

Guildford Borough Council
**Guildford Town and Approaches
Movement Study**
Environmental Report

Final | March 2015



This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

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Appendices

Appendix A

GTAMS SEA and Guildford Borough Local Plan SA Scoping Report

Appendix B

Appraisal Matrix

1 Introduction

1.1 Background

Arup was appointed by Guildford Borough Council in July 2013 to undertake the Guildford Town and Approaches Movement Study (GTAMS). The aim of the study was to develop a recommended long-term movement strategy to 2050 for the town of Guildford.

The study area covers the entire urban area of Guildford, plus the immediate approaches to the urban area. The area includes the town centre where the transport networks converge, and also the A3 trunk road. All modes of transport, and their networks, are within the scope of the study.

This study will inform the development of a new Local Plan for the Borough for the period to 2031. As such, it will form part of the evidence base for the Local Plan.

Strategic Environmental Assessment (SEA) has been undertaken for the GTAMS study on an elective basis. The specification for the SEA is in accordance with Directive 2001/42/EC¹ and the UK SEA Regulations² and covers stages A, B and C as defined in the ODPM Guidance³. Guildford Borough Council has decided not to progress Stages D and E at this time.

Surrey County Council, as the Local Transport Authority, will, if appropriate, undertake the SEA process, including stages D and E, as and when it prepares and consults upon a Guildford Borough Local Transport Strategy and Forward Programme. Guildford Borough Council understands that the preparation of a Guildford Borough Local Transport Strategy and Forward Programme will take into account the GTAMS study and other study work. The Guildford Borough Local Transport Strategy and Forward Programme will then be adopted by Surrey County Council, as the Local Transport Authority, as a module of the statutory Local Transport Plan.

1.2 Purpose of SEA

SEA is a process of considering the likely significant environmental effects of a draft plan approach, and alternatives to that approach, with a view to avoiding and mitigating adverse effects and maximising the positive effects. In undertaking the SEA, it is necessary to consider alternative approaches and their respective effects, and to use those findings to refine the plan.

The SEA has run in parallel to the GTAMS study, and the interventions have been tested during their development to assess how they perform against environmental objectives. The scope of the SEA includes consideration of potential health effects alongside environmental impacts.

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

² S.I. 2004 No. 1633 The Environmental Assessment of Plans and Programmes Regulations.

³ A Practical Guide to the Strategic Environmental Assessment Directive. ODPM, 2005

The initial stage of the SEA process was set out in the Scoping Report, which was consulted on in January 2014 and finalised in February 2014 (see Appendix A for the full Scoping Report). The Scoping Report established the objectives and sub-objectives against which GTAMS will be tested. These were based on the objectives identified in the Sustainability Appraisal / SEA Scoping Report for the emerging Guildford Local Plan (URS/GBC, July 2013).

2 Methodology

The SEA process as defined in the ODPM Guidance follows a series of stages, which are outlined below:

- Stage A: Setting the context and objectives, establishing the baseline and deciding on the scope (produce Scoping Report);
- Stage B: Developing and refining options and assessing effects;
- Stage C: Preparing the Environmental Report (to document the appraisal process);
- Stage D: Consulting on the draft plan and the Environmental Report; and
- Stage E: Monitoring the significant effects of implementing the plan.

2.1 SEA Stage A

Stage A was completed in late 2013 and is documented in the SEA Scoping Report. The baseline and context for the GTAMS SEA were drawn from the Guildford Borough Local Plan SA/SEA Report, which was completed in July 2013 and covered the whole of the GTAMS study area. Similarly, the sustainability objectives identified for the Local Plan were used as the basis for the GTAMS SEA framework. The Guildford Borough Local Plan SA/SEA Report is appended to the GTAMS SEA Scoping Report.

Organisations consulted on the SEA Scoping Report were Natural England, English Heritage, the Environment Agency and the Surrey Health and Wellbeing Board. The responses of English Heritage, the Environment Agency and Natural England have not required an alteration to the scope of the SEA. The response of the Surrey Health and Wellbeing Board has been reflected by altering some of the SEA sub-objectives to reflect the health benefits of having access to welcoming areas of public realm.

The Health Impact Assessment for GTAMS is integrated into this report through the SEA objectives relating to health and wellbeing to ensure that wider health concerns are assessed and taken into account.

2.2 SEA Stage B

Stage B comprised the following steps, in accordance with the ODPM Guidance:

- B1 – testing the GTAMS objectives against the SEA objectives;
- B2 – developing strategic alternatives;
- B3 / B4 – predicting and evaluating the effects of the plan, including alternatives;
- B5 – considering ways of mitigating adverse effects; and
- B6 – proposing measures to monitor the effects of the plan implementation.

Stages B3 to B5 were undertaken alongside the appraisal of interventions stage of the GTAMS study process. The GTAMS study process involved:

- setting a study vision for sustainable mobility in Guildford in 2050 and supporting objectives for the Guildford transport system in 2050;
- compiling an inventory of interventions, representing a long list of potential transport interventions, which were then consolidated and tested against the main elements of the vision in order to produce a short list of interventions;
- identification of major highway infrastructure interventions to be assessed individually and scenarios that comprise packages of interventions to be assessed together in the SINTRAM strategic highway model; and
- appraisal of the interventions and packages to determine which best support the vision for sustainable mobility in Guildford in 2050.

In order to determine the significance of potential effects, assessment criteria have been developed and these are set out in **Table 1**. They take into account factors that include the potential sensitivity of the sustainability feature concerned and the magnitude of the potential impact.

Table 1: SEA Significance Criteria.

Significance of Effect		Description of Effect
++	Major Beneficial	Likely to benefit the whole, or large areas of the borough or wider area. Also applies to a large number of people and receptors. The effects are likely to be direct and permanent and the magnitude will be major.
+	Minor Beneficial	The extent of predicted beneficial effects is likely to be limited to small areas within Guildford borough or small groups of people and receptors. The effects can be direct or indirect, temporary or reversible. The magnitude of the predicted effects will be minor.
0	Neutral	Neutral effects are predicted where the option being assessed is unlikely to alter the present or future baseline situation.
-	Minor Adverse	Minor negative effects are likely to be limited to small areas within Guildford borough, or limited to small groups of people and receptors. The effects can be direct or indirect, temporary or reversible. The importance of the receptor that is effect is likely to be minor as is the magnitude of the predicted effect.
--	Major Adverse	Likely to negatively affect the whole, or large areas of the borough or wider area. May have effects on nationally or internationally important assets. Also applies to a large number of people and receptors. The effects are likely to be direct, irreversible and permanent. The magnitude of the predicted effects will also be major.
?	Unknown	This significance criterion is applied to effects where there is insufficient information to make a robust assessment. It is also applied to the assessment of options that can have both positive and negative effects and it is not clear whether the positive or negative effects outweigh each other.
N/A	Not Applicable	This is applied to objectives that are clearly not affected by the option or policy being assessed.

For the purposes of the SEA Directive a significant effect is one that is classified as major adverse or beneficial.

The SEA is just one part of the evidence base that the study team drew on to select the preferred suite of interventions for the recommended strategy. The

GTAMS interventions and packages were assessed using the suite of 17⁴ objectives contained in the Guildford Borough Local Plan SA/SEA Scoping Report, each supported by a number of sub-objectives focusing on the types of issue each objective is concerned with in relation to sustainable mobility in Guildford.

The assessment was undertaken as a largely qualitative, judgement-based exercise. However it was also informed by the quantitative assessment of interventions using the Surrey County Council's SINTRAM strategic highway model, which was undertaken as part of the GTAMS study.

2.3 SEA Stage C

Stage C comprised the completion of this Environmental Report in accordance with the ODPM Guidance and containing the information specified in Directive 2001/42/EC.

2.4 SEA Stages D and E

SEA has been undertaken for the GTAMS study on an elective basis. The specification for the SEA is in accordance with Directive 2001/42/EC⁵ and the UK SEA Regulations⁶ and covers stages A, B and C as defined in the ODPM Guidance⁷. Guildford Borough Council has decided not to progress Stages D and E at this stage.

Surrey County Council, as the Local Transport Authority, will, if appropriate, undertake the SEA process, including stages D and E, as and when it prepares and consults upon a Guildford Borough Local Transport Strategy and Forward Programme. Guildford Borough Council understands that the preparation of a Guildford Borough Local Transport Strategy and Forward Programme will take into account the GTAMS study and other study work.⁸ The Guildford Borough Local Transport Strategy and Forward Programme will then be adopted by Surrey County Council, as the Local Transport Authority, as a module of the statutory Local Transport Plan.

