p>The two villages where major development may be acceptable are those which have a good range of local shops and other facilities. The other 21 villages identified as Category A villages are those which have a school, but do not have the same level of facilities. All villages (regardless whether they are included on the list of 23) may also see some development for local needs - notably affordable housing - where there is a proven local need.</p>
<p>2.3 Development in the rural areas outside the villages</p>	<p>The Plan reflects the option to afford the green belt greater protection than the remainder of the rural area.</p> <p>There is no specific policy on Green Belt other than SP5, which sets out the strategy for the areas of Green Belt and the Rural area. In the Green Belt national policies in the NPPF will apply. Policy CGB1 controls the type of development allowed outside of Green Belt areas. A separate policy (NE3) applies in addition to SP12 within the Chilterns AONB.</p>	<p>Policy on the Green Belt reflects the NPPF. The Rural Area beyond the Green Belt covers the countryside to the east of the district that lies outside of the towns and Category A villages identified in Policy SP2 [settlement hierarchy]. These areas do not meet the necessary criteria to be designated as Green Belt, but it is still necessary to impose restraints on development to prevent inappropriate schemes.</p>
<p>2.4 Replacement buildings in the countryside</p>	<p>Policy CGB4 is based on the option to allow replacement buildings, providing the new building would not have a materially greater impact than the existing. CGB1, ETC8 allow for farm diversification</p>	<p>In line with the NPPF the policy seeks to support economic growth in rural areas and also avoid the provision of new, isolated homes in the countryside.</p>



Issue around which Options were Developed	Proposed Submission Policy Option	Council's Reasons for Selecting
	schemes. Policy D1 requires all new buildings to be in harmony with their surroundings, so it is inappropriate to stipulate that in every policy.	

\*Numbering of options is as per initial options assessments as outlined in Appendix 3.

#### 4.4.3 Employment and tourism options considered

A number of policy options were considered for rural areas and the settlement pattern, and the preferred option and the reasons for choosing it are outlined in the table below. The full details of options and their appraisal are contained in Appendix 3.

**Table 25: Rural areas and settlement pattern policy options**

Issue around which Options were Developed	Proposed Submission Policy Option	Council's Reasons for Selecting
4.1* Location of additional employment land	<p>The Plan reflects these options:</p> <ul style="list-style-type: none"> <li>• Completely new Employment Areas should be designated within or adjoining existing settlements</li> <li>• There should be extensions to existing Employment Areas, but only within existing settlements.</li> </ul> <p>Strategic Policy 3: Employment clarifies where sites are allocated.</p>	<p>A significant new employment site will be developed at the east of Baldock, supporting the proposed increase in residential development in the town (see Policy SP8). The allocation benefits from proximity to existing employment uses as well as existing and planned residential development. It has access to the strategic road network via the A505 Baldock Bypass. Economic activity is not contained by the District boundary and Within Hitchin and Letchworth Garden City, employment area designations from the previous local plan will be broadly retained, with some modest releases of sustainable, brownfield sites for residential development. Within Letchworth, the former power station site at Works Road has been brought back into use for employment purposes and is reflected in a new planning designation. The Royston economy is influenced by both Hertfordshire and Cambridgeshire economies. Consequently, the employment area has a low vacancy rate. The allocation of further land here as a planned extension to the York Way employment area is a sustainable approach that will enable flexibility in the long term, especially in conjunction with the additional residential growth allocated to this area.</p>
4.2 Loss of employment uses	<p>The Plan reflects the option to safeguard employment uses within the Employment Areas, unless studies demonstrate lack of need in</p>	<p>Land in employment uses will be protected where it is still appropriate for the use unless evidence suggests otherwise in line with NPPF.</p>

<b>Issue around which Options were Developed</b>	<b>Proposed Submission Policy Option</b>	<b>Council's Reasons for Selecting</b>
	the area Policies ETC1 and ETC2 set out policies protecting allocated and non-allocated sites in order to protect the supply of land currently used for employment uses. Additionally the overall quantum of employment land includes any active employment land that is to be lost as a result of employment allocations.	
4.3 Distribution of employment provision	The Plan reflects the option that any new employment provision should be allocated where there are available sites which are accessible by public transport and a market for the premises  Strategic Policy 3: Employment clarifies where sites will be located (see 4.1 above), largely in the locations where employment land currently exists but also in combination with new residential development	See 4.1 above.
4.4 Promotion of tourism	The Plan reflects the option to include a general policy covering a variety of tourist related proposals.  Policy ETC8 is a fairly general policy in relation to tourism, identifying locations where tourism development will be appropriate.	The Council supports proposals for new or extended tourist developments as a means to strengthen the local economy and increase visitors to the area in line with policies in the NPPF.

\*Numbering of options is as per initial options assessments as outlined in Appendix 3.

#### 4.4.4 Town Centre policy options considered

A number of policy options were considered for town centres, and the preferred option and the reason for choosing it for each is outlined in the table below. The full details of options and their appraisal is contained in Appendix 3.

**Table 26: Town centre environment policy options**

<b>Issue around which Options were Developed</b>	<b>Proposed Submission Policy Option</b>	<b>Council's Reasons for Selecting</b>
5.1* Shopping uses	The Plan reflects the option to define Primary and Secondary shopping areas, with greater restrictions on the loss of shops in the primary areas.  Policies ETC4 and ETC5 set the policy on Primary and Secondary Shopping Frontages . The primary shopping frontage part will list Hitchin, Letchworth Garden City and Royston as town centres where primary shopping frontage has been identified, while the secondary shopping frontage will list	The Council want to ensure that the town centres maintain their primary retail function whilst increasing their diversity with a range of complementary uses, promoting competitive, flexible town centre environments. The concept of shopping as a leisure activity supports the encouragement of uses which increases the vitality throughout the day, extending the range of services for local people throughout the day and into the evening.

<b>Issue around which Options were Developed</b>	<b>Proposed Submission Policy Option</b>	<b>Council's Reasons for Selecting</b>
	Hitchin, Letchworth Garden City, Royston, and Baldock as town centres where secondary shopping frontage has been identified.	
5.2 Other uses in town centres	The Plan reflects a modification of the option to include policies requiring large town centre developments to contain a mix of uses. Allocations for town centre uses are titled "mixed use allocations". The sites are allocated for mixed use to ensure flexibility. Policy ETC3 encourages a mix of town centre uses.	The policies and allocations will ensure that a mixture of uses are delivered within the town to meet need identified by the Town Centre and Retail study (2016).
5.3 How to promote the health and well being of the smaller centres	The Plan reflects both the options: <ul style="list-style-type: none"> <li>• Allow the loss of shops and services where it can be shown that there is no longer a demand for the unit.</li> <li>• Resist the loss of any shops or services to other uses.</li> </ul> The Council collects data on vacancies in the local centres, and will use this when monitoring its policies on local centres. Policy ETC4,5 and 6 seek to protect existing town centre uses.	In all local centres, the Council wants to retain local facilities and at the same time prevent changes to non-retail uses that would be more appropriate in larger centres or employment areas Attempting to stop any further losses of retail, under any circumstances, would have been difficult to sustain, and may harm the centre by leading to more vacant units.
5.4 Should all the smaller centres be treated the same?	The Plan reflects the option that all planning applications within the smaller centres should be assessed in the same way.  Local centres as identified in the Plan consist of village centres such as Codicote, Knebworth and Ashwell, and neighbourhood centres such as Walsworth (Hitchin), Jackmans (Letchworth Garden City) and Great Ashby. ETC6 sets the requirements which apply to all local centres.	In all local centres, the Council wants to retain local facilities and at the same time prevent changes from main town centre uses Additional protection is afforded to A1 retail uses.
5.5 Should we promote the 'evening economy' in the four main towns, and if so how?	The Plan reflects the option to let market forces determine the level and mix of 'evening' uses in the town centres. Whilst the Plan doesn't include a specific policy on this issue, flexibility is built into the frontage policies to enable this part of the economy to grow.	Encouraging a mix of uses increases footfall and makes the town centres more vibrant.

\*Numbering of options is as per initial options assessments as outlined in Appendix 3.

#### 4.4.5 Transport options considered

A number of policy options were considered for transport, and the preferred option and the reasons for choosing it are outlined in the table below. The full details of options and their appraisal are contained in Appendix 3.

**Table 27: Transport policy options**

<b>Issue around</b>	<b>Proposed Submission Policy</b>	<b>Council's Reasons for Selecting</b>
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<b>which Options were Developed</b>	<b>Option</b>	
6.1* Encouraging alternative modes and reducing car use	<p>The Plan reflects the following options:</p> <ul style="list-style-type: none"> <li>• Ensure that developers make adequate provision for non-car modes; public transport, cycling and walking.</li> <li>• Introduce car parking standards that are compatible with the location in line with maximum standards</li> <li>• Make sure large developments make provision for improved and integrated transport infrastructure</li> </ul> <p>Strategic Policy 6 promotes non-car modes hierarchy and individual policies on non-car modes secures provision of services/infrastructure in lasting manner. Mode hierarchy set out in Policy T1. Car-sharing potential will be explored via policy on Travel Plans.</p> <p>Adopted SPD on vehicle parking at new development introduces zonal based reduction in maximum parking standards, reflecting location and accessibility. This SPD will be carried forward in Policy T2.</p>	<p>Sustainable development, including sustainable transport, underpins national planning policy and the Council seeks to promote this in new development. However, paragraph 29 of the National Planning Policy Framework does state that “different policies and measures will be required in different communities and opportunities to maximise sustainable transport solutions will vary from urban to rural areas.”</p>
6.2 Park and ride	<p>The Plan reflects the option to not pursue park and ride schemes.</p>	<p>No specific policy recommendation for Park and Ride as previous considerations have concluded that there is no commercial case for Park and Ride. Policy on Passenger Transport does not rule provision of Park and Ride if the situation changes.</p>

\*Numbering of options is as per initial options assessments as outlined in Appendix 3.

#### 4.4.6 Leisure and community facilities policy options considered

A number of policy options were considered for leisure and community facilities, and the preferred option and the reasons for choosing it are outlined in the table below. The full details of options and their appraisal are contained in Appendix 3.

**Table 28: leisure and community facility policy options**

<b>Issue around which Options were Developed</b>	<b>Proposed Submission Policy Option</b>	<b>Council’s Reasons for Selecting</b>
7.1* How should we secure adequate provision of sports pitches and sports facilities in the District?	<p>The Plan reflects the option to seek contributions from developers to provide or improve sports facilities. Policy NE5 will ensure open space and sports facilities as art of developments.</p>	<p>To support growth over the plan period, relevant development proposals will be expected to contribute towards open space provision in the District.</p>
7.2 Should	<p>The Plan reflects the option to seek to</p>	<p>The nature of planned growth in the District</p>

<p>developers contribute more towards community facilities and services?</p>	<p>improve existing facilities <i>and</i> encourage the provision of new community facilities where new development takes place.</p> <p>Policy HC1 will combine the options to allow community facilities to be enhanced or improved whilst at the same time, in new developments, expecting developers to provide new facilities at an appropriate scale.</p>	<p>is such that new facilities and infrastructure will be required. In promoting the creation of healthy communities, the NPPF states that local authorities should identify specific needs, qualitative and quantitative deficits and any surpluses in open space provision, as well as any open space that is required. These requirements are set out in the detailed policies</p> <p>In development schemes, the Council will expect developers to make provision for new community, cultural, leisure and recreation facilities on or off-site at a scale which is proportionate to the scale of the development. Where on site provision is not appropriate, the Council will seek contributions towards community facilities in accordance with the Planning Obligations Supplementary Planning Document.</p>
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\*Numbering of options is as per initial options assessments as outlined in Appendix 3.

# 5 Site appraisals

## 5.1 Overview

All of the sites included in the Proposed Submission Local Plan have been appraised using the appraisal framework included in Appendix 5. This includes some sites which were appraised in earlier iterations of the sustainability appraisal.