Surrey County Council has indicated to Guildford Borough Council that it intends to prepare the draft of the Guildford Borough Draft Local Transport Strategy and Forward Programme for public consultation in autumn 2014.

Separately, Guildford Borough Council, as the Local Planning Authority, is required to carry out a Sustainability Appraisal (SA) incorporating an SEA of the Local Plan to assess its impacts on social, economic and environmental objectives. Guildford Borough Council has undertaken the SA as an integral part

⁴ 14 of the 17 objectives were used, as three were judged to be not relevant to GTAMS.

⁵ Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment.

⁶ S.I. 2004 No. 1633 The Environmental Assessment of Plans and Programmes Regulations.

⁷ A Practical Guide to the Strategic Environmental Assessment Directive. ODPM, 2005

⁸ See recommendation (i) and paras 2.5-2.10 in report on 'Joint working through the Guildford Local Committee (Local Committee Plus)' to Surrey County Council Local Committee (Guildford) dated 12 March 2014, available at <http://mycouncil.surreycc.gov.uk/documents/s12409/JP%20Final%20-%202004%2003%202014.pdf>

of the Local Plan process. This includes appraisal of all draft policies which draw upon the recommendations of the GTAMS.⁹

3 Baseline and Review of Relevant Plans and Programmes

The baseline information and review of relevant plans and programmes for this SEA is exactly the same as those set out in the Guildford Borough Local Plan SA/SEA Scoping Report. In order to avoid duplication this is reproduced in Appendix A.

It forms the benchmark against which potential effects are assessed by the SEA and complies with the requirements of the SEA Directive and Regulations.

⁹ See <http://www.guildford.gov.uk/localplansa>

4 Assessment and Mitigation

4.1 Testing the GTAMS Objectives against the SEA Sub-Objectives

Table 2 summarises the results from a testing exercise whereby the GTAMS objectives have been tested against the SEA sub-objectives. The purpose of this review was to establish whether there were any aspects of the GTAMS objectives that were likely to conflict with the GTAMS SEA sub-objectives, and therefore could indicate a sustainability issue with the GTAMS strategy.

Where the objectives complement one another a tick is entered into the matrix. Where there are no direct links between the two ‘n/a’ is recorded. The numbering of the GTAMS SEA sub-objectives matches the numbering of the Local Plan SA objectives, as outlined in Table 1 of the Scoping Report shown in Appendix A (e.g. sub-objectives 2.1 to 2.4 are all sub-objectives of Local Plan SA objective 2).

From this assessment it is evident that none of the GTAMS objectives fundamentally conflict with the GTAMS SEA sub-objectives identified from the Local Plan SA objectives.

Table 2: Testing GTAMS Objectives against the SEA Sub-Objectives.

GTAMS SEA Sub-Objectives	GTAMS Objectives				
	Attractive and thriving town centre	Innovative world-class high-tech employment sector	High-quality resilient environment	Engaged, healthy and prosperous community	Excellent connections, locally, regionally and internationally via airports & high-speed rail links
1.1 – To deliver transport and movement interventions that support the provision of housing to meet local needs.	n/a	n/a	✓	✓	n/a
2.1 – To encourage active travel, including cycling and walking.	✓	n/a	✓	✓	✓
2.2 – To improve links to sites such as open space, sports, leisure facilities and public realm.	✓	n/a	✓	✓	✓
2.3 – To reduce exposure to noise from traffic and other transport sources in residential areas.	✓	n/a	✓	✓	n/a
2.4 – To reduce exposure of the population to traffic-related air emissions.	✓	n/a	✓	✓	n/a
3.1 – To avoid transport interventions that would have the potential to increase the risk of flooding.	✓	n/a	✓	✓	n/a

GTAMS SEA Sub-Objectives	GTAMS Objectives				
	Attractive and thriving town centre	Innovative world-class high-tech employment sector	High-quality resilient environment	Engaged, healthy and prosperous community	Excellent connections, locally, regionally and internationally via airports & high-speed rail links
4.1 – To improve safety and security on pedestrian and cycle routes and public transport.	✓	n/a	✓	✓	✓
4.2 – To reduce rates of road traffic accidents.	✓	n/a	✓	✓	✓
5.1 – To provide transport and movement interventions that would support access to employment and education sites in and around the town.	✓	✓	n/a	✓	✓
5.2 – To provide transport and movement interventions that would benefit vulnerable groups such as older people, disabled people and people on low incomes (in particular those without a car).	n/a	n/a	n/a	✓	✓
6.1 – To support a vibrant town and town centre through improved accessibility.	✓	✓	✓	✓	✓
7.1 – To provide transport and movement interventions that make direct use of, or support the regeneration of Previously Developed Land (PDL).	n/a	n/a	✓	n/a	n/a
8.1 – To avoid transport interventions that would directly impact on protected sites.	✓	n/a	✓	n/a	n/a
8.2 – To avoid transport interventions that would adversely affect the landscape and natural environment, for example through visual effects, pollution emissions, or loss of habitats.	✓	n/a	✓	✓	n/a
9.1 – To avoid transport interventions that would directly impact on protected resources.	n/a	n/a	✓	✓	n/a
9.2 – To provide transport and movement interventions that would improve access to cultural and historic resources in and around the town centre.	✓	n/a	✓	✓	n/a
10.1- To provide transport and movement interventions that	✓	n/a	✓	✓	✓

GTAMS SEA Sub-Objectives	GTAMS Objectives				
	Attractive and thriving town centre	Innovative world-class high-tech employment sector	High-quality resilient environment	Engaged, healthy and prosperous community	Excellent connections, locally, regionally and internationally via airports & high-speed rail links
encourage the use of sustainable forms of transport.					
11.1 – To avoid transport interventions that would result in the loss of best and most versatile agricultural land (BVAL).	n/a	n/a	✓	✓	n/a
12.1 – To provide transport interventions that achieve sustainable management of significant volumes of waste (e.g. tunnelling).	n/a	n/a	✓	n/a	n/a
13.1 – To avoid transport interventions that would impact on surface or ground water resources.	n/a	n/a	✓	✓	n/a
14.1 – To provide transport and movement interventions that avoid or minimise emissions of greenhouse gases.	n/a	n/a	✓	✓	n/a
15.1 – To provide local transport and movement interventions that enhance access to the town centre and key employment / sites.	✓	✓	✓	✓	✓
15.2 – To provide / improve strategic links that will support Guildford’s competitive economic role.	✓	✓	✓	✓	✓

4.2 Developing Strategic Alternatives

The process of developing of strategic alternatives is documented in the Scenario Analysis and Appraisal of Interventions Report (Arup, March 2015). This process has comprised the following stages:

Vision and objectives

The vision for sustainable mobility in Guildford in 2050 was identified as follows:

The transport system in 2050 will sustain Guildford as a centre of excellence with: an attractive and thriving town centre; an innovative world-class high-tech employment sector; a high-quality resilient environment; an engaged, healthy and prosperous community; and excellent connections, locally, regionally, and internationally via airports and high speed rail links.

Inventory of interventions

An inventory of approximately 300 potential interventions was compiled. An internal workshop was held to decide from the original intervention inventory which interventions would be carried through to the consolidated long list, of around 100 interventions. The criteria for this selection process were focused on avoiding duplication, grouping interventions, and excluding very localised and small scale interventions, those that were too general or could not be specified clearly, those that were completely out of the control of Guildford Borough Council or its partners, and those that are already committed.

The interventions in the consolidated long list were appraised against the main elements of the vision in order to produce a shortlist. This was achieved through highlighting the focus of the vision, and establishing criteria that can be appraised, as follows:

- An attractive and thriving town centre;
- An innovative world-class high-tech employment sector;
- A high quality resilient environment;
- An engaged, healthy and prosperous community; and
- Excellent connections, locally, regionally and internationally via airports and high speed rail links.

Each intervention was assessed against these objectives from -3 (significantly negative impact) to +3 (significantly positive impact). Interventions scoring highly were included on the shortlist; in total, 36 interventions were shortlisted.

This early stage of developing strategic alternatives was undertaken by a small team within the transport planning team, in order to identify a list of viable alternatives to go forward for wider appraisal, including the SEA and HIA appraisals.

Several additional interventions were added to the shortlist of alternatives to be appraised at the request of Guildford Borough Council.

The full long and short list of interventions is presented in the GTAMS Scenario Analysis and Appraisal of Interventions Report (Arup, March 2015).

4.3 Appraisal of Interventions and Packages

Once this initial assessment (described above) had created the shortlist of reasonable alternatives the SEA process could begin to predict and assess the likely effects of the GTAMS interventions. Each intervention has been assessed in isolation against the suite of SEA sub-objectives. A description of the likely effect was recorded and the magnitude of the effect defined as minor, major, adverse, beneficial or neutral.

The SEA Directive requires the Environmental Report to identify the significant effects of the plan or programme being assessed; as a result a significant effect has been defined as one that results in major effect. The SEA Directive also requires that measures to mitigate potentially significant effects are identified. This information is summarised below. A complete version of the SEA appraisal matrix can also be found in Appendix B.

4.3.1 Major Highway Infrastructure Interventions

A3 Interventions

Table 3 sets out the A3 major highway infrastructure interventions.

Table 3: Summary of Significant Effects from the A3 Major Highway Infrastructure Interventions.

Interventions	Summary of Significant Effects
A3 Widening Widen A3 to three lanes	<p>Adverse effects</p> <p>Increase in noise exposure due to increased traffic flows along the A3, affecting communities of Onslow, Southway/Aldershot Rd area, Abbotswood and Burpham.</p> <p>Road widening would require demolitions and earthworks, generating significant volumes of waste.</p> <p>Increased severance within the town.</p>
	<p>Beneficial effects</p> <p>No major (significant) beneficial effects predicted.</p> <p>The following minor beneficial effects are highlighted:</p> <ul style="list-style-type: none"> Reduced traffic in the town centre, but this is offset by increased traffic on the A3 and surrounding roads.
A3 Northern Bypass New Guildford bypass (north of Guildford)	<p>Adverse effects</p> <p>Significant attenuation measures would be needed to avoid increase in run-off rates.</p> <p>Likely to involve land take of mainly undeveloped agricultural land, woodland and other habitats (Thames Basin Heath SPA for example). There is potential for some Previously Developed Land (PDL) e.g. former landfills etc. (unknown).</p> <p>Likely to involve impact on protected sites for nature conservation.</p> <p>Likely significant environmental effects on the natural environments around the north side of Guildford, including woodland and heathland.</p> <p>Potential impacts on features such as listed buildings, and archaeological deposits due to the construction of the bypass. Likely significant impacts on the historic landscape around the north side of Guildford.</p> <p>Likely to involve the loss and severance of Best and most Versatile Agricultural Land. Would require the crossing of numerous minor watercourses and the River Wey. Mitigation would be required by the Environment Agency to protect water quality and flows.</p>
	<p>Beneficial effects</p> <p>No major (significant) beneficial effects predicted.</p>
A3 Tunnel (A31 to A320) Tunnel carrying the A3 through the Guildford urban area: longer tunnel A31 to A320	<p>Adverse effects</p> <p>Tunnelling would generate significant volumes of excess waste material.</p> <p>Forecast small increase in total vehicle kilometres across the road network in the Borough.</p>
	<p>Beneficial effects</p> <p>Large reduction in noise exposure along the existing A3 alignment benefitting communities of Onslow, Southway/Aldershot Rd area, Abbotswood and Burpham.</p> <p>Diversion of A3 into tunnel prevents further noise exposure in residential areas (although possible impacts around portals).</p> <p>Moving traffic from the existing A3 into tunnel is likely to reduce pollutant concentrations in residential areas.</p>
A3 Tunnel (A31 to A25)	<p>Adverse effects</p> <p>Tunnelling would generate significant volumes of excess waste material.</p>

Interventions	Summary of Significant Effects
Tunnel carrying the A3 through the Guildford urban area: shorter tunnel A31 to A25	<p>Beneficial effects</p> <p>Large reduction in noise exposure along the existing A3 alignment benefitting communities of Onslow, Southway/Aldershot Rd area, Abbotswood and Burpham. Diversion of A3 into tunnel prevents further noise exposure in residential areas (although possible impacts around portals).</p> <p>Moving traffic from the existing A3 into tunnel is likely to reduce pollutant concentrations in residential areas.</p>
A3 Corridor Junction Changes	<p>Adverse effects</p> <p>No major (significant) adverse effects predicted.</p>
Changes to the existing A3 corridor through Guildford - all junctions all movements	<p>Beneficial effects</p> <p>Reduction in noise exposure along the existing A3 alignment benefitting communities of Onslow, Southway/Aldershot Rd area, Abbotswood and Burpham. This is offset by likely increased noise exposure in residential areas resulting from traffic diverting to local road networks.</p>

The A3 Corridor Junction Changes intervention has no significant adverse effects, and would probably have a mixed impact on noise exposure across the borough. Of the other A3 interventions, the two tunnel options have the least significant adverse environmental effects and the potential to deliver some beneficial environmental effects.

Town Centre Schemes

Table 4 sets out the town centre highway infrastructure interventions.

Table 4: Summary of Significant Effects from the Town Centre Intermediate and Major Highway Infrastructure Interventions.

Interventions	Summary of Significant Effects
Town centre road system redesign (David Ogilvie)	<p>Adverse effects</p> <p>Tunnelling would generate significant quantities of waste material.</p> <p>Potential for increased severance around the town centre.</p> <p>Land required for tunnel portals in town centre.</p> <p>Beneficial effects</p> <p>Closure of Bridge Street to traffic provides an improved walking route between the station and town centre. Significant reduction in traffic flows on town centre roads is beneficial to cyclists and pedestrians.</p> <p>Reduced public transport journey times and traffic volumes into the town centre would help to reduce physical / spatial exclusion from services and employment opportunities, although this would be offset by increases to cross-town journey times.</p> <p>Supporting the vibrancy of the town centre through improved access.</p> <p>Reductions in traffic numbers and decreases in bus journey times into the town centre.</p>
Town centre road system redesign (Guildford Vision Group)	<p>Adverse effects</p> <p>Transport modelling shows an increase in highway delay across the borough road network and an increase in cross-town journey times by car.</p> <p>Beneficial effects</p> <p>Pedestrianisation of part of the town centre and significant reduction in traffic flows on town centre roads would benefit pedestrians and cyclists.</p> <p>Supporting the vibrancy of the town centre through improved access.</p>

Interventions	Summary of Significant Effects
	Reductions in traffic volumes and bus journey times into the town centre (countered by increased cross-town journey times for general traffic).
Pedestrianisation of Bridge Street	<p>Adverse effects No significant adverse effects.</p> <p>Beneficial effects Closure of Bridge Street to traffic provides an improved walking route between the station and town centre. Significant reduction in traffic flows on town centre roads is beneficial to cyclists and pedestrians. Supporting the vibrancy of the town centre through improved access. Reduction in severance in the town centre. Enhanced public realm in the town centre.</p>
Walnut Tree Close closure (to through traffic)	<p>Adverse effects No significant adverse effects.</p> <p>Beneficial effects No major (significant) beneficial effects predicted. The following minor beneficial effects are highlighted:</p> <ul style="list-style-type: none"> • Closure of Walnut Tree Close to through traffic provides an improved walking route between the station and town centre • Supporting the vibrancy of the town centre through improved access • Reduction in severance in the town centre • Enhanced public realm in the town centre

Both of the town centre road system redesign interventions (from David Ogilvie and from Guildford Vision Group) have the potential to result in significant beneficial and adverse effects. All options potentially contribute to the quality of the built environment by creating a pleasant and safer walking route from the station to the town centre along Walnut Tree Close and/or Bridge Street.

However, the tunnelling element of the town centre road system redesign intervention from David Ogilvie is likely to generate significant quantities of excavated material that might become waste. The town centre road system redesign intervention from Guildford Vision Group has the potential to increase highway level of delay across the wider borough (although the volume of traffic in the town centre would be reduced).

4.3.2 Sustainable Transport Interventions

Table 5 sets out the sustainable transport interventions. Interventions which were found to have the same effects in the assessment are presented together.

Table 5: Summary of Significant Effects from the Sustainable Transport Interventions.