Some sites are either new or have changed significantly since they were previously appraised. In these cases, new appraisals were conducted. Since almost all the site appraisals were produced over a period from 2008 to 2014, there was a need to review them to ensure the information provided was up-to-date, consistent and accurate. This review was undertaken in April-June 2016. The information review took account of a number of new or revised sets of information, including:

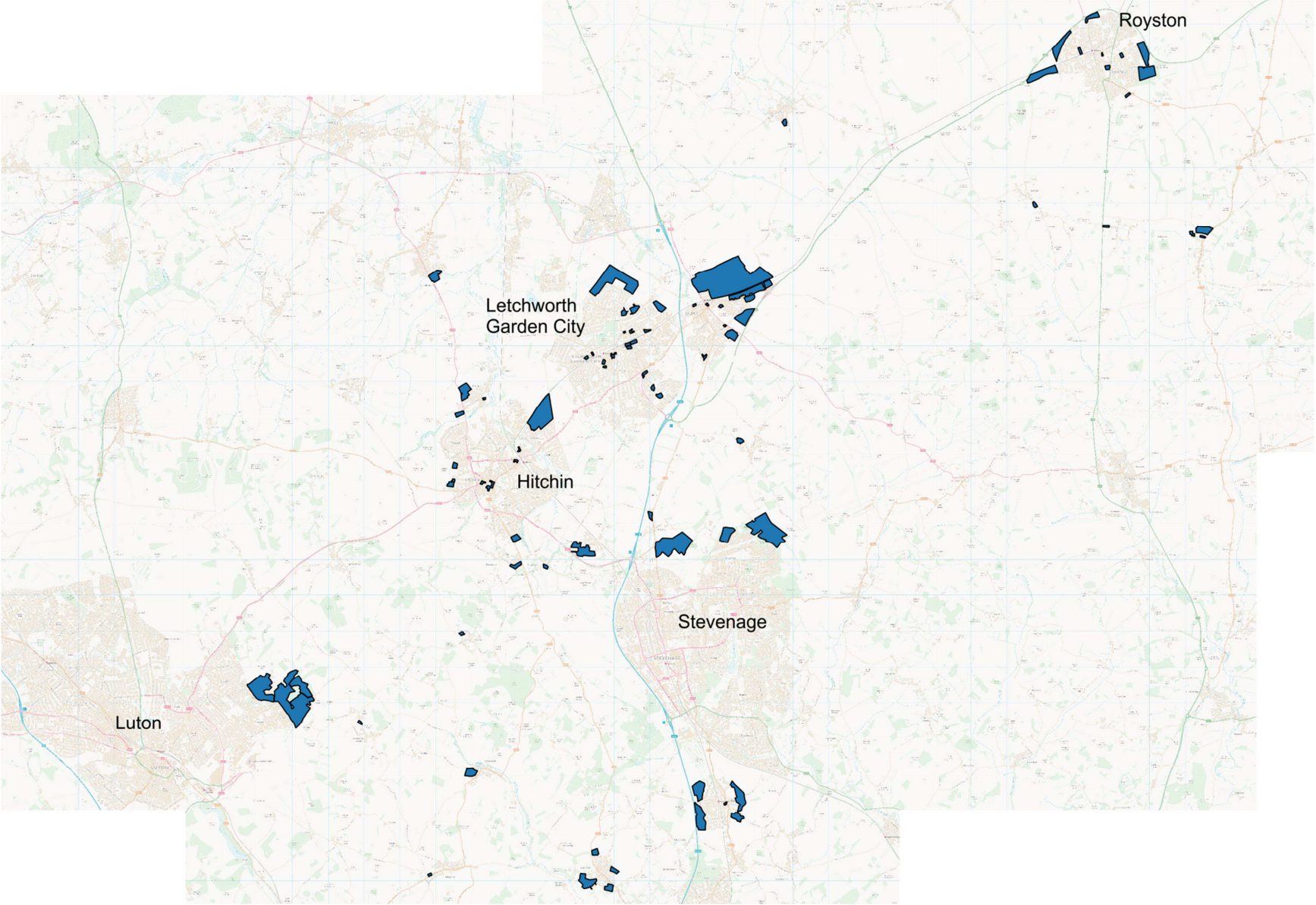
- surface water flooding data;
- flood risk data;
- bus routes and frequencies data; and
- consultation comments.

Significance criteria were utilised in order to aid the identification of significant positive and negative effects. For this iteration of the Plan, the opportunity was taken to update these significance criteria in order to achieve consistency across all sites. Where previous site appraisals have been utilised, these have been updated using the revised criteria. The revised significance criteria are included in Appendix 5.

Summaries of the site appraisals and detailed appraisal matrices are included in Appendix 6 for preferred sites, and Appendix 7 for non-preferred sites.

The map below shows the preferred sites.

Figure 5.1: Preferred sites in the Local Plan



## 5.2 Reasons for selecting sites

### 5.2.1 Housing sites

The SHLAA process helped identify sites which were deliverable. It considered sites which may be available for residential development over the period between 1 April 2011 and 31 March 2031. It assessed sites against three tests:

- Is the site suitable for development? This question is about the physical ability of the site to accommodate development and identification of (potential) policy constraints which might influence how desirable it is to develop it.
- Is the site available for development? This is about landowner intentions.
- Would development here be achievable? This question is about whether development would be financially viable or whether there might be any other reasons why it may not be delivered.

Sites which met all three tests in the SHLAA were then reviewed by the Council and a final decision made on which sites to include based on a number of key planning considerations. This information is reported in the evidence base and included in the Housing and Green Belt Background Paper. A summary showing the reasons for selecting each preferred site is included in Appendix 13 to this SA report.

### 5.2.2 Other sites

The process for selecting employment sites and retail sites largely took into account of the same considerations as those for residential. Again the information is reported in evidence base documents and concluded in the Employment and Retail Background Papers. A summary showing the reasons for selecting each preferred site is included in Appendix 13 to this SA report.

## 5.3 Mitigation of significant negative effects and uncertainties

Many of the significant negative effects and uncertainties identified in the site appraisals can be mitigated, and much of this mitigation is provided for in Plan policy. All of the significant negative effects and uncertainties were mapped against Plan policies in order to assess the extent to which they would be mitigated by those policies. The tables in appendices 8 and 9 show:

- all of the significant negative effects and uncertainties for the sites in the Plan;
- the policies in the Plan which address these effects and uncertainties;
- any suggested further mitigation measures necessary; and
- any remaining residual effects.



# 6 Appraisal of policies

## 6.1 Introduction

The policies contained in the Proposed Submission Local Plan are significantly different in terms of structure and content from the policies previously appraised in the Preferred Options version of the Plan in 2014. Fresh appraisal of the strategic and detailed policies has therefore been conducted, although the previous appraisals were drawn on where appropriate. The appraisal matrices for the strategic policies are included in appendices 10 and 11. These matrices address mitigation of the significant negative effects of individual policies.

Separate appraisal of the strategic policies relating to specific sites (policies SP14 to SP19) has not been conducted. Each of the sites concerned has already been appraised, as described in section three. This included consideration of the extent to which the Plan policies mitigate the negative effects and uncertainties identified. This process effectively acted as a review of the policies, since it highlighted ways in which the policies could be amended in order to better deliver against the sustainability appraisal framework objectives.

## 6.2 Summary of strategic policy appraisals

A summary of the findings from the appraisal of each of the policies is provided below. It should be noted that late draft versions of the policies were appraised. Although there have been minor changes to the wording of some of the policies since that point, no substantive changes have been made which will have a material impact on the appraisal findings.

**Table 29: Strategic policy appraisal findings and responses**

Policy	Summary of appraisal findings	NHDC response
SP1: Sustainable development in North Hertfordshire	<p>The policy provides an overarching expression of what sustainable development would look like in North Hertfordshire. It is necessarily strategic in nature and covers sustainable development priorities in broad terms only. The effect of the policy will depend on how the policy is interpreted in practice and upon the nature of planning applications which come forward.</p> <p>No significant negative effects have been identified. However, there may be opportunities to strengthen the policy in key areas including:</p> <ul style="list-style-type: none"> <li>• Alongside promoting jobs, emphasising the importance of the nature of jobs and employment, including the importance of diversifying the economy to increase resilience.</li> <li>• Whilst the policy expresses support for protecting the environment and for focusing development on existing settlements, there is no explicit emphasis on maximising the use of brownfield land.</li> <li>• There is a clear focus on maintaining vitality of villages but the SA framework also highlights the importance of improving service provision in deprived areas.</li> </ul>	<p><b>Criterion a amended “...and new development making use of previously developed land where possible”.</b></p> <p><b>Criterion c iv. amended “...and green infrastructure (including the water environment)...”</b></p>

Policy	Summary of appraisal findings	NHDC response
	<ul style="list-style-type: none"> <li>The reference to promoting healthy lifestyle choices aligns well with the SA framework but this could be strengthened if the supporting text for the policy elaborated on what this means in practice.</li> <li>The SA framework highlights the importance of protecting North Hertfordshire water environment and this could be referenced in the policy alongside other key elements of North Hertfordshire environment.</li> </ul>	
SP2: Settlement hierarchy	<p>The policy seeks to focus new development within or adjoining existing settlements, which will have a range of positive effects. Potential negative effects mainly stem from:</p> <ul style="list-style-type: none"> <li>The interaction with existing residential areas, e.g. noise impacts and increasing distance to green space.</li> <li>The fact that much development adjoining existing settlements will be on greenfield sites which may have agricultural, ecological or amenity value.</li> </ul> <p>It will be possible to mitigate many of these impacts, particularly through design and layout considerations. No specific recommendations are made for changes to this policy as the issues will be best addressed through other plan policies.</p>	
SP3: Employment	<p>The policy provides strong support for employment growth and diversification in North Hertfordshire. The contribution of non B-Class uses is recognised but the wording of this aspect of the policy could be clarified so that is clear what this would mean in practice. The potential negative effects identified can be addressed in other policies in the Plan.</p>	<p><b>Criterion h amended “Ensure relevant policies of this plan recognise the contribution...”</b></p>
SP4: Town and local centres	<p>The policy provides clear support for existing town and local centres and makes provision for growth in A-class uses in the district. This should have direct economic benefits and contribute to the achievement of sustainable patterns of land use. There may be potential to enhance this further through reference to the potential for mixed use developments in town centres, in order to promote sustainable urban living. The policy includes protection against inappropriate development in existing centres. All growth has some negative environmental effects. Some of these can be mitigated but this will be best achieved through other policies in the plan rather than through expanding the scope of this policy.</p>	<p><b>Criterion b amended “Support proposals for main town centre uses in these locations in town and local centres where they are appropriate...”</b></p>
SP5: Countryside and Green Belt	<p>The policy includes releasing green belt sites for housing and economic development, which should help to support economic growth in the District and will play an important role in providing the necessary level of new housing, including affordable housing. Locating new development on the edges of existing settlements may constitute a sustainable approach but it highlights the particular importance of creating and enhancing links between the new developments</p>	<p><b>Other policies in the plan will seek to reduce and mitigate the environmental impacts associated with the loss of Green Belt land through development.</b></p>

Policy	Summary of appraisal findings	NHDC response
	<p>and the existing settlements in order to promote sustainable travel patterns. This is best addressed through other policy in the Plan and in the masterplanning process for the strategic sites.</p> <p>Releasing green belt sites for new development obviously has a wide range of negative environmental effects, mitigation of which needs to be addressed in other policies in the Plan. However, the Strategic Housing Land Availability Assessment made it clear that housing targets cannot be achieved without the use of such sites.</p>	
<p>SP6: Sustainable Transport</p>	<p>The policy provides strong and clear support for sustainable patterns of development, supported by the early provision of sustainable travel infrastructure. This directly supports a number of sustainability appraisal objectives. The appraisal highlights two aspects which may further strengthen the policy:</p> <ul style="list-style-type: none"> <li>• Should the policy include any clauses which can contribute to the SA sub-objective of reducing road freight movements?</li> <li>• Should the policy specifically recognise the need to make provision for those with mobility impairments?</li> </ul>	<p><b>Criterion c amended “...transport options are available to all potential occupants or users...”. Detailed policies and / or Transport Assessments (or equivalent) at planning application stage will ensure these issues are considered.</b></p> <p><b>Paragraph SP6.4 amended to include reference to reducing road freight movements and making provision for those with mobility impairments.</b></p>
<p>SP7: Infrastructure Requirements and Developer Contributions</p>	<p>This policy is critical in ensuring that the Plan delivers against a significant number of the sub-objectives in the sustainability appraisal framework, not only through ensuring the delivery of needed infrastructure but also through making provision for the mitigation of the adverse impacts of new development. The implementation and impacts of the policy will, however, need to be carefully monitored to ensure that it does not place an undue burden on developers and, thereby hinder the achievement of the necessary housing and economic growth.</p>	<p><b>Implementation and monitoring of the plan is covered as a separate section in the Plan.</b></p>
<p>SP8: Housing</p>	<p>The policy provides clarity about the scale and location of housing which will be delivered in the District up to 2031. It stipulates that 33% of the new homes will be Affordable Housing and the policy also makes provision for groups with specific needs, including Gypsies and Travellers and those requiring supported accommodation. As well as securing long-term housing supply, the policy should help to support economic growth in the District through increasing local demand and spend and creating jobs in construction and other development-related industry.</p> <p>The SHLAA made it clear that housing targets cannot be achieved without the use of greenfield sites.</p> <p>Mitigation of the negative environmental effects of this needs to be addressed in other policies in the plan.</p>	<p><b>Supporting text at paragraph SP8.11 updated to refer to the 20% target on previously developed land.</b></p>

Policy	Summary of appraisal findings	NHDC response
	<p>The policy seeks to maximise the use of previously developed land through setting a target of 20% of new homes being completed on such land over the plan period. The justification for this figure is not clear and could be helpfully outlined in the supporting text.</p>	
<p>SP9: Design and Sustainability</p>	<p>This policy should help to ensure that the Plan delivers against a number of the SA framework objectives and is particularly important given the scale of new development proposed by the Plan. It includes adopting the Government's technical standards for water efficiency and this responds to one of the key sustainability issues identified by the sustainability appraisal.</p> <p>It is framed in broad, strategic terms. This is appropriate given that it is a strategic policy, and the policy makes direct reference to the Design SPD, which provides more detailed guidance on the application of the policy.</p> <p>There may be one opportunity for the supporting text to more clearly articulate the implications of the policy - the policy states that the Government's technical standards for accessibility will be required 'in specified circumstances' but these circumstances are not outlined, nor is there a cross-reference to where these circumstances are described.</p> <p>Any future revision to the Design SPD would provide the opportunity to strengthen guidance in a couple of key areas: the importance of good design in crime reduction and community safety; and climate change adaptation issues, particularly the need for good design to take account of the risks of surface water flooding and overheating in summer.</p>	<p><b>Supporting text at paragraph SP9.5 includes reference to the Government's technical standards.</b></p>
<p>SP10: Healthy communities</p>	<p>This policy is critical to delivery of a number of the social and environmental sub-objectives in the sustainability appraisal framework.</p> <p>There is an opportunity for the scope of the policy to be extended to include green 'and blue' infrastructure, recognising the importance of protecting and enhancing the District's wetland and river habitats and of protecting water quality and groundwater resources.</p>	<p><b>Protection of the water environment is covered in policy SP11 and SP12</b></p>
<p>SP11: Natural resources and sustainability</p>	<p>This policy supports a number of sustainability appraisal framework objectives. However, a number of amendments should be considered in order to more effectively address some of the objectives:</p> <ul style="list-style-type: none"> <li>• Whilst it is appropriate for more detailed policy on land contamination to be provided in the more detailed policies, the wording on the approach to land contamination could be strengthened here. The policy states that land contamination will be considered whereas it may be clearer and more in line with the SA framework objectives to say that the council will support proposals which involve the remediation of contaminated land.</li> <li>• Consideration could also be given to strengthening the wording regarding the water</li> </ul>	<p><b>Criterion 'a' amended to include reference to "low carbon energy development",</b>  <b>Criterion 'c' strengthened to include "protect, enhance and manage" the water environment.</b>  <b>Criterion 'd' amended to include "and support proposals that involve remediation of contaminated land"</b>  <b>Reference to the energy hierarchy as well as</b></p>

Policy	Summary of appraisal findings	NHDC response
	<p>environment, particularly in the light of the requirements of the Water Framework Directive. The language used with regard to biodiversity is ‘protect, enhance and manage’ and it may be appropriate for the same language to be used with regard to the water environment.</p> <ul style="list-style-type: none"> <li>• The stated support for appropriate renewable energy development is important but the policies ought to reflect the principles of the energy hierarchy, i.e. focusing on demand reduction and energy efficiency, as well as promoting renewable and low carbon energy.</li> <li>• The wording of this policy should also be amended so that it is clear that the policy encompasses renewable <u>and</u> low carbon energy development. A definition could usefully be included in the supporting text, drawing on the definition provided in Planning Practice Guidance.</li> <li>• More detailed policies in the plan on renewable and low carbon energy should provide geographic specificity on the principal opportunities for such developments.</li> </ul>	<p><b>promoting renewable and low carbon energy is covered in other more detailed policies in the plan.</b></p>
<p>SP12: Green infrastructure, biodiversity and landscape</p>	<p>As well as directly addressing the environmental protection objectives in the sustainability appraisal framework, this policy indirectly supports a number of other objectives including those relating to improving access by non-car means and improving access to open space. The policy also, importantly, recognises the need to provide environmental protection in the context of accommodating significant growth.</p> <p>As with policy SP10, there is an opportunity for the scope of the policy to be extended to include green ‘and blue’ infrastructure, recognising the importance of protecting and enhancing the District’s wetland and river habitats and of protecting water quality and groundwater resources.</p>	<p><b>Criterion ‘b’ amended to include protection of “wetland and riverine habitats”.</b></p>
<p>SP13: Historic Environment</p>	<p>This policy directly addresses the sustainability appraisal framework objectives relating to the protection, conservation and enhancement of heritage assets and landscapes. It may also indirectly support the retention and re-use of derelict buildings (objective 2(a)).</p> <p>Unlike policy SP12, the current wording of this policy does not make it clear that the protection of the historic environment needs to be achieved within the context of accommodating significant growth in the District. Amending the wording along these lines may help to put the policy in context and aid interpretation.</p>	<p><b>Policy amended “The Council will ensure balance the need for growth with the proper protection and enhancement of the historic environment is properly protected and enhanced.</b></p>
<p>SP14: Site BA1 – North of Baldock</p>	<p>Site BA1 is the largest single development site in the Plan and will contribute approximately 2,500 homes towards the housing target during the Plan period. This will include a very significant level of Affordable Housing and range of service provision. A number of significant negative effects are inevitable, most of which are addressed in plan</p>	<p>“As informed by detailed assessments” added to criteria J.</p> <p>“Ivel Springs SAM” added to criteria I</p>

Policy	Summary of appraisal findings	NHDC response
	<p>policies, particularly SP14.</p> <p>The site appraisal and consideration of mitigation responses identified the following potential amendments to policy SP14 and the supporting text:</p> <ul style="list-style-type: none"> <li>• clarifying that the ecological and landscape mitigation needs to be based on detailed site-specific ecological and landscape assessments;</li> <li>• the heritage assets identified in the policy needs to include the Ivel Springs Scheduled Ancient Monument; and</li> <li>• a construction management plan should be required in order to minimise the impact on neighbouring residents.</li> </ul>	<p>Construction management plan can be dealt with through generic policy / condition.</p>
<p>SP15: Site LG1 – North of Letchworth Garden City</p>	<p>This site, with an allocation of 900 homes, represents an extension of the world’s first garden city, and therefore requires an approach which respects the historic and cultural significance of the area. This is clearly addressed in the policy.</p> <p>The supporting text also highlights a key challenge for the development, i.e. balancing landscape and transport impacts with the need to properly integrate the site with the existing Garden City but the need to integrate new development with the existing Garden City is not clearly articulated in the stated requirements for the site masterplan. Instead, the policy simply states that the masterplan should identify the most appropriate points for vehicular access. The policy could be significantly strengthened through revising the wording to make clear that determination of the most appropriate points of vehicular access needs to take account of the need to consider landscape and traffic impacts, as well as the need to ensure the development is integrated with the existing Garden City.</p> <p>In addition:</p> <ul style="list-style-type: none"> <li>• the heritage assets identified in the policy should include the designated archaeological area; and</li> <li>• a construction management plan should be required in order to minimise the impact on neighbouring residents.</li> </ul>	<p>Text added to criterion Aii) “considering landscape and traffic impacts”</p> <p>“archaeological area” added to criterion Aiv)</p> <p>Construction management plan can be dealt with through generic policy / condition.</p>
<p>SP16: Site NS1 – North of Stevenage</p>	<p>Site NS1 is a greenfield site, on which 900 homes are proposed as an extension of Stevenage to the north.</p> <p>A key issue for all sites in the Stevenage area is the constraints on waste water treatment. However, it is understood that detailed plan policy will address this issue, making it clear that there will be a need to demonstrate that additional potable water supply and wastewater treatment capacity can be achieved.</p> <p>The site appraisal and consideration of mitigation responses identified the following potential amendments to policy SP16 and the supporting text:</p> <ul style="list-style-type: none"> <li>• clarifying that the landscape mitigation needs to</li> </ul>	<p>“As informed by detailed assessments” added to criteria F.</p> <p>“designated archaeological area, Manor Farm (grade II listed) and the Church of St Etheldreda (grade II* listed and a scheduled monument)” added to Criteria H.</p> <p>Construction management plan can be dealt with through</p>

Policy	Summary of appraisal findings	NHDC response
	<p>be based on a detailed site-specific landscape assessment;</p> <ul style="list-style-type: none"> <li>the heritage assets identified in the policy needs to include the designated archaeological area, Manor Farm (grade II listed) and the Church of St Etheldreda (grade II* listed and a scheduled monument); and</li> <li>a construction management plan should be required in order to minimise the impact on neighbouring residents.</li> </ul>	generic policy / condition.
SP17: Site HT1 – Highover Farm, Hitchin	<p>Site HT1 is allocated for 700 homes. The site appraisal and consideration of mitigation responses identified the following potential amendments to policy SP17 and the supporting text:</p> <ul style="list-style-type: none"> <li>clarifying that the landscape mitigation needs to be based on a detailed site-specific landscape assessment; and</li> <li>a construction management plan should be required in order to minimise the impact on neighbouring residents.</li> </ul>	<p>“As informed by detailed assessments” added to criteria G(a).</p> <p>Construction management plan can be dealt with through generic policy / condition.</p>
SP18: Site GA2 – Land off Mendip Way	<p>Site GA2 is allocated for 600 homes.</p> <p>A key issue for all sites in the Stevenage area is the constraints on waste water treatment. However, it is understood that detailed plan policy will address this issue, making it clear that there will be a need to demonstrate that additional potable water supply and wastewater treatment capacity can be achieved.</p> <p>The policy requires structural planting along one boundary in order to mitigate landscape impacts. However, given that the site is deemed to be of moderate-high sensitivity and to have low capacity for development in landscape terms, it may be more appropriate for the policy to require a site-specific landscape assessment which can then inform the design and layout of the development.</p> <p>Similarly, it should be clarified that the ecological mitigation measures should be based on a detailed assessment of the site.</p> <p>A construction management plan should also be required in order to minimise the impact on neighbouring residents.</p>	<p>“As informed by detailed assessments” added to criteria G</p> <p>Construction management plan can be dealt with through generic policy / condition.</p>
SP19: Sites EL1, EL2 & EL3 – East of Luton	<p>Sites EL1, EL2 and EL3 form a very large development site in the Plan and will contribute approximately 2,100 homes towards housing targets in Luton and N Herts during the Plan period. This will include a very significant level of Affordable Housing and range of service provision.</p> <p>A number of significant negative effects are inevitable, most of which are addressed in plan policies, particularly SP19.</p> <p>The site appraisal and consideration of mitigation responses identified the following potential amendments to policy SP19 and the supporting text:</p> <ul style="list-style-type: none"> <li>clarifying that the ecological, heritage and</li> </ul>	<p>“informed by detailed assessments” added to criteria G and K,</p> <p>Construction management plan can be dealt with through generic policy / condition.</p>

Policy	Summary of appraisal findings	NHDC response
	<p>landscape mitigation needs to be based on detailed site-specific ecological, heritage and landscape assessments; and</p> <ul style="list-style-type: none"> <li>• a construction management plan should be required in order to minimise the impact on neighbouring residents.</li> </ul>	



# 7 Cumulative effects assessment

## 7.1 Introduction

Cumulative effects generally arise where several individual insignificant effects have a combined significant effect. Synergistic effects interact to produce a total effect greater than the sum of the individual effects. For simplicity, all cumulative and synergistic effects have been called 'cumulative effects'.

The appraisal of cumulative effects assists in the identification of the total direct and indirect effects on receptors. Often, effects may result from the accumulation of multiple small and often indirect effects rather than few large obvious ones. Cumulative effects can be both negative and positive.

The approach to the cumulative effects assessment is set out below. The assessment has considered potential cumulative effects on three levels; 'localised', 'strategic plan-wide' and 'strategic inter-plan'.

## 7.2 Localised cumulative effects

Potential localised cumulative effects have been identified based on identified clusters of development proposed. The clusters have been identified as:

A – Royston

B – North of Letchworth Garden City

C – North of Baldock

D – Hitchin

E – North of Stevenage

F – Codicote

G – Knebworth

They are shown in the maps below.