Interventions	Summary of Significant Effects
Streetscape design involving the removal or downgrading of traffic priority in the town centre and across the borough, excluding	<p>Adverse effects No significant adverse effects.</p> <p>Beneficial effects Likely significant road safety improvements for pedestrians and cyclists. Potential to benefit safety on pedestrian routes and at bus stops through measures such as improved visibility, lighting etc.</p>

Interventions	Summary of Significant Effects
primary distributor roads.	<p>Improved safety and accessibility for pedestrians will encourage a vibrant town centre.</p> <p>Improved streetscape design will enhance the setting of the castle and historic town centre.</p>
Improving the quality of pedestrian wayfinding, and urban realm along key desire lines.	<p>Adverse effects No significant adverse effects.</p> <p>Beneficial effects Likely significant road safety improvements for pedestrians. Potential to benefit safety on pedestrian routes and at bus stops through measures such as improved visibility, lighting etc. May encourage walking and cycling as a low cost means of commuting. Improved safety will particularly benefit older people, disabled people and those with young children. Improved safety and accessibility for pedestrians will encourage a vibrant town centre. Improved streetscape design will enhance the setting of the castle and historic town centre.</p>
Reduced car use through increased use of car clubs and car hire.	<p>Adverse effects No significant adverse effects.</p> <p>Beneficial effects No major (significant) beneficial effects predicted. The following minor beneficial effect is highlighted: Reduces single-occupancy car trips in the town, thus reducing congestion and associated impacts.</p>
Park and stride strategy. Modifications to parking e.g. redistribution from long to short stay, premium on-street parking.	<p>Adverse effects No significant adverse effects.</p> <p>Beneficial effects No major (significant) beneficial effects predicted. The following minor beneficial effect is highlighted:</p> <ul style="list-style-type: none"> Encourages use of park-and-ride system and less car trips to town centre, meaning less congestion and associated impacts on the town centre.
Dedicated and continuous 'cycle super-highways'. Extensive cycling infrastructure giving cyclists priority and road space.	<p>Adverse effects No significant adverse effects.</p> <p>Beneficial effects Strongly encourages cycling and supports people to exercise more and live healthier lifestyles. By segregating cyclists and other road users, cycle safety can be improved.</p>
Bike-sharing scheme / Cycle Hire.	<p>Adverse effects No significant adverse effects.</p> <p>Beneficial effects Strongly encourages cycling and supports people to exercise more and live healthier lifestyles.</p>
Expand existing park and ride facilities.	<p>Adverse effects No significant adverse effects.</p>

Interventions	Summary of Significant Effects
<p>Demand responsive public transport – minibuses or similar.</p> <p>Integrated public transport - coordinated timetabling of all public transport across the borough, and smartcard & integrated ticketing.</p> <p>Bus priority and corridor improvements: physical segregation on-street, signalling priority and bus gates, customer information systems and other stop improvements.</p>	<p>Beneficial effects</p> <p>No major (significant) beneficial effects predicted.</p> <p>The following minor beneficial effects are highlighted:</p> <ul style="list-style-type: none"> • Reduces car trips into the town thus reducing congestion and associated impacts • Improves access to and from public transport system which will have a beneficial effect on access to employment • Reduces in severance in the town centre • Enhances public realm in the town centre
<p>New segregated or mostly segregated public transport option (e.g. bus rapid transport, guided busway or tram/light rail).</p>	<p>Adverse effects</p> <p>No significant adverse effects.</p> <p>Beneficial effects</p> <p>Reduces car trips into the town thus reducing congestion and associated impacts.</p> <p>Improved access to and from key employment centres will have a beneficial effect on access to employment by non-car modes.</p> <p>Reduces in severance in the town centre.</p> <p>Enhances public realm in the town centre.</p>
<p>Expand network of shuttle services – building on existing workplace shuttle services.</p>	<p>Adverse effects</p> <p>No significant adverse effects.</p> <p>Beneficial effects</p> <p>Improved access to and from public transport hubs and potentially from residential areas (depending on selected routes) will have a beneficial effect on access to employment.</p>
<p>Promotion of tele-/home-working and flexible working hours through an information campaign to local businesses and council incentives for employers to acquire necessary equipment.</p>	<p>Adverse effects</p> <p>No significant adverse effects.</p> <p>Beneficial effects</p> <p>Potential benefits for people for mobility impaired people looking to work and supports more flexible approach to working that supports the needs of different people.</p>
<p>Development of teleworking offices in local areas to reduce commute distances (alternative to working from home).</p>	<p>Adverse effects</p> <p>No significant adverse effects.</p> <p>Beneficial effects</p> <p>No major (significant) beneficial effects predicted.</p> <p>The following minor beneficial effect is highlighted:</p> <ul style="list-style-type: none"> • Potential to reduce car trips to employment locations in the town
<p>Creation of well signed network of walking and</p>	<p>Adverse effects</p> <p>No significant adverse effects.</p>

Interventions	Summary of Significant Effects
cycling routes linking key trip attractors/ generators such as employment areas, housing areas and education and leisure facilities.	<p>Beneficial effects</p> <p>Encourages walking and cycling levels in the town.</p> <p>Potential for significant benefits, if trip attractors include cultural sites such as the castle.</p>
Improvements to pedestrian realm including replacing overbridges / subways with at-grade crossings, widening pavements and shared surfaces.	<p>Adverse effects</p> <p>No significant adverse effects.</p>
	<p>Beneficial effects</p> <p>Improves safety and security at crossing points for cyclists and pedestrians helps to make both forms of movement more appealing to potential users.</p>
New wider pedestrian bridge linking Walnut Tree Close to Bedford Road surface car park site, creating better pedestrian links between station and town centre.	<p>Adverse effects</p> <p>No significant adverse effects.</p>
	<p>Beneficial effects</p> <p>No significant effect.</p> <p>The following minor beneficial effect is highlighted:</p> <ul style="list-style-type: none"> • Encourages walking in the town
Comprehensive smarter choice programme for the whole town (based on Sustainable Travel Towns Project).	<p>Adverse effects</p> <p>No significant adverse effects.</p>
	<p>Beneficial effects</p> <p>No major (significant) beneficial effects predicted.</p> <p>The following minor beneficial effect is highlighted:</p> <ul style="list-style-type: none"> • Potential for shift to more sustainable modes of transport thus reducing impacts of car trips and congestion on the town

None of the interventions within this package have been assessed as being likely to result in a significant adverse effect. However, a number of them have been assessed as being likely to have significant beneficial effects by increasing the network of cycle routes and footpaths, improving safety for cyclists and pedestrians, helping people adopt healthier lifestyles and increasing the accessibility of employment, education and other facilities by a greater range of modes of transport.

4.3.3 Other Interventions

Table 6 sets out the other interventions, i.e. interventions that do not fall under the previous two categories and that cannot easily be represented in the SINTRAM strategic highway model, for example: rail improvements to regional locations. Interventions which were found to have the same effects in the assessment are presented together in the table.

Table 6: Summary of Significant Effects from the Other Interventions.

Interventions	Summary of Significant Effects
Low emission vehicles with recharging facilities and priority parking treatment. Introduction of low emission public transport / council vehicle fleet.	Adverse effects No significant adverse effects.
	Beneficial effects Supports reduction in transport related emissions of air pollutants and greenhouse gases.
Introduction of a Freight Consolidation Centre for town centre deliveries combined with a restriction of HGVs entering town centre by time of day (potentially with exemption for electric vehicles/cargo bikes).	Adverse effects No significant adverse effects.
	Beneficial effects Potential for traffic, pedestrian and cycle safety improvements.
New Park-and-Ride facilities	Adverse effects No significant adverse effects.
	Beneficial effects No major (significant) beneficial effects predicted. The following minor beneficial effect is highlighted: <ul style="list-style-type: none"> Encourages use of park-and-ride system and less car trips to town centre, meaning less congestion and associated impacts on the town centre.
Additional rail services on the North Downs Line (Reading - Gatwick). New rail halt or station at Park Barn / Surrey Research Park.	Adverse effects No significant adverse effects.
	Beneficial effects Potential to support economic competitiveness by increasing the accessibility of Guildford and the borough to the wider area and the South East. Improve access to employment opportunities. Improve access to non-car modes of transport for residents living in Park Barn which does not currently benefit from the same network of infrastructure.
New rail halt or station at Merrow.	Adverse effects No significant adverse effects.
	Beneficial effects Improves access to employment sites in Guildford town centre from residential area of Merrow. Improve access to non-car modes of transport for residents living in Merrow which does not currently benefit from the same network of infrastructure.
Reinstatement of rail services along corridor	Adverse effects No significant adverse effects.

Interventions	Summary of Significant Effects
between Cranleigh and Guildford.	<p>Beneficial effects</p> <p>Potential to increase public transport use in corridor.</p>
Improved rail access for Heathrow.	<p>Adverse effects</p> <p>No significant adverse effects.</p> <p>Beneficial effects</p> <p>Employment benefits in the form of employment opportunities at Heathrow and global employment and economic markets.</p> <p>Potential to support economic competitiveness by increasing the accessibility of Guildford and the borough to the wider area, South East and abroad.</p>
Increased capacity for rail services between Guildford and Waterloo.	<p>Adverse effects</p> <p>No significant adverse effects.</p> <p>Beneficial effects</p> <p>Employment benefits in the form of employment opportunities in London and the South East and global employment and economic markets.</p> <p>Potential to support economic competitiveness by increasing the accessibility of Guildford and the borough to the wider area, South East and abroad.</p>
Sustainable Movement Corridor	<p>Adverse effects</p> <p>No significant adverse effects.</p> <p>Beneficial effects</p> <p>Provides a safe route for walking and cycling and helps to make both forms of movement more appealing to potential users. Improves access to non-car modes of transport along the corridor and reduces severance.</p> <p>Strongly encourages cycling and supports people to exercise more and live healthier lifestyles.</p> <p>May encourage walking and cycling as a low cost means of commuting.</p> <p>Improved safety will particularly benefit older people, disabled people and those with young children. If people switch to using the sustainable movement corridor from travel by car it will reduce transport related emissions of air pollutants and greenhouse gases and congestion.</p> <p>Potential to support economic competitiveness and improved employment opportunities by providing an attractive convenient link between the town centre, railway station and key employment areas.</p>

None of the interventions within this package have been assessed as being likely to result in a significant adverse effect. However, a number of them have been assessed as being likely to have significant beneficial effects. These include reduced emissions of air pollutants and greenhouse gases, improved access to jobs, both in Guildford and the wider area (including London and the South East). The Sustainable Movement Corridor would also improve access to non-car modes of transport, have safety benefits for walking and cycling and encourage healthier lifestyles.

4.3.4 ‘In Combination’ Effects of all GTAMS Interventions

Table 7 summarises the likely combined effects of the interventions, if they were implemented together. This excludes alternative interventions that are mutually exclusive (for example, the two A3 tunnel interventions). The purpose of this assessment is to establish whether or not the predicted effects result in a greater cumulative effect which might not be apparent with the assessment of the individual interventions (described in sections 4.3.1 to 4.3.4 above). It is worth noting that this assessment covers all the interventions shortlisted for appraisal and not the package of interventions recommended for the GTAMS strategy.

Table 7: Summary of the ‘In Combination’ Effects of all GTAMS Interventions.

SA Objectives	SA Sub-Objectives	Cumulative Effects of All Interventions in Combination.
1 – To provide sufficient housing of a suitable mix taking into account local housing need, affordability, deliverability, the needs of the economy, and travel patterns.	1.1 – To deliver transport and movement interventions that support the provision of housing to meet local needs	- The main effects arise from the A3 and town centre road system redesign interventions that result in increased delays on the borough's road network as well as some cross-town journey time increases for cars (only the A3 widening intervention would significantly reduce cross-town journey times by car). Bus journey times and delay would be likely to decrease slightly and town centre traffic volumes would decrease substantially. The level of intensity of the delivery of interventions to support the use of sustainable modes would ultimately determine whether the interventions could support new housing developments.
2 – To facilitate improved health and well-being of the population, including enabling people to stay independent and reducing inequalities in health.	2.1 – To encourage active travel, including cycling and walking	++ The combined effects of the town centre interventions and the sustainable transport interventions including measures for walking and cycling will result in a major beneficial effect and will also help to avoid any of the potentially adverse effects associated with some of the individual interventions.
	2.2 – To improve links to sites such as open space, sports and leisure facilities	+ Increased capacity and reliability of public transport will have benefits by increasing the range of modes of transport that are available to individuals to access facilities and amenities. It is assumed that these interventions would counteract some of the potentially adverse effects associated with some of the major capital interventions for the A3 and the town centre.
	2.3 – To reduce exposure to noise from traffic and other transport sources in residential areas	0 / ? Some of the infrastructure interventions have the potential to increase noise levels to surrounding areas. The magnitude of the effect would be dependent on the scale of the works undertaken and the proximity and sensitivity of potential receptors (e.g. residential properties). Only one intervention within the group of A3 interventions would be implemented, or none of these. However, national and local planning policies, along with legislation and industry guidance on noise levels from

SA Objectives	SA Sub-Objectives	Cumulative Effects of All Interventions in Combination.
		developments will also apply to the implementation of the infrastructure interventions. Therefore, a neutral effect is predicted.
	2.4 – To reduce exposure of the population to traffic-related air emissions	++ / ? One of the key benefits from many of the potential GTAMS interventions is the shift from private car use to public transport, cycling and walking. This shift has the potential result significant beneficial effects for air quality. If it were also combined with benefits from the construction of new infrastructure (in the town centre and along the A3) the opportunity for beneficial effects could be major. However, there is a degree of uncertainty with this prediction because the magnitude of the impacts is dependent upon which of the infrastructure interventions are implemented.
3 – To reduce the risk of flooding and the resulting detriment to public wellbeing, the economy and the environment.	3.1 – To avoid transport developments that would have the potential to increase the risk of flooding.	0 Although some of the infrastructure interventions and some of the sustainable and 'other' interventions have the potential to increase surface run off and could increase the risk from flooding to others, a neutral effect is predicted. This is because any new construction works would be subject to the national and local level planning policy regarding drainage and flood risk. As a result the interventions should not increase the current level of flood risk as a result of their design.
4 – To create and maintain safer and more secure communities.	4.1 – To improve safety and security on pedestrian and cycle routes and public transport.	++ The combined effects of all interventions are likely to have a major beneficial effect on transport safety, particularly for non-private car modes of transport.
	4.2 – To reduce rates of road traffic accidents.	+ Some of the infrastructure interventions have the potential to result in minor increases in traffic volumes, which in turn might increase accident rates. However, this increase would depend on the interventions that are selected. In terms of the sustainable transport and other interventions, many are likely to improve safety.
5 – To reduce poverty and social exclusion for all.	5.1 – To provide transport and movement interventions that would support access to employment and education sites from residential areas.	++ The combined effects of all of the interventions are likely make a major contribution towards this SA objective by increasing access to jobs and facilities via a greater provision for a variety of modes of transport.
	5.2 – To provide transport and movement interventions that would benefit vulnerable groups such as older people, disabled people and	+ Most of the intermediate and major highway infrastructure interventions have the potential to result in increased highways level of delay. However, interventions within the sustainable transport and 'other' interventions categories should help to improve access to public transport and reduce delays and journey times which will have a beneficial effect.

SA Objectives	SA Sub-Objectives	Cumulative Effects of All Interventions in Combination.
	people on low incomes (in particular those without a car).	
6 – To create and sustain vibrant communities.	6.1 - To support a vibrant town centre through improved accessibility.	++ Although the effects of the individual interventions are expected to have a minor beneficial effect on the vibrancy of the town centre, in combination they are likely to have a major beneficial effect.
7 – To make the best use of previously developed land (PDL) and existing buildings.	7.1 – To provide transport and movement interventions that make direct use of, or support the regeneration of, PDL.	0 / - Some of the developments (e.g. A3 northern bypass and potentially some of the other interventions) would result in construction on greenfield sites (not previously developed land). Although it may not be possible to avoid these effects the magnitude of the effects may be mitigated through design and enhancement measures to offset the loss of green space.
8 – To conserve and enhance biodiversity and the natural environment.	8.1 – To avoid transport interventions that would directly impact on protected sites.	-- / - The infrastructure interventions that involve construction have the potential to impact on biodiversity and in some instances particularly sensitive features and sites. As a result the predicted effects could either be major or minor adverse depending upon which interventions are selected.
	8.2 – To avoid transport interventions that would adversely affect the landscape and natural environment, for example through visual effects, pollution emissions, or loss of habitats.	-- / - The infrastructure interventions that involve construction have the potential to impact on landscape and natural environment and in some instances particularly sensitive features and sites. As a result the predicted effects could either be major or minor adverse depending upon which interventions are selected.
9 – To protect, enhance, and where appropriate make accessible, the archaeological and historic environments and cultural assets of Guildford, for the benefit of residents and visitors.	9.1 – To avoid transport interventions that would directly impact on protected resources.	-- / - The infrastructure interventions that involve construction have the potential to impact on protected resources. As a result the predicted effects of all interventions could either be major or minor adverse depending upon which interventions are selected.
	9.2 – To provide transport and movement interventions that would improve access to cultural and historic resources.	++ The combined effects of all interventions are likely to have a significant beneficial effect on access to cultural and historic resources, particularly those in the town centre.
10 – To achieve a pattern of development which minimises journey lengths	N/A – this objective relates to aspects of spatial development which are outside the remit of GTAMS.	N/A – this objective relates to aspects of spatial development which are outside the remit of GTAMS.