Figure 7.1: Cluster A – Royston

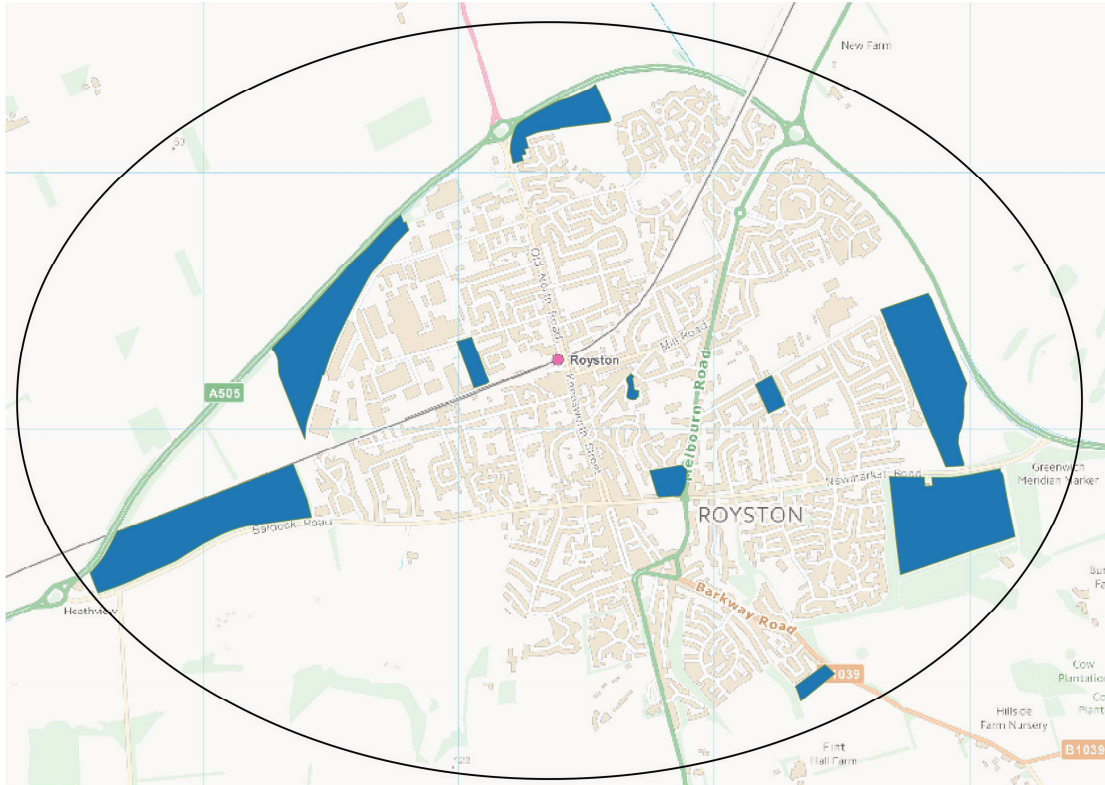


Figure 7.2: Cluster B - North of Letchworth Garden City

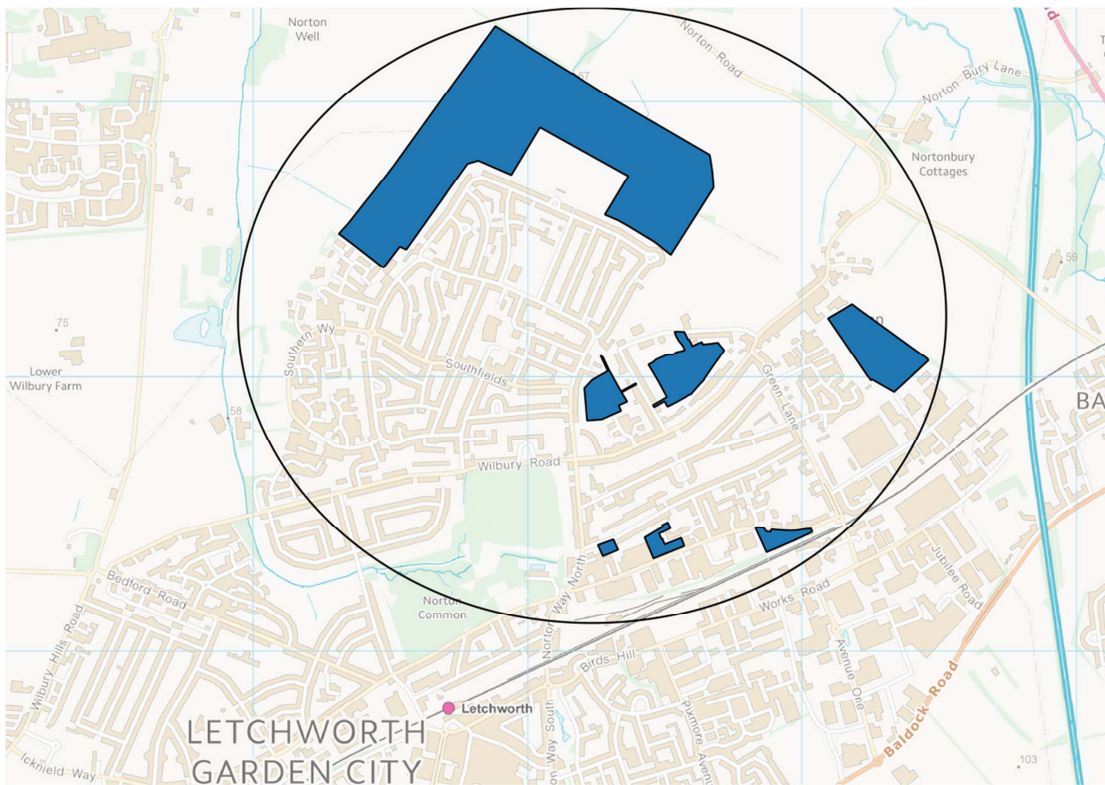


Figure 7.3: Cluster C – North of Baldock

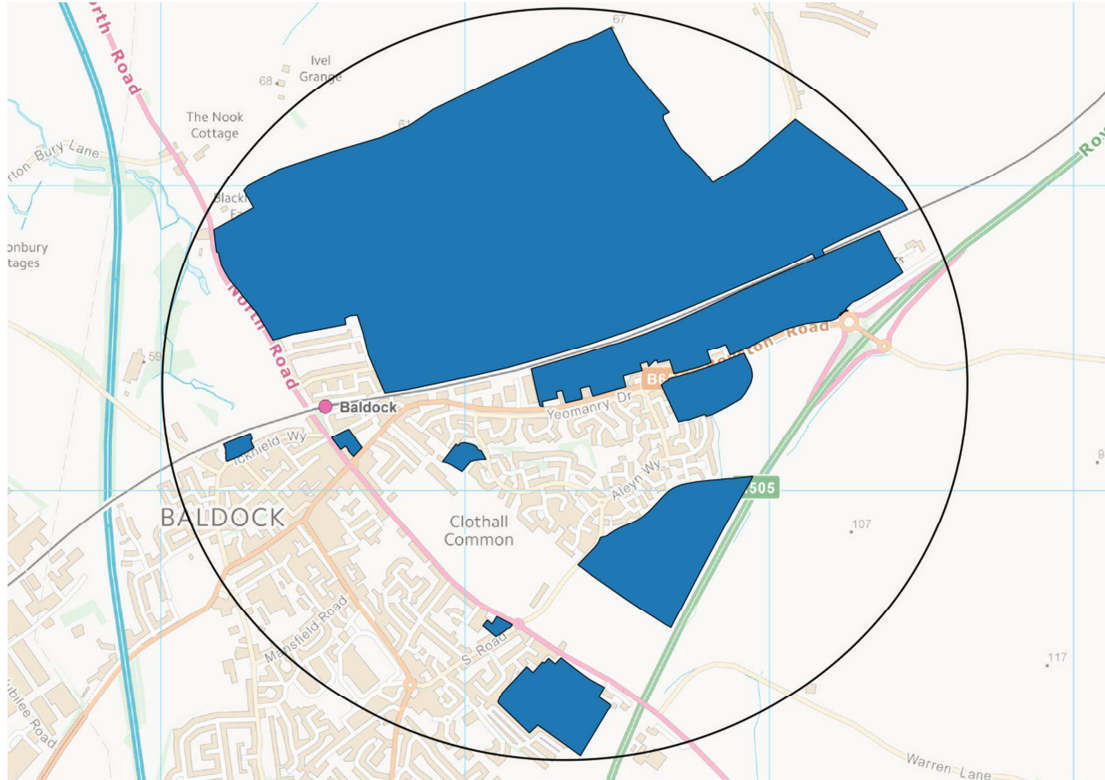


Figure 7.4: Cluster D - Hitchin

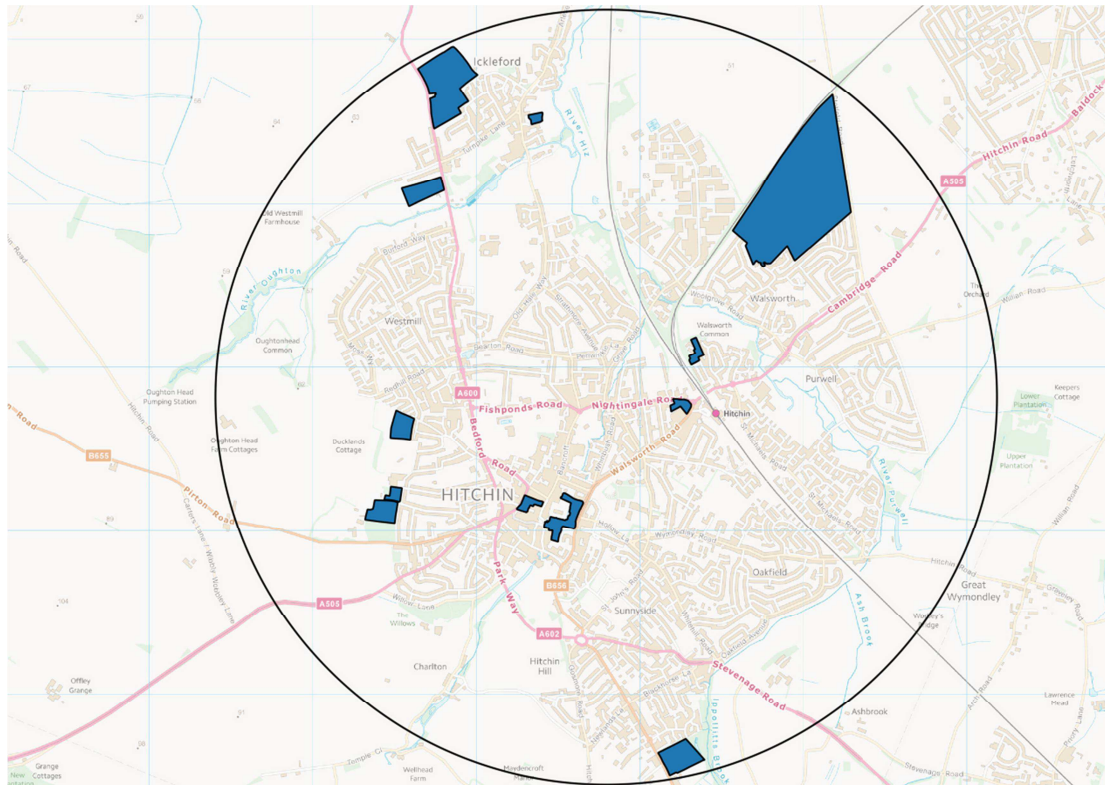


Figure 7.5: Cluster E – North of Stevenage

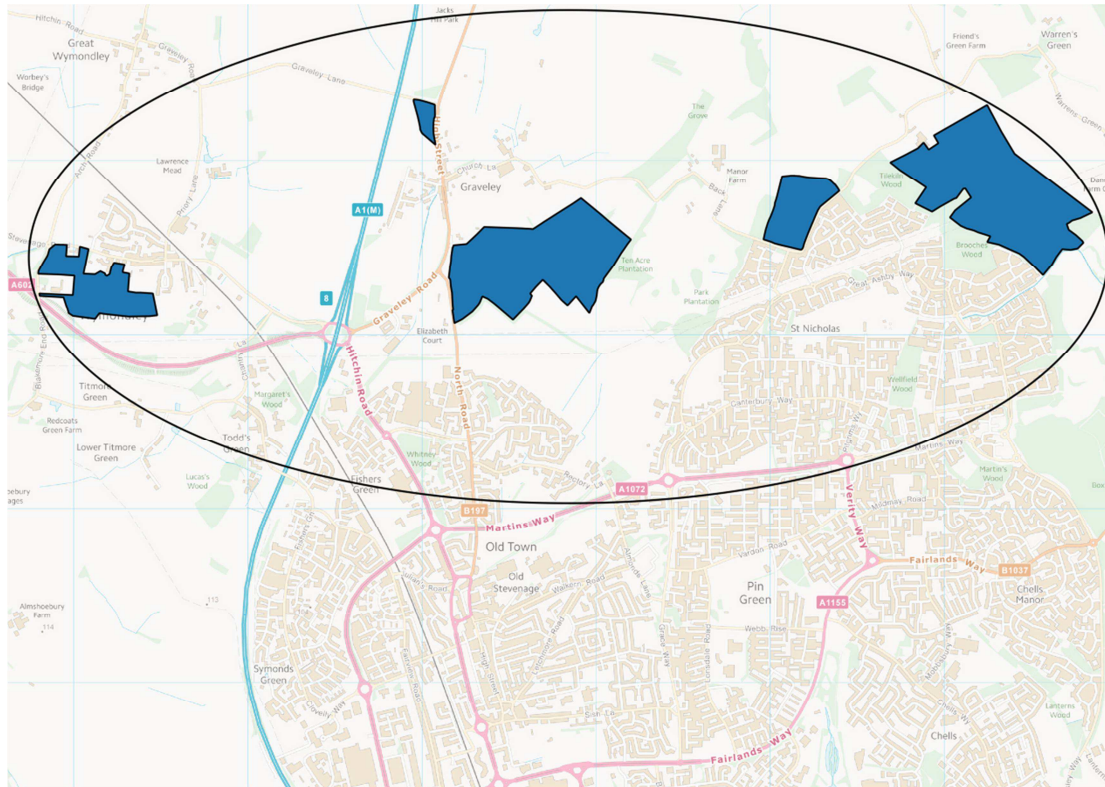


Figure 7.6: Cluster F – Codicote

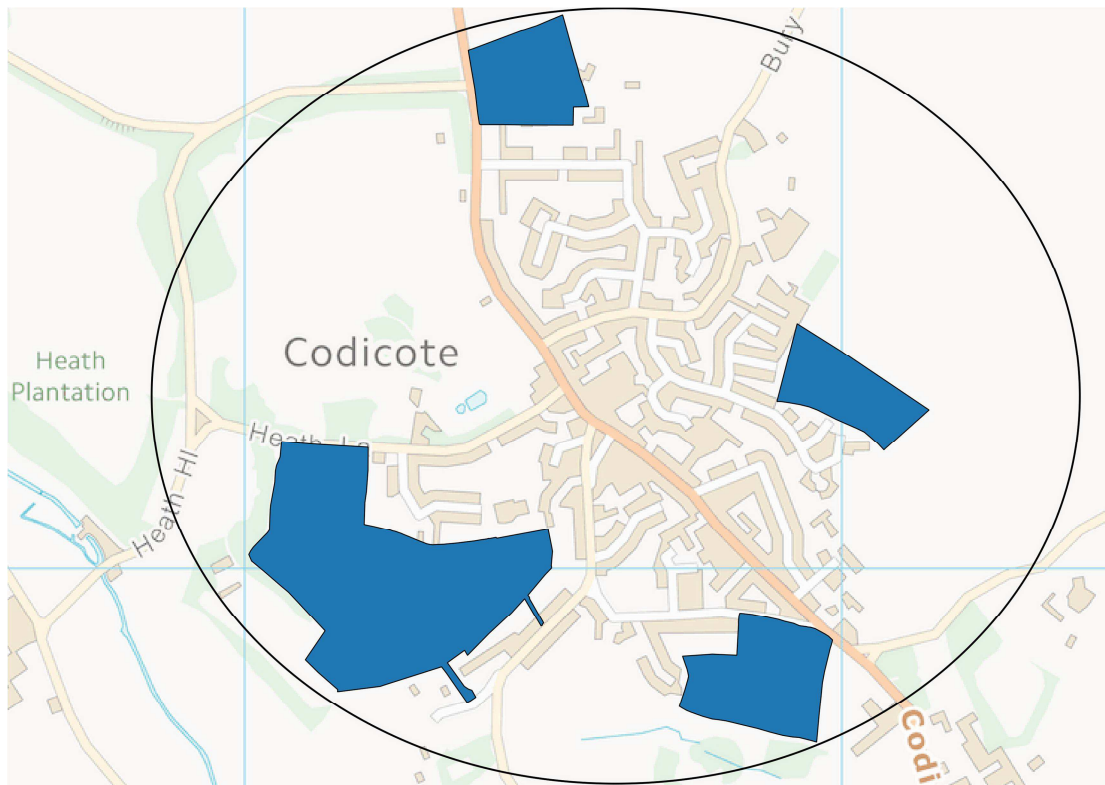


Figure 7.7: Cluster G - Knebworth

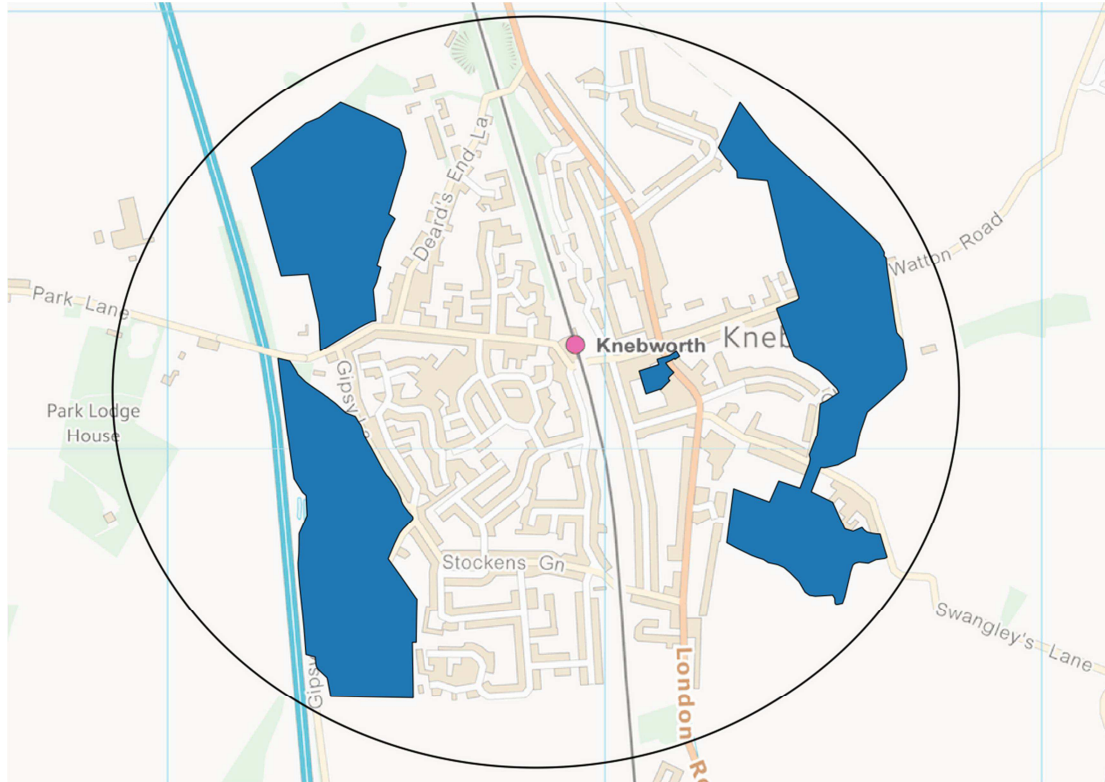
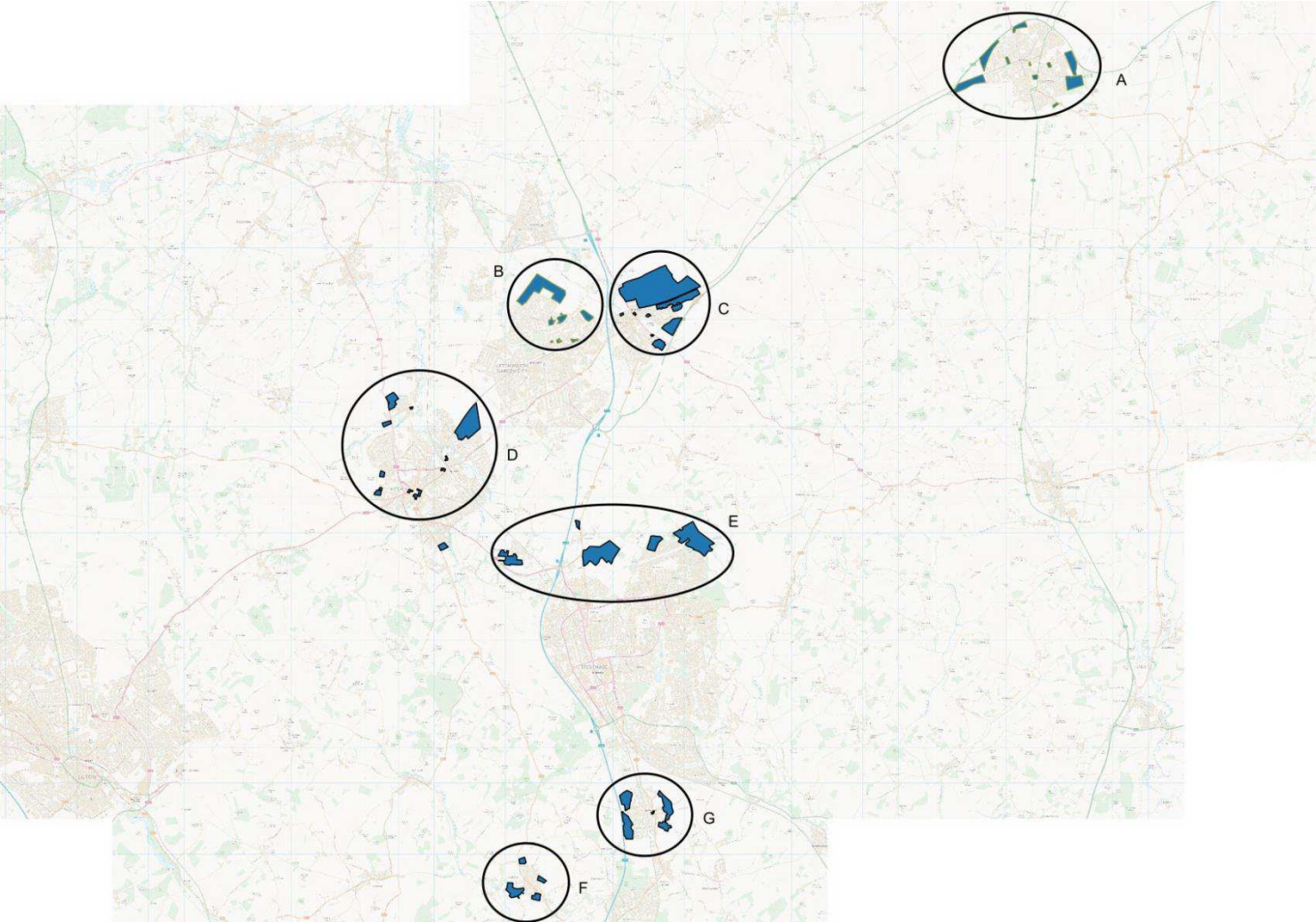


Figure 7.8: All clusters



The assessment of potential localised cumulative effects involves identifying receptors, e.g. wildlife sites, watercourses or particular towns. Based on the SA framework, categories of potential receptors have been identified, from which individual receptors were then identified. The receptor categories are shown in table 19 below, along with the data source which was used to identify individual receptors within these categories.

**Table 30: Receptor categories and data sources**

Receptor category	Data source
Towns and villages (amenity impacts – noise, nuisance, access to open countryside)	OS base map
Town centres (mixed uses, sustainable urban living)	OS base map
Heritage assets	Listed buildings GIS layer
	Conservation areas GIS layer
	Scheduled Ancient Monuments GIS layer
	Historic parks/gardens GIS layer
Habitats	Wildlife sites GIS layer
	SSSIs GIS layer
Groundwater	Source Protection Zone 1 GIS layer
	Source Protection Zone 2 GIS layer
Landscape	AONB GIS layer
	NHDC landscape assessments
Flood risk areas	Flood zone 2 GIS layer
	Flood zone 3 GIS layer
	Surface water flood risk GIS layers
Watercourses	Watercourse GIS layer
Deprived communities	Indices of Multiple Deprivation mapping <sup>35</sup>

All identified effects are considered to be significant, therefore the potential for a cumulative effect on the receptor has been recorded as either significant positive or a significant negative. The assessment has involved a review of the effects of the individual allocation sites in each cluster in order to identify the potential for cumulative impacts. The findings are presented within table 20 below.

Mitigation measures have been put forward for the potential cumulative effects identified. In some cases these are cross-references to policies within the Local Plan which will provide mitigation.