SA Objectives	SA Sub-Objectives	Cumulative Effects of All Interventions in Combination.
and encourages the use of sustainable forms of transport (walking, cycling, bus and rail).		
11 – To minimise the use of best and most versatile agricultural land (BVAL) and encourage the remediation of contaminated land.	11.1 – To avoid transport interventions that would result in the loss of BVAL.	-- / - The infrastructure interventions that involve construction have the potential to result in the loss of BVAL, however this would be dependent upon the location and extent of different interventions. As a result the predicted effects could either be major or minor adverse depending upon which interventions are selected.
12 – To reduce waste generation and achieve the sustainable management of waste.	12.1 – To avoid transport interventions that would generate significant volumes of waste (e.g. tunnelling, etc.).	- - Tunnelling would generate significant volumes of excess waste material. This, combined with the potential waste generated from other interventions, will result in further quantities of waste being generated. However, it would be feasible to implement measures during design and construction to divert waste from landfill.
13 – To maintain and improve the water quality of the borough’s rivers and groundwater, and to achieve sustainable water resources management.	13.1 – To avoid transport interventions that would impact on surface or ground water resources.	-- / - The infrastructure interventions that involve construction have the potential to impact on surface water and groundwater resources and quality. As a result the predicted effects could either be major or minor adverse depending upon which interventions are selected.
14 – To mitigate the causes and adapt to the effects of climate change, through reducing emissions of greenhouse gases.	14.1 – To provide transport and movement interventions that avoid or minimise emissions of greenhouse gases.	+ + A combination of the infrastructure and other interventions will directly contribute towards a reduction in greenhouse gas emission reductions by increasing access to the rail network and supporting modal shift to less carbon intensive modes of transport.
15 – To maintain Guildford borough and Guildford town’s competitive economic role.	15.1 – To provide local transport and movement interventions that enhance access to the town centre and key employment sites.	+ + This has the potential to support economic competitiveness by increasing the accessibility of Guildford, the Surrey Research Park, and the borough to the wider area and the South East.
	15.2 – To provide / improve strategic links that will support Guildford’s competitive economic role.	+ + The combined effects of the interventions (major highway infrastructure interventions, sustainable transport interventions and ‘other’ interventions) will result in a major beneficial effect on Guildford’s economic role in the surrounding area and the wider region by ensuring that jobs, shops and other important services and facilities can

SA Objectives	SA Sub-Objectives	Cumulative Effects of All Interventions in Combination.
		be accessed easily via a greater provision for a variety of modes of transport without being as dependent upon private car use.
16 – To facilitate appropriate development opportunities to meet the changing needs of the economy	16.1 – To provide transport and movement interventions that will benefit key workers living in the borough	+ There is the potential for these interventions to benefit key workers by improving access to jobs and services via a greater provision for a variety of transport modes. Furthermore, these enhancements will benefit a wider variety of workers (i.e. not just key workers).
17 – To enhance the borough’s rural economy	17.1 – To improve transport links in rural areas around Guildford	+ + Although the main focus for the GTAMS is the town of Guildford, provisions are made to enhance existing infrastructure (e.g. rail halt or station at Merrow) and provide new connections (e.g. demand responsive public transport to Guildford town from rural areas of the borough). This, combined with other interventions that help reduce the need for people to commute for work (e.g. home working), supports the rural economy, as well as the wider economy of the borough and the South East.

In summary, from the assessment of effects from all of the GTAMS interventions shortlisted for appraisal ‘in combination’, no new significant adverse effects are predicted. In other words the in combination effect of multiple interventions is not expected to result in significant adverse effects not already identified during the assessment of individual interventions. However, the cumulative effects of a number of minor beneficial effects across a number of interventions have the potential to result in a significant beneficial effect. Specifically this applies to the measures that support modal shift away from private car use which has benefits for reducing greenhouse gas emissions, improving local air quality, making non-car modes of transport safer and improve the accessibility of the town centre, jobs and public transport services.

In terms of the potential for cumulative effects from GTAMS with other plans and programmes the following relevant plan has been identified:

- The emerging Guildford Borough Local Plan Strategy and Sites.

It is concluded that this is the most relevant plan because it will set the framework for future land use allocations and targets for housing and employment land growth. The development of the Guildford Borough Local Plan Strategy and Sites is ongoing. None of the interventions shortlisted for appraisal in GTAMS are expected to conflict with the emerging new Guildford Borough Local Plan Strategy and Sites and all would be expected to comply with the currently adopted Local Plan.

It is concluded that none of the effects identified in this SEA would be likely to result in a significant adverse cumulative effect when combined with the emerging new Guildford Borough Local Plan Strategy and Sites.

Surrey County Council, as the Local Transport Authority, will, if appropriate, undertake the SEA process, as and when it prepares and consults upon a Guildford Borough Local Transport Strategy and Forward Programme. Guildford Borough Council understands that the preparation of a Guildford Borough Local Transport Strategy and Forward Programme will take into account the GTAMS study and other study work. The Guildford Borough Local Transport Strategy and Forward Programme will then be adopted by Surrey County Council, as the Local Transport Authority, as a module of the statutory Local Transport Plan.

Surrey County Council will assess the potential for cumulative effects from the Guildford Borough Local Transport Strategy and Forward Programme with other plans and programmes, including the Guildford Borough Local Plan Strategy and Sites.

4.4 Mitigation and Monitoring

The SEA Directive requires that “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”. To this end the sub-objectives affected by the adverse effects described above in section 4.3 have been identified.

Mitigation measures to address these potentially significant effects are shown in **Table 8**.

Table 8: Proposed Mitigation Measures.

SA Sub-Objectives	Mitigation Measures for Significant Effects
2.2 – To improve links to sites such as open space, sports and leisure facilities.	Increased cross-town journey times by car may be mitigated by undertaking further assessment to identify whether these interventions could be combined with others to reduce the overall effect on cross-town journey times by car (e.g. park and ride and logistics consolidation measures that help to remove vehicles from town centre).
2.3 – To reduce exposure to noise from traffic and other transport sources in residential areas.	Where an intervention could increase noise levels and nuisance to nearby receptors a more detailed noise assessment should be undertaken to predict the likely noise levels that could occur and whether these are above acceptable limits. If noise limits could be exceeded the best practicable means to reduce noise levels should be incorporated into the project. This will mitigate any potentially significant noise effects.
3.1 – To avoid transport developments that would have the potential to increase the risk of flooding.	The National Planning Policy Framework (NPPF) and the Floods, Water Management Act 2010 and local planning policy will require any significant increase in the area of impermeable surfaces to be mitigated to avoid increasing the risk of flooding. This could be achieved using a variety of sustainable urban drainage system techniques. As a result it is concluded that it will be possible to mitigate any potentially significant flooding effects.
7.1 – To provide transport and movement interventions that make direct use of, or support the regeneration of, PDL.	Where possible construction in undeveloped greenfield locations should be avoided. Where this is not possible less sensitive greenfield areas should be chosen ahead of more sensitive ones (poor quality - i.e. not BVAL agricultural land before ancient woodland). In addition to this, measures to offset any permanent loss of greenfield land should be reviewed and identified e.g. by enhancing the quality of green space or habitats.
8.1 – To avoid transport interventions that would directly impact on protected sites.	Relevant technical assessments should be undertaken to identify any potentially sensitive sites or features and specify measures to avoid adverse significant effects.
8.2 – To avoid transport interventions that would adversely affect the landscape and natural environment, for example through visual effects, pollution emissions, or loss of habitats	Relevant technical assessments should be undertaken to identify any potentially sensitive sites, features or resources and specify measures to avoid adverse significant effects. Design of the scheme and associated landscaping should take into account potentially sensitive receptors and comply with national and local planning policies. These measures should ensure that unacceptable effects are avoided and where this is not possible appropriate measures are used to mitigate the effects.
9.1 – To avoid transport interventions that would directly impact on protected resources	Relevant technical assessments should be undertaken to identify any potentially sensitive sites, features or resources and specify measures to avoid adverse significant effects. Design of the scheme and associated landscaping should take into account potentially sensitive receptors and comply with national and local planning policies. These measures should ensure that unacceptable effects are avoided and where this is not possible appropriate measures are used to mitigate the effects.
11.1 – To avoid transport interventions	In line with the requirements of the National Planning Policy Framework (NPPF) poorer quality land should be selected ahead of

SA Sub-Objectives	Mitigation Measures for Significant Effects
that would result in the loss of BVAL.	best and most versatile. Where this is not feasible, the smallest possible quantity of BVAL should be lost.
12.1 – To avoid transport interventions that would generate significant volumes of waste (e.g. tunnelling, etc.).	Depending on the type and quality of soil and material that is excavated during the construction of tunnels or new transport infrastructure it is highly likely that the material can be recovered, re-used, or recycled. By applying this sustainable approach to waste management it should be possible for the interventions to avoid significant adverse effects.
13.1 – To avoid transport interventions that would impact on surface or ground water resources.	Any works in the vicinity of watercourses or sensitive groundwater areas would be subject to environmental legislation and could require further consent from the Environment Agency before works could be undertaken. Therefore it should be possible avoid any significant adverse effects through the design and siting of any works.

To monitor the likely significant effects of GTAMS it is proposed that the indicators set out in the Local Plan SA Scoping Report (Appendix A) could be used. The purpose of this is to avoid duplication of effort in terms of collecting data and monitoring potentially significant adverse effects of the GTAMS.

Surrey County Council, as the Local Transport Authority, will, if appropriate, undertake the SEA process, as and when it prepares and consults upon a Guildford Borough Local Transport Strategy and Forward Programme. Guildford Borough Council understands that the preparation of a Guildford Borough Local Transport Strategy and Forward Programme will take into account the GTAMS study and other study work. The Guildford Borough Local Transport Strategy and Forward Programme will then be adopted by Surrey County Council, as the Local Transport Authority, as a module of the statutory Local Transport Plan.

Surrey County Council will assess the potential for cumulative effects from the Guildford Borough Local Transport Strategy and Forward Programme with other plans and programmes, including the Guildford Borough Local Plan Strategy and Sites.

5 Next Steps

Surrey County Council, as the Local Transport Authority, will, if appropriate, undertake the SEA process, as and when it prepares and consults upon a Guildford Borough Local Transport Strategy and Forward Programme. Guildford Borough Council understands that the preparation of a Guildford Borough Local Transport Strategy and Forward Programme will take into account the GTAMS study and other study work. The Guildford Borough Local Transport Strategy and Forward Programme will then be adopted by Surrey County Council, as the Local Transport Authority, as a module of the statutory Local Transport Plan.

In so doing, Surrey County Council should produce a post-adoption statement that sets out how consultation comments have been addressed, the reasons for the selecting the preferred options and rejecting the alternatives and the stating the finalised approach to monitoring the likely significant effects.

Appendix A

GTAMS SEA and Guildford Borough Local Plan SA Scoping Report

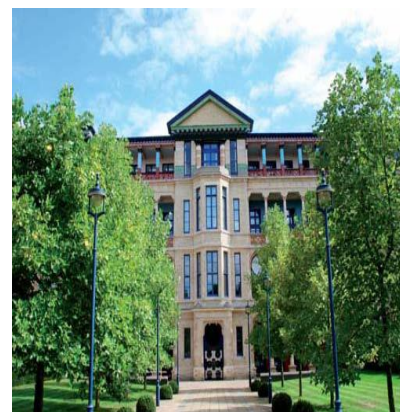
URS

SA / SEA Scoping Report

July 2013

Prepared for:
Guildford Borough Council

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1 INTRODUCTION

1.1 Background

URS is appointed by Guildford Borough Council to undertake Sustainability Appraisal (SA) in support of the emerging Guildford Local Plan. SA is a mechanism for considering the impacts of a draft plan approach, and alternatives to that approach, in terms of key sustainability issues, with a view to avoiding and mitigating adverse impacts and maximising the positives. SA is a legal requirement for Local Plans.

1.2 SA explained

It is a legal requirement that SA is undertaken in-line with the procedures prescribed by the Environmental Assessment of Plans and Programmes Regulations 2004, which were prepared in order to transpose into national law the EU Strategic Environmental Assessment (SEA) Directive¹.

Two key procedural requirements of the Directive are that:

- 1) A report (which we call the 'SA Report') is published for consultation alongside the draft plan that essentially appraises the likely significant effects of implementing the plan and reasonable alternatives;
- 2) When deciding on 'the scope and level of detail of the information' which must be included in the SA Report there is a consultation with nationally designated authorities².

This 'Scoping Report' is concerned with (2). A draft version of this document has been presented for consultation, and this current version presents the 'scope' that has subsequently been decided upon.

1.3 SA 'scoping' explained

Developing the scope has involved the following steps:

- 1) Exploring the sustainability 'context' (e.g. messages from the National Planning Policy Framework) with a view to gaining an understanding of broadly what SA should look at.
- 2) Characterising relevant aspects of sustainability 'baseline' with a view to establishing benchmarks for subsequent appraisal of the plan and reasonable alternatives.
- 3) Identifying sustainability issues and objectives that should be a particular focus of SA, i.e. that should provide a methodological 'framework' for appraisal.

¹ Directive 2001/42/EC

² The nationally designated bodies (who 'by reason of their specific environmental responsibilities, are likely to be concerned by the environmental effects of implementing plans') are Natural England, English Heritage and the Environment Agency

1.4 Structure of this scoping report

The outcome of scoping work is presented below under a series of ‘topic’ headings³:

- Population (Chapter 2)
- Health (Chapter 3)
- Economy & Employment (Chapter 4)
- Transport & Accessibility (Chapter 5)
- Crime & Safety (Chapter 6)
- Housing (Chapter 7)
- Cultural Heritage (Chapter 8)
- Climate (Chapter 9)
- Air (Chapter 10)
- Soil (Chapter 11)
- Water (Chapter 12)
- Biodiversity (Chapter 13)
- Landscape (Chapter 14)
- Waste (Chapter 15)

Two final chapters are given over to: summarising the ‘SA framework’ (Chapter 16); and discussing ‘next steps’ (Chapter 17).

³ The topics reflect the issues mentioned in Annex 1(f) of the SEA Directive.

2 POPULATION

2.1 What’s the sustainability context?

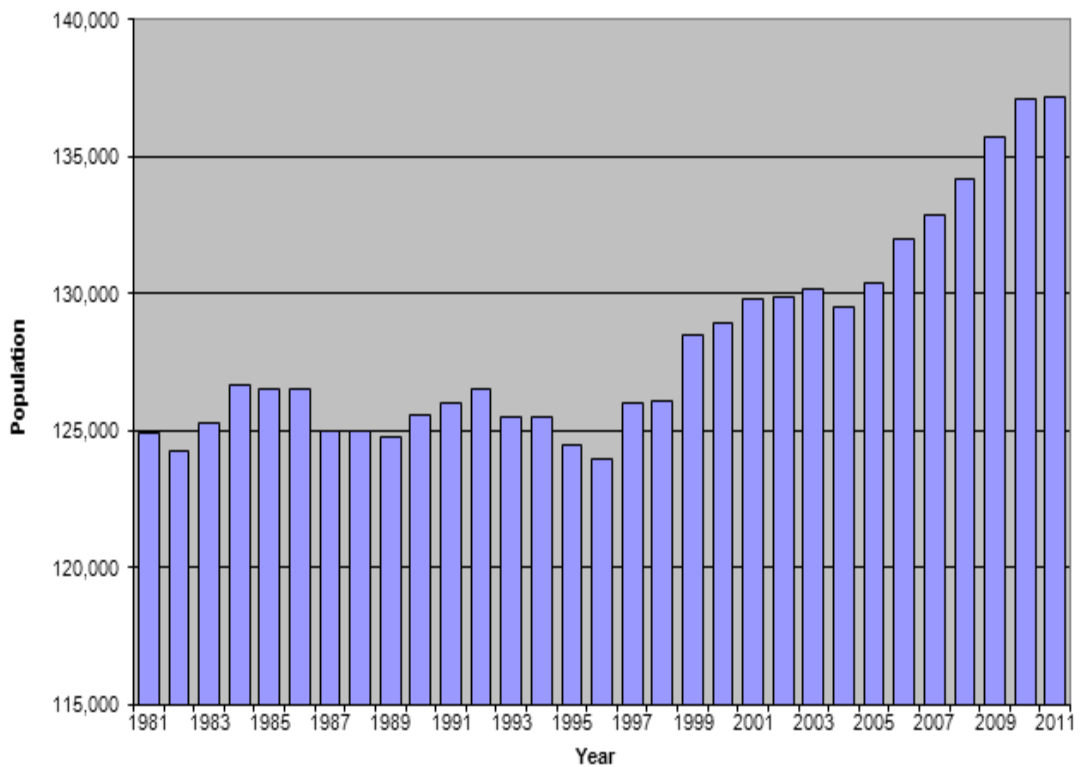
A key message from the NPPF is that the social role of the planning system should be to “support vibrant and healthy communities”.