**Table 31: Localised cumulative effects**

Cumulative effect	Affected receptor	Sites contributing to the cumulative effect	SA objectives affected	Recommendations/mitigation	Residual effects
Access to open countryside	Royston	RY1, RY9, RY4, RY2, RY10, RY11 –	2(b) Provide access to green spaces	Maintain existing rights of way. Policy D1 requires	Increased distance to open

<sup>35</sup> <http://apps.opendatacommunities.org/showcase/deprivation>

Cumulative effect	Affected receptor	Sites contributing to the cumulative effect	SA objectives affected	Recommendations/mitigation	Residual effects
		together they infill much of the remaining open countryside on the western, northern and eastern edges of the town inside the A505		proposals to maximise accessibility, legibility and connectivity, which should help to ensure that through-routes are incorporated in new development. Policy NE5 requires the provision of open space in new development in accordance with the Council's open space standards.	countryside from existing housing
Potential impact on groundwater	Source Protection Zone 2	RY1, RY7, RY8, RY12 – lie in the same SPZ2	3(d) Reduce pollution from any source	Policy SP11 includes general support for the principles of the Water Framework Directive and seeks improvements to the water environment. Policy NE10 stipulates that new development should not result in the deterioration of any watercourse in accordance with the Water Framework Directive. Given the potential cumulative effects from the development of the four sites, the Environment Agency should be consulted regarding the need for site-specific risk assessments.	None
Landscape character	Royston	RY1, RY9, RY4, RY2, RY10, RY11 – all lie in areas of high or moderate sensitivity on the edge of the town	3(b) Protect and enhance landscapes	Consider an area-wide landscape assessment for this area.	Likely to be some residual landscape impact
Impact on Therfield Heath SSSI	Royston	RY1, RY2, RY4, RY9, RY7, RY8 RY5, RY10, RY11 – all have potential	3(a) Potential impact on sites designated for their ecological	Policy NE5 requires the provision of open space in new development in accordance with the Council's open space	None



Cumulative effect	Affected receptor	Sites contributing to the cumulative effect	SA objectives affected	Recommendations/mitigation	Residual effects
		to add recreational pressure to SSSI	value or features of ecological interest	standards. Onsite open space should provide a more localised option for recreation but there may be a need for the developers of these sites to contribute towards measures to protect the SSSI.	
Noise pollution	North of Letchworth Garden City	LG1, LG3, LG4, LG10 – all lie close together and adjacent to residential properties in the northern part of the town	5(c) Improve conditions and services that engender good health and reduce health inequalities	Policy D3 provides specific guidance on what may cause unacceptable harm. An assessment of whether the cumulative effects of development on these sites meet these policy requirements. In addition to the mitigation for individual sites, ensure the coordination of individual site construction management plans.	Likely to be some residual noise pollution
Historic character	Conservation areas and listed buildings in the north east corner of Letchworth Garden City	LG3, LG4, LG10, LG13, LG16, LG18	3(c) Conserve and, where appropriate, enhance the historic environment	Policy HE1 requires proposals to conserve and enhance designated heritage assets, and includes a number of related requirements, including production of a heritage assessment. Consideration should be given to an area-wide assessment which takes account of cumulative effects.	None
Access to open countryside	Baldock	BA1, BA10, BA4, BA3, BA2 – all lie in open countryside on the northern and eastern edge of the town	2(b) Provide access to green spaces	Maintain existing rights of way. Policy D1 requires proposals to maximise accessibility, legibility and connectivity, which should help to ensure that through-routes are incorporated in new development.	Increased distance to open countryside from existing housing

Cumulative effect	Affected receptor	Sites contributing to the cumulative effect	SA objectives affected	Recommendations/mitigation	Residual effects
				Policy NE5 requires the provision of open space in new development in accordance with the Council's open space standards.	
Landscape character	Baldock	BA1, BA10, BA4, BA3, BA2 – all lie in areas of high or moderate sensitivity on the northern and eastern edge of the town	3(b) Protect and enhance landscapes	Consider an area-wide landscape assessment for this area.	Likely to be some residual landscape impact
Surface water flooding	North and East of Baldock	BA1, BA10, BA4, BA3 – all sites lie within a linked area of high surface water flood risk	4(a) Reduce greenhouse gas emissions and improve the District's ability to adapt to climate change	Policy SP11 requires the use of SUDS and other appropriate measures where necessary. Policy NE8 stipulates that the most sustainable drainage solutions will be sought for each development to reduce the risk of surface water flooding and that sites should aim to mimic the drainage of an undeveloped greenfield site.	Some residual risk to property will inevitably remain, particularly when taking into account potential climate change impacts
Town centre competitiveness	Hitchin town centre	HT11, H12 – retail/missed-use sites in close proximity to each other in Hitchin town centre	7 Promote sustainable urban living	None necessary – positive cumulative effect.	N/A
Historic character	Conservation area and listed buildings in Hitchin town centre	HT11, HT12	3(c) Conserve and, where appropriate, enhance the historic environment	Policy HE1 requires proposals to conserve and enhance designated heritage assets, and includes a number of related requirements, including production of a heritage assessment. Consideration should be given to an area-	None

Cumulative effect	Affected receptor	Sites contributing to the cumulative effect	SA objectives affected	Recommendations/mitigation	Residual effects
				wide assessment which takes account of cumulative effects.	
Access to open countryside	Great Ashby	GA1, GA2 – the sites lie in close proximity on the edge of Great Ashby	2(b) Provide access to green spaces	Maintain existing rights of way. Policy D1 requires proposals to maximise accessibility, legibility and connectivity, which should help to ensure that through-routes are incorporated in new development. Policy NE5 requires the provision of open space in new development in accordance with the Council's open space standards.	Increased distance to open countryside from existing housing
Landscape character	North of Stevenage	NS1, GA1, GA2 – lie on the northern edge of Stevenage. Development will result in the erosion of a significant portion of the green buffer between Stevenage and smaller settlements to the north	3(b) Protect and enhance landscapes	Consider an area-wide landscape assessment for this area.	Likely to be some residual landscape impact
Access to open countryside	Knebworth	KB1, KB2, KB4 – development will result in the loss of much of the open countryside on the eastern and western boundaries of the town	2(b) Provide access to green spaces	Maintain existing rights of way. Policy D1 requires proposals to maximise accessibility, legibility and connectivity, which should help to ensure that through-routes are incorporated in new development. Policy NE5 requires the provision of open space in new development in accordance with the	Increased distance to open countryside from existing housing

Cumulative effect	Affected receptor	Sites contributing to the cumulative effect	SA objectives affected	Recommendations/mitigation	Residual effects
				Council's open space standards.	
Landscape and townscape character	Knebworth	KB1, KB2, KB4 – development along most of the western and eastern boundaries of the town will have a significant impact on the scale, setting and character of the town	3(b) Protect and enhance landscapes	Consider an area-wide landscape assessment for this area.	Likely to be some residual landscape/townscape impact
Potential impact on groundwater	Source Protection Zone 1 and 2	KB3 and KB4 lies in the same SPZ1, whilst KB1 lies in the linked SPZ2.	3(d) Reduce pollution from any source	Policy SP11 includes general support for the principles of the Water Framework Directive and seeks improvements to the water environment. Policy NE10 stipulates that new development should not result in the deterioration of any watercourse in accordance with the Water Framework Directive. Given the potential cumulative effects from the development of the four sites, the Environment Agency should be consulted regarding the need for site-specific risk assessments.	None
Landscape and townscape character	Codicote	CD1, CD2, CD3, CD5 – development would represent a significant extension of the village and will have an impact on the scale, setting and character of the village	3(b) Protect and enhance landscapes	Consider an area-wide landscape assessment for this area.	Likely to be some residual landscape/townscape impact

Cumulative effect	Affected receptor	Sites contributing to the cumulative effect	SA objectives affected	Recommendations/mitigation	Residual effects
Potential impact on groundwater	Source Protection Zone 2	CD1, CD2, CD3, CD5 - lie in the same SPZ2	3(d) Reduce pollution from any source	Policy SP11 includes general support for the principles of the Water Framework Directive and seeks improvements to the water environment. Policy NE10 stipulates that new development should not result in the deterioration of any watercourse in accordance with the Water Framework Directive. Given the potential cumulative effects from the development of the four sites, the Environment Agency should be consulted regarding the need for site-specific risk assessments.	None

### 7.3 Strategic cumulative effects - plan-wide

Cumulative effects of the Plan policies are considered in this part of the assessment. In order to identify strategic Plan-wide cumulative effects, the effects of the plan as a whole has been reviewed and potential cumulative effects identified.

The potential receptors considered include all of those utilised in the assessment of localized effects, since multiple localised cumulative effects may become more significant on a plan-wide scale.

Additional potential receptors are also included. These are receptors which are less significant at the localised level but remain significant at the plan-wide scale. They are as follows:

**Table 32: Additional potential receptors**

Receptor category	Data source
Agricultural land	Agricultural land classification GIS layer
Water supply and wastewater infrastructure	Infrastructure Delivery Plan
Brownfield land	NHDC site info
Employment land	NHDC site info
Affordable housing	NHDC site info
Greenfield land / green space	OS base map
Rural facilities/service provision	OS base map

The world (GHG emissions and climate change impacts)	N/A
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The potential plan-wide cumulative effects are presented in the table below. These are effects which occur over multiple clusters, and outside the cluster, and which, therefore, are multiplied in significance at the plan-wide scale. This includes landscape character, access to open countryside and impacts on groundwater.

These also note inter-relationships between effects where relevant.

**Table 33: Plan-wide cumulative effects**

Cumulative effect	Links to other effects	Affected receptor	Causes	SA objectives directly affected	Recommendations/ mitigation and residual effects
Potential reduction in water quality	Negative effects on biodiversity and wildlife habitats	Groundwater Source Protection Zones Rivers included in Rye Meads Study catchment and their habitats- the Lee, Mimram, Beane, Rib, Ash and Stort. Whaddon Brook (in the case of Royston STW)	Development within Groundwater Source Protection Zones Expansion of sewerage capacity at Rye Meads STW due to growth in this part of the region Increased water abstraction due to increased growth Possible pressures on sewerage infrastructure at Royston STW	3(d) Reduce pollution from any source 6(a) use natural resources efficiently; reuse, use recycled where possible	Policy SP11 includes general support for the principles of the Water Framework Directive and seeks improvements to the water environment. Policy NE10 stipulates that new development should not result in the deterioration of any watercourse in accordance with the Water Framework Directive. Consultation with the Environment Agency will be needed for developments within any SPZ1 and for clusters of development within any SPZ, as outlined in table 21. Further measures are outlined in the Rye Meads Water Cycle Study, including the promotion of water efficiency. The Study specifically includes measures to protect the sites of European importance. Development of large sites in Royston and Stevenage should not proceed until specific solutions to STW capacity issues are determined and agreed by Anglian Water and the

Cumulative effect	Links to other effects	Affected receptor	Causes	SA objectives directly affected	Recommendations/ mitigation and residual effects
					Environment Agency. There are likely to be some residual effects on water quality in the District but the extent of these will be determined by the extent to which the above measures are enforced.
Reduction in landscape quality	Negative effects on biodiversity and wildlife habitats	Landscape	Development of greenfield sites for housing at edge of towns and villages	3(b) Protect and enhance landscapes	Policy SP12 requires development to consider landscape character and respect locally sensitive features. Policy NE1 includes a range of landscape criteria that proposals must meet. Landscape assessments should be required for all strategic sites in areas of moderate or high sensitivity, and for clusters of sites in such areas (see table 21). Given the scale of development proposed in the local plan, even with sensitive scheme designs and appropriate mitigation measures, there will still be residual effects on landscape and townscape character.
Climate change	Negative effect on human health, e.g. from air pollution, and biodiversity	Worldwide	Greenhouse gas emissions from increases in traffic from current and new housing and from energy use in new housing	4(a) Reduce greenhouse gas emissions and improve the District's ability to adapt to climate change	Policy SP11 supports proposals for renewable and low carbon energy development in appropriate locations. Policy NE12 states that proposals for renewable and low carbon energy development which would contribute towards reducing greenhouse gas emissions will be permitted subject to

Cumulative effect	Links to other effects	Affected receptor	Causes	SA objectives directly affected	Recommendations/ mitigation and residual effects
					<p>certain criteria. It goes on to state that in assessing renewable and low carbon energy proposals against the criteria the Council will give significant weight to their local and wider benefits, particularly the potential to reduce greenhouse gas and other harmful emissions. The policy also provides support for proposals for decentralised energy schemes associated with development of the strategic sites allocated in the Plan.</p> <p>Even with the positive policy framework outlined above, the limited opportunity for large scale renewable and low carbon energy development in the District means there will inevitably be a net increase in greenhouse gas emissions from the development proposed in the Plan.</p>
Increased use of rural shops, services and other businesses		Local businesses and economy	Increased population and local employment in the larger villages	1 Achieve sustainable levels of prosperity and economic growth	None required, as the overall effect is likely to be positive.
Improved provision of community facilities, including open space and recreational facilities	Positive effects on human health	Community facilities and open space	Through developer contributions from new developments	2(b) Provide access to green spaces	None required as the overall effect is likely to be positive.
Reduced access to open countryside	Potential negative effects on human health	A number of settlements, particularly Royston, Baldock, Great Ashby and	New development on greenfield land on the edge of existing settlements	2(b) Provide access to green spaces	<p>Maintain existing rights of way.</p> <p>Policy D1 requires proposals to maximise accessibility, legibility and connectivity, which should help to</p>



Cumulative effect	Links to other effects	Affected receptor	Causes	SA objectives directly affected	Recommendations/ mitigation and residual effects
		Knebworth			<p>ensure that through-routes are incorporated in new development.</p> <p>Policy NE5 requires the provision of open space in new development in accordance with the Council's open space standards.</p> <p>Even with the above mitigation, new development will result in increased distance to open countryside for some existing residents.</p>
Reduction in community cohesion	Potential negative effects on human health	Local communities	Large new developments on the edge of towns and coalescence with smaller villages	5(a) Share benefits of prosperity fairly and promote community cohesion	<p>Policy SP7 requires development proposals to make provision for infrastructure that is necessary in order to accommodate additional demands resulting from the development. This includes provision of facilities and infrastructure for new residents, addressing cumulative impacts that might arise across multiple developments and avoiding placing unreasonable additional burdens on the existing community or existing infrastructure.</p> <p>Achieving such aims could be advanced by engaging existing residents in the design of new developments.</p> <p>Effective enforcement of policy SP7 should ensure limited residual effects in terms of community cohesion.</p>
Significant loss of agricultural land and land of high	Effects on access to green spaces	Agricultural land and other high value land	Large developments on the edge of towns	2(a) Minimise the development of greenfield land and land	Policy SP12 seeks to protect, enhance and manage the green infrastructure network and biodiversity

Cumulative effect	Links to other effects	Affected receptor	Causes	SA objectives directly affected	Recommendations/ mitigation and residual effects
environmental and amenity value				of high environmental and amenity value	networks and seeks opportunities to create new green infrastructure and biodiversity networks. Policy NE4 ensures that any loss of publicly open space will be compensated for, whilst policy NE5 seeks the provision of new open spaces. Policy NE6 offers protection for designated biodiversity sites.  There are likely to be residual effects on biodiversity, particularly on non-designated sites, but this may be compensated for by improvements elsewhere.  The loss of agricultural land is permanent and irreversible.
Provision of affordable housing		Local communities	Requirement to provide affordable housing in major developments	5(d) Increase access to decent and affordable housing	None required as the overall effect is likely to be positive.

## 7.4 Strategic cumulative effects - inter-plan

Potential cumulative effects arising from interactions between the North Hertfordshire Local Plan and other plans and projects in surrounding areas have been considered. In considering the effects of the North Hertfordshire Local Plan with other plans and projects, priority has been given to key documents that affect planning and development within the District and its neighbouring authorities. The objective of this analysis of inter-plan effects is to identify how other plans and key projects may affect the sustainability of North Hertfordshire. The table below summarises key inter-plan cumulative effects.

**Table 34: Inter-plan cumulative effects**

Plans, programmes or projects	Summary of cumulative effects of North Hertfordshire Local Plan with other plans, programmes or projects
Stevenage Borough Local Plan (Publication version consulted on in Jan / Feb	In conjunction with the North Hertfordshire Local Plan, this Plan could have a cumulative impact on the A1(M) and the local road network. Specifically, there could be significant impacts around Graveley, where

Plans, programmes or projects	Summary of cumulative effects of North Hertfordshire Local Plan with other plans, programmes or projects
2016)	<p>development sites North of Stevenage will be accessed, and south of Stevenage linking with Knebworth. Traffic modeling carried out as part of the evidence base for the Local Plan indicates some of the transport schemes which will be necessary to accommodate the growth in traffic. Each of the upper tier local authorities in the area, including Hertfordshire County Council, have Local Transport Plans which will address the issues associated with traffic growth. In addition, the Highways England Road Investment Strategy includes improvements to the A1(M), including the upgrading of junction 6 (Welwyn North) to junction 8 (Hitchin) to a 'Smart Motorway' (widening of two lane section to dual three lane and hard shoulder running). Other improvements to the A1(M) will stem from the A1(M) Transport Package, which forms part of Hertfordshire's Growth Deal (see below). Even with such improvements, there are likely to be residual effects in terms of traffic congestion and associated pollution.</p> <p>The Plan will increase pressure on wastewater treatment infrastructure in the Stevenage area. Upgrades to this infrastructure will be needed prior to development in the area taking place. These issues are addressed in the Rye Meads Water Cycle Study and the Infrastructure Delivery Plan.</p> <p>There is an identified undersupply of employment land in the Plan and a reliance on neighbouring boroughs, including North Hertfordshire, to meet identified requirements. The Plan includes specific reference to the strategic employment allocation at Royston Road, Baldock, which is included in the North Herts Local Plan. This could have a positive effect on North Herts in that it could increase the self-containment of the District. The levels of out-commuting to Stevenage from North Herts are currently high.</p>
Luton Local Plan (Submitted 29 <sup>th</sup> April 2016 – EIP July 2016)	<p>The large East of Luton sites included in the North Herts Local Plan will exacerbate the impact of the proposed growth in the Luton Local Plan on the M1 and the local road network. Traffic modeling conducted as part of the evidence base for the Luton Local Plan indicates some of the transport schemes which will be necessary to accommodate the growth in traffic. Both Luton and North Hertfordshire's Local Transport Plans will mitigate these impacts to some degree but there are likely to be residual effects in terms of increased traffic congestion and associated pollution.</p> <p>The Luton Local Plan is reliant on neighbouring Local Plans in order to secure the identified need for new housing in Luton. North Herts Local Plan includes provision for 1,950 homes towards the unmet need of 11,100 homes in the Luton Local Plan. Whilst the cumulative effect on meeting housing need is positive, it is unclear whether, overall, this will be sufficient to meet Luton's needs.</p>
Central Bedfordshire Council (Early preparation stage. Call for sites February 2016. Consultation on Technical Site Assessment Criteria July 2016)	<p>Given the early stage of the Plan preparation process, it is not possible to identify specific cumulative impacts. The Plan website identifies four key elements of their approach:</p> <ul style="list-style-type: none"> <li>• focusing large-scale growth along major transport routes</li> <li>• making sure that there is local infrastructure in place to support new homes and jobs</li> <li>• easing pressures across the wider area by identifying further sites that can accommodate growth and that are supported by good transport links</li> <li>• recognising the importance of protecting Central Bedfordshire's historic settlements and unique landscape</li> </ul> <p>Accommodating significant growth and focusing this growth on major transport routes is likely to lead to cumulative effects on traffic on the</p>

Plans, programmes or projects	Summary of cumulative effects of North Hertfordshire Local Plan with other plans, programmes or projects
	<p>A1(M) in particular. Each of the upper-tier local authorities in the area, including Hertfordshire County Council and Central Bedfordshire Council, have Local Transport Plans which will address the issues associated with traffic growth. Other improvements to the A1(M) will stem from the A1(M) Transport Package, which forms part of Hertfordshire's Growth Deal (see below). Even with such improvements, there are likely to be residual effects in terms of traffic congestion and associated pollution.</p>
<p>East Hertfordshire DC Approaching Publication. Preferred Options Feb – May 2014.</p>	<p>Much of the proposed housing and economic growth proposed for East Hertfordshire will occur in the southern part of the district, away from the boundary with North Hertfordshire. However, development in the district may have a cumulative effect on traffic growth in the wider area, including on the A1(M). Each of the upper-tier local authorities in the area, including Hertfordshire County Council, have Local Transport Plans which will address the issues associated with traffic growth. In addition, the Highways England Road Investment Strategy includes improvements to the A1(M), including the upgrading of junction 6 (Welwyn North) to junction 8 (Hitchin) to a 'Smart Motorway' (widening of two lane section to dual three lane and hard shoulder running). Other improvements to the A1(M) will stem from the A1(M) Transport Package, which forms part of Hertfordshire's Growth Deal (see below). Even with such improvements, there are likely to be residual effects in terms of traffic congestion and associated pollution.</p> <p>Rye Meads Wastewater Treatment Works serves Stevenage, as well as much of East Hertfordshire and has known capacity issues. Development in East Hertfordshire will therefore increase pressure on wastewater infrastructure. These issues are addressed in the Rye Meads Water Cycle Study and the Infrastructure Delivery Plan.</p>
<p>St Albans Strategic Local Plan (Publication draft version consulted on in Jan/Feb 2016)</p>	<p>Significant housing growth (9,000 homes) is proposed in neighbouring St Albans. This could have cumulative effects on traffic growth, including the A1(M), M1 and the local road network. Each of the upper-tier local authorities in the area, including Hertfordshire County Council, have Local Transport Plans which will address the issues associated with traffic growth. In addition, the Highways England Road Investment Strategy includes improvements to the A1(M), including the upgrading of junction 6 (Welwyn North) to junction 8 (Hitchin) to a 'Smart Motorway' (widening of two lane section to dual three lane and hard shoulder running). Other improvements to the A1(M) will stem from the A1(M) Transport Package, which forms part of Hertfordshire's Growth Deal (see below). Even with such improvements, there are likely to be residual effects in terms of traffic congestion and associated pollution.</p>
<p>Welwyn Hatfield Local Plan (Regulation 18 consultation Jan - March 2015; Proposed Submission due Summer 2016)</p>	<p>The Consultation Document suggested that the Plan would accommodate 12,500 new homes in the Plan period. Welwyn Hatfield lies immediately to the south of North Hertfordshire in the A1(M) corridor. The principal cumulative effect is likely, therefore, to be in terms of traffic impacts on the A1(M) and local road network, especially around Knebworth and Codicote where significant growth is proposed in the North Hertfordshire Local Plan. Traffic modeling carried out as part of the evidence base for the Local Plan indicates some of the transport schemes which will be necessary to accommodate the growth in traffic. Each of the upper tier local authorities in the area, including Hertfordshire County Council, have Local Transport Plans which will address the issues associated with traffic growth. In addition, the Highways England Road Investment Strategy includes improvements to the A1(M), including the upgrading of junction 6 (Welwyn North) to junction 8 (Hitchin) to a 'Smart Motorway' (widening of two lane section</p>

Plans, programmes or projects	Summary of cumulative effects of North Hertfordshire Local Plan with other plans, programmes or projects
	<p>to dual three lane and hard shoulder running). Other improvements to the A1(M) will stem from the A1(M) Transport Package, which forms part of Hertfordshire's Growth Deal (see below). Even with such improvements, there are likely to be residual effects in terms of traffic congestion and associated pollution.</p> <p>Rye Meads Wastewater Treatment Works serves Stevenage, as well as large parts of Welwyn Hatfield and has known capacity issues. Development in Welwyn Hatfield will therefore increase pressure on wastewater infrastructure. These issues are addressed in the Rye Meads Water Cycle Study and the Infrastructure Delivery Plan.</p>
South Cambridgeshire Local Plan (Proposed modifications consulted on in Jan 2016)	No cumulative effects have been identified
Uttlesford Local Plan (Regulation 18 consultation took place Oct – Dec 2015)	No cumulative effects have been identified
Hertfordshire Waste Local Plan: Waste Site Allocations 2011-2026 (adopted July 2014) and Waste Core Strategy and Development Management Policies Document (adopted November 2012).	<p>The Site Allocations document safeguards existing waste sites and identifies waste allocations and Employment Land Areas of Search in North Hertfordshire. Within these areas, the county council will grant planning permission for waste management facilities providing that they meet specified criteria.</p> <p>Some of these areas are in relatively close proximity to allocated sites in the Local Plan. The Waste Site Allocations document recognises that any future residential developments in the area will need to be considered in combination with any potential waste facility and states that <i>“Depending upon the proposed type of facility and where it would be located on the site, a detailed assessment of the potential impact on any future housing development may be required.”</i></p> <p>More generally, the cumulative effects will be largely positive since the Waste Local Plan should help to facilitate the delivery of the housing and economic growth in the Local Plan in a way which limits some of the negative effects of this growth, through its emphasis on health and environmental protection, waste minimisation and recovery.</p>
Hertfordshire County Council's Local Transport Plan (LTP) 2011 – 2031	<p>This sets out a 20 year strategy for development of transport in the county. One of the specific goals of the strategy is to support planned economic development and dwelling growth. The focus of the strategy is on making better use of the existing network and promoting intelligent transport systems.</p> <p>Its aims are underpinned by a suite of supporting strategies:</p> <ul style="list-style-type: none"> <li>• Active Travel Strategy: Encouraging walking and cycling trips to improve health, the environment, congestion and the economy</li> <li>• Bus Strategy: The county council's strategy for ensuring viable and sustainable bus services throughout Hertfordshire</li> <li>• Intalink Strategy: A strategy for the Intalink partnership</li> <li>• Intelligent Transport Systems (ITS) Strategy: Intelligent Transport Systems and Variable Message Signs for efficient transport network management</li> <li>• Inter-Urban Route Strategy: Improvements to inter-urban corridors between Hertfordshire's towns</li> <li>• Rail Strategy: Plans for rail services through the county</li> <li>• Rights of Way Improvement Plan: Hertfordshire's Rights of Way Improvement Plan (RoWIP) 2011/12-2015/16</li> <li>• Road Safety Strategy: How the county council intend to improve safety on Hertfordshire's road network</li> <li>• Rural Transport Strategy: Improvements to transport in rural</li> </ul>

Plans, programmes or projects	Summary of cumulative effects of North Hertfordshire Local Plan with other plans, programmes or projects
	<p>areas of the county</p> <ul style="list-style-type: none"> <li>• Speed Management Strategy: Speed management of traffic on Hertfordshire's roads</li> </ul> <p>Cumulative effects will be positive since the LTP and supporting strategies should help to facilitate the delivery of the housing and economic growth in the Local Plan in a way which limits some of the negative effects of this growth, e.g. in terms of traffic congestion, carbon emissions, noise and air quality.</p>
London Plan (Consolidated with alterations since 2011, March 2016)	<p>The London Plan includes provision for an annual average of 42,000 net additional homes across London. However, overall need is estimated at between 49,000 and 62,000 more homes annually. This unmet need is likely to increase housing pressures in surrounding areas such as North Hertfordshire. The adoption of the North Hertfordshire Local Plan will be key to managing these pressures.</p>
Hertfordshire Growth Deal (agreed July 2014 and expanded January 2015)	<p>The Growth Deal brings together local, national and private funding to 'transform the economy and establish the area as a centre for global business excellence through focused investment in the area's infrastructure and ensuring businesses have the supply of skilled workers and support to grow'.</p> <p>Of particular significance to the North Herts Local Plan, the Growth Deal incorporates:</p> <ul style="list-style-type: none"> <li>• The A1(M) Growth Area Forum/Stevenage. This is focused on accelerating housing delivery in the growth area.</li> <li>• The A1(M) Transport Package – a series of transport schemes including the A1 Sustainable Transport Package, A602 local congestion measures and Bus Link 2016.</li> <li>• North Herts College Design and Innovation Centre - To support the development of a state-of-the-art engineering design and innovation centre based in Stevenage.</li> </ul> <p>The cumulative effects should be largely positive, with the Growth Fund helping to accelerate delivery of the growth envisaged in the Local Plan and ameliorating some of the potential negative transport effects.</p>
Luton Airport Expansion	<p>In 2014, Luton Airport was granted permission to significantly increase passenger numbers. The ongoing growth which this permission facilitated creates significant additional traffic to the airport, including in an east-west direction through North Hertfordshire. This will add to the pressure on transport infrastructure created by the housing and economic growth envisaged in the Local Plan. The various Local Transport Plans in the area, as well as proposed improvements to the A1(M) will play a key role in addressing such impacts.</p>
Pirton Neighbourhood Plan	<p>Pirton Neighbourhood Forum have produced a draft plan, however it is mostly concerned with issues such as design and so doesn't pose any sustainability concerns.</p>

## 8 Effects of the Plan after mitigation

As the Plan objectives make clear, the role of the Local Plan is to provide for homes and jobs and associated services, development and infrastructure, while minimising environmental impacts and identifying opportunities for environmental improvement.

In assessing the effects of site allocations, we have identified ways of mitigating these effects through policies and noted any residual effects which cannot be mitigated. In a similar way the assessments of the policies identified ways of mitigating negative effects and noted any residual effects. In the previous section we also identified cumulative effects that are not likely to have been identified by individual assessments, and suggested mitigation measures, and identified residual effects. The table below summarises the combined residual effects of the sites and policies, after all the identified mitigation measures have been applied.

**Table 35: Residual significant sustainability effects of the Plan**

<b>Residual effect</b>	<b>Cause</b>	<b>Relevant SA objective</b>	<b>Nature of the effect</b>
Significant loss of agricultural land and land of high environmental and amenity value	Large developments on the edge of towns	2(a) Minimise the development of greenfield land and land of high environmental and amenity value	The loss of agricultural land is cumulative across the Plan area, of high probability, permanent and irreversible. Individual sites are listed in Appendices 8 and 9
Reduced access to open countryside	New development on greenfield land on the edge of existing settlements, particularly Royston, Baldock, Great Ashby and Knebworth	2(b) Provide access to green spaces	The reduction in access is cumulative across the Plan area, and in the clusters of Royston, Baldock, Great Ashby and Knebworth. It is of high probability, permanent and irreversible. Details of clusters affected are noted in section 7.2. Individual sites are listed in Appendices 8 and 9.
Provision of new housing without access to greenspace	Housing further than 800 metres from green space in Hitchin, Knebworth and Royston (HT10, KB1 and RY8)	2(b) Provide access to green spaces	The effect is of medium probability (depending on the development of the specific sites) and could be reversed or reduced if new local greenspace was provided.
Traffic congestion and associated pollution	Combined effects of planned development in Central Bedfordshire, St Albans and North Hertfordshire	2(c) Deliver more sustainable location patterns, and reduce the use of motor vehicles	The effect is trans-boundary, impacting on neighbouring areas, and is a cumulative effect of Plans in Central Bedfordshire, St Albans and North Hertfordshire. It is of medium probability as it depends on a number of factors including the actual amount of development and the effectiveness of mitigation, e.g. improvements in public transport.

<b>Residual effect</b>	<b>Cause</b>	<b>Relevant SA objective</b>	<b>Nature of the effect</b>
Reduction in quality of landscape and townscape character	Development of greenfield sites for housing at edge of towns and villages, and particularly on the edges of Royston, Baldock, north Stevenage, Knebworth and Codicote	3(b) Protect and enhance landscapes	The reduction in access is cumulative across the Plan area, and in the clusters of Royston, Baldock, north Stevenage, Knebworth and Codicote. It is of high probability, permanent and irreversible.  Details of clusters affected are noted in section 7.2. Individual sites are listed in Appendices 8 and 9.
Impact on setting of heritage assets	Development affecting the setting of conservation areas, listed buildings and Scheduled Ancient Monuments	3(c) Conserve and, where appropriate, enhance the historic environment	The effect is of medium probability (depending on the design and layout of the development) and some of the affects are cumulative within a local area, as detailed in section 7.2. Mitigation is provided for in Local Plan policy but some effects cannot be fully mitigated, e.g. impacts on the setting of Scheduled Ancient Monuments relating to sites AS1 and RY1.
Surface water flooding	Development across the District and particularly in the north and east of Baldock (BA1, BA10, BA4, BA3) – all sites lie within a linked area of high surface water flood risk	4(a) Reduce greenhouse gas emissions and improve the District's ability to adapt to climate change	The effect is of medium probability (depending on the development of the specific sites) and could be reduced depending on the effectiveness of mitigation. Details of the Baldock cluster are noted in section 7.2. Individual sites are listed in Appendices 8 and 9.
Climate change	Greenhouse gas emissions from increases in traffic from current and new housing and from energy use in new housing	4(a) Reduce greenhouse gas emissions and improve the District's ability to adapt to climate change	The effect is the cumulative effect of the Plan, of high probability and of course is worldwide in its impact.
Reduction in water quality	Development within Groundwater Source Protection Zones Expansion of sewerage capacity at Rye Meads STW due to growth in this part of the region Increased water abstraction due to increased growth Possible pressures on sewerage infrastructure at Royston STW	3(d) Reduce pollution from any source 6(a) use natural resources efficiently; reuse, use recycled where possible	This is an uncertain cumulative effect across the Plan area, which could impact on: Groundwater Source Protection Zones; rivers included in Rye Meads Study catchment and their habitats- the Lee, Mimram, Beane, Rib, Ash; and Stort; and Whaddon Brook (in the case of Royston STW). The likelihood and magnitude of the effect depends on the extent to which the necessary mitigation measures are enforced.
Increased	Large quantity of new	6(a) Use natural	The effect is of high probability



<b>Residual effect</b>	<b>Cause</b>	<b>Relevant SA objective</b>	<b>Nature of the effect</b>
pressure on water resources	housing In an area with significant constraints on water , particularly around Stevenage and Royston	resources efficiently; reuse, use recycled where possible	and irreversible once new housing has been built. It is also trans-boundary as it will affect neighbouring authorities.
Noise pollution	Development north of Letchworth Garden City (LG1, LG3, LG4, LG10) – all lie close together and adjacent to residential properties in the northern part of the town. Development of other individual sites particularly in Hitchin, Knebworth and Royston	5(c) Improve conditions and services that engender good health and reduce health inequalities	There is a cumulative effect to the north of Letchworth, as well as effects on individual sites, particularly in Hitchin, Knebworth and Royston. The magnitude of the effect is likely to be greater in the short term, during the construction phase. Details of the Baldock cluster are noted in section 7.2. Individual sites are listed in Appendices 8 and 9.
Impacts on amenity and reduction in tranquility for existing residents	Development of large strategic housing sites, specifically BA1, LG1, GA2 and EL1,2,3	5(c) Improve conditions and services that engender good health and reduce health inequalities	The impacts on amenity and tranquility are permanent and irreversible. As noted above the magnitude of the noise pollution element is likely to be greater in the short term, during the construction phase. Effects on individual sites are described in Appendix 8.
Potential negative effects on Letchworth town centre	Development of strategic site LG1	7 Promote sustainable urban living	The effect is uncertain; it depends on whether access is through the Grange which would ensure that the development relates to Letchworth. An additional access (onto Stotfold Road) would reduce traffic congestion in the Grange, but would mean the development faces away from the existing town, and could result in negative effects on this objective.

# 9 Monitoring

## 9.1 Purpose of Monitoring

Task B6 is to propose measures to monitor the significant effects of implementing the Local Plan. This is an important part of the appraisal and plan development process. The Practical Guide<sup>36</sup> notes that it has a number of benefits:

- It allows the actual significant effects of the implementation of the Strategy and Policies be tested against those predicted in the SA;
- It helps to ensure that issues that arise, including unexpected problems, can be identified and tackled;
- It helps further predictions to be made more accurately;
- It can contribute to baseline information for future plans.

## 9.2 Monitoring Indicators

For the sake of efficiency and integration, North Hertfordshire District Council will include significant sustainability effects in future Annual Monitoring Reports. Where necessary, the Reports will also propose measures for addressing adverse effects, including unexpected problems. The significant sustainability effects indicators have been drawn from the indicators in the baseline data of this sustainability appraisal (which are linked to the sustainability objectives used in the appraisal). They aim to:

- Concentrate on the residual significant effects (after mitigation measures) identified in the appraisal;
- Provide information to identify when problems, including unexpected ones, arise;
- Contribute to addressing deficiencies in data availability identified in this appraisal.

The following indicators have been identified:

**Table 36: Indicators of residual significant effects**

Residual significant effect	Suggested indicator	Data source
Loss of land with high agricultural value	High grade (1-3 <sup>37</sup> ) agricultural land lost to new development	Agricultural land classification data is held by NHDC
Loss of greenfield land and reduction in access to open countryside	Greenfield land (ha.) lost to new development	Data from planning permissions
Provision of new housing without access to greenspace	Number of dwellings granted permission on sites without access to greenspace within	Data from planning permissions

<sup>36</sup> Para 3.3.22

<sup>37</sup> The best and most versatile agricultural land does not include land graded 3b. However, the data held by NHDC does not distinguish between 3a and 3b. If such data becomes available in future, the indicator should be changed to only include grades 1-3a.

Residual significant effect	Suggested indicator	Data source
	800m.	
Traffic congestion and associated pollution	Average annual vehicle speeds (flow-weighted) during the weekday morning peak on locally managed 'A' roads	Data collected by the Department for Transport
	Local air quality monitoring data	Data collected by NHDC Environmental Health
Landscape and townscape impacts	Number of planning applications granted on sites of moderate or high landscape sensitivity: <ul style="list-style-type: none"> <li>Moderate or high landscape sensitivity</li> <li>Within existing built-up area</li> <li>Unknown</li> </ul>	Data on the classification of sites is contained in the Landscape Sensitivity Reports which form part of the evidence base for the Local Plan
Impacts on heritage assets	Number of planning applications granted contrary to the advice of Historic England	Data from planning permissions
Reduction in water quality	The number of applications granted contrary to the advice of the EA on water quality grounds.	The indicator is already included in the N Herts AMR
Development in flood risk areas	Number of planning applications granted contrary to the advice of the Environment Agency on flood defence grounds	The indicator is already included in the N Herts AMR
Surface water flooding	Percentage of new developments with adopted SUDS schemes	Data from planning permissions
Climate change	Local authority carbon dioxide emissions estimates for domestic and transport	Data collected by the Department for Business, Energy and Industrial Strategy
Amenity impacts on existing residents	Number of noise complaints divided by type	Data collected by NHDC Environmental Health
Water usage	Percentage of new dwellings achieving the optional Building Regulations requirement of 110 litres per person per day	Data from planning permissions
Potential negative effects on Letchworth town centre	Vacancy rates in Letchworth	The indicator is already included in the N Herts AMR