The NPPF also states that planning should “take account of and support local strategies to improve health, social and cultural wellbeing for all”.

2.2 What is the sustainability baseline?

In 2011 the total population of Guildford reached 137,200⁴. The population has grown by 12,300 in 30 years, as illustrated in Figure 2-1. Specifically, since 1999 the population has increased after a period of relative stability from 1981.

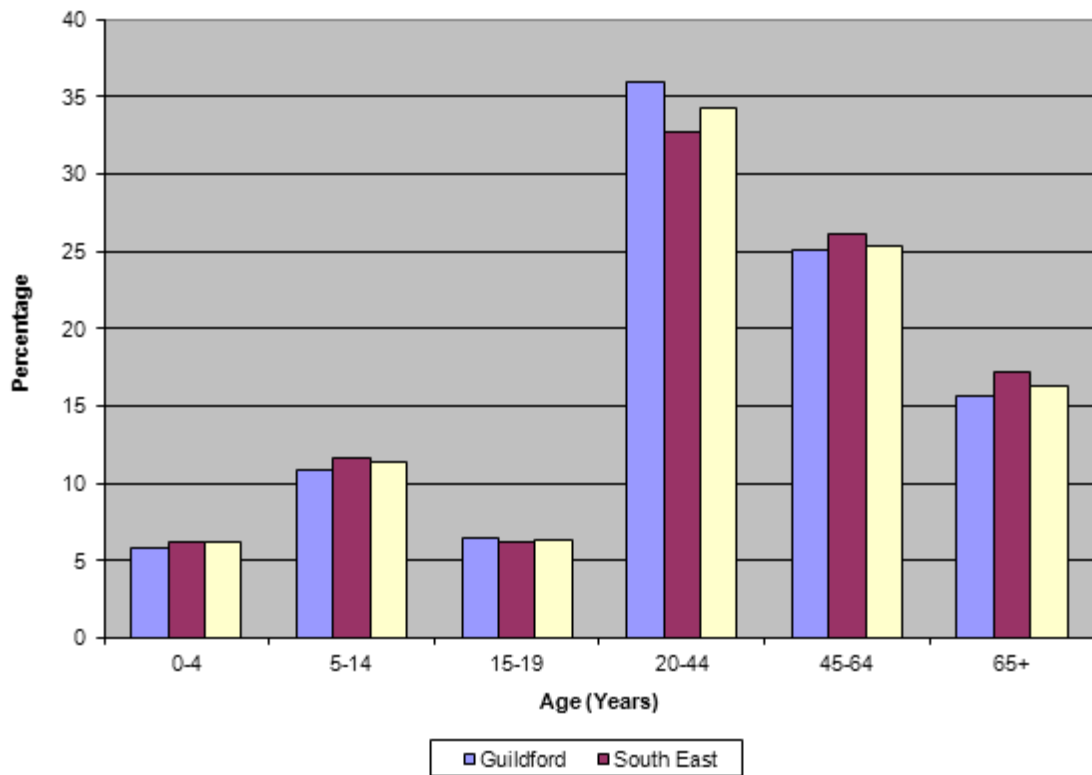
Figure 2-1: Population in Guildford 1981-2010⁵



⁴ Census 2011 Total population for Guildford <http://www.surreyi.gov.uk/Viewpage.aspx?C=basket&BasketID=210&cookieCheck=true> [accessed 26.07.12]

⁵ www.nomisweb.co.uk [accessed 12.06.12]

Figure 2-2: Population age structure⁶



More elderly people are likely to be living in the south east of England in the next 20 years due to longer life expectancy and in-migration⁷. The population age structure in Guildford, as illustrated in Figure 2-2, identifies that the borough currently has a higher proportion of people aged 20-44 than both the South East and England. This is in part due to the presence of Surrey University however it is not certain what percentage this makes of the overall figure. If these people stay resident in the borough and reach retirement age in 20-30 years time there will likely be an increased demand on health and social support services.

Population projections⁸ for Guildford show an increase of just over 15% between 2010 and 2035 (Figure 2-3). By 2035 the population of Guildford is estimated to be over 162,000⁹. The population projections are an indication of future trends in population. They are trend-based projections, based on assumptions over future levels of births, deaths and migration based on observed levels between 2006 and 2010. The interim 2011 projections (Figure 2-4) operate from more up-to-date data (up to 2011), however they only project up to 2021.

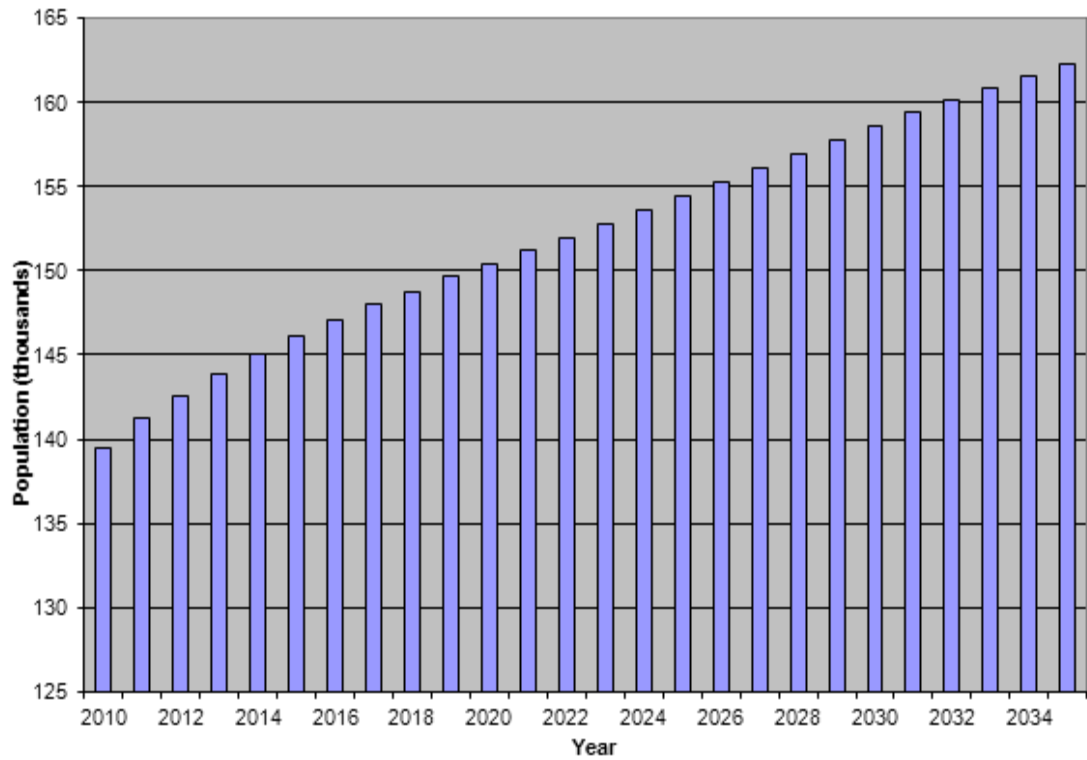
⁶ Census, 2011 Usual resident population by five-year age group, local authorities in England and Wales <http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-257414> (accessed 07/12)

⁷ Government Office for the South East(2009) The South East Plan

⁸ Population projections are based on number of births, deaths and inward and outward migration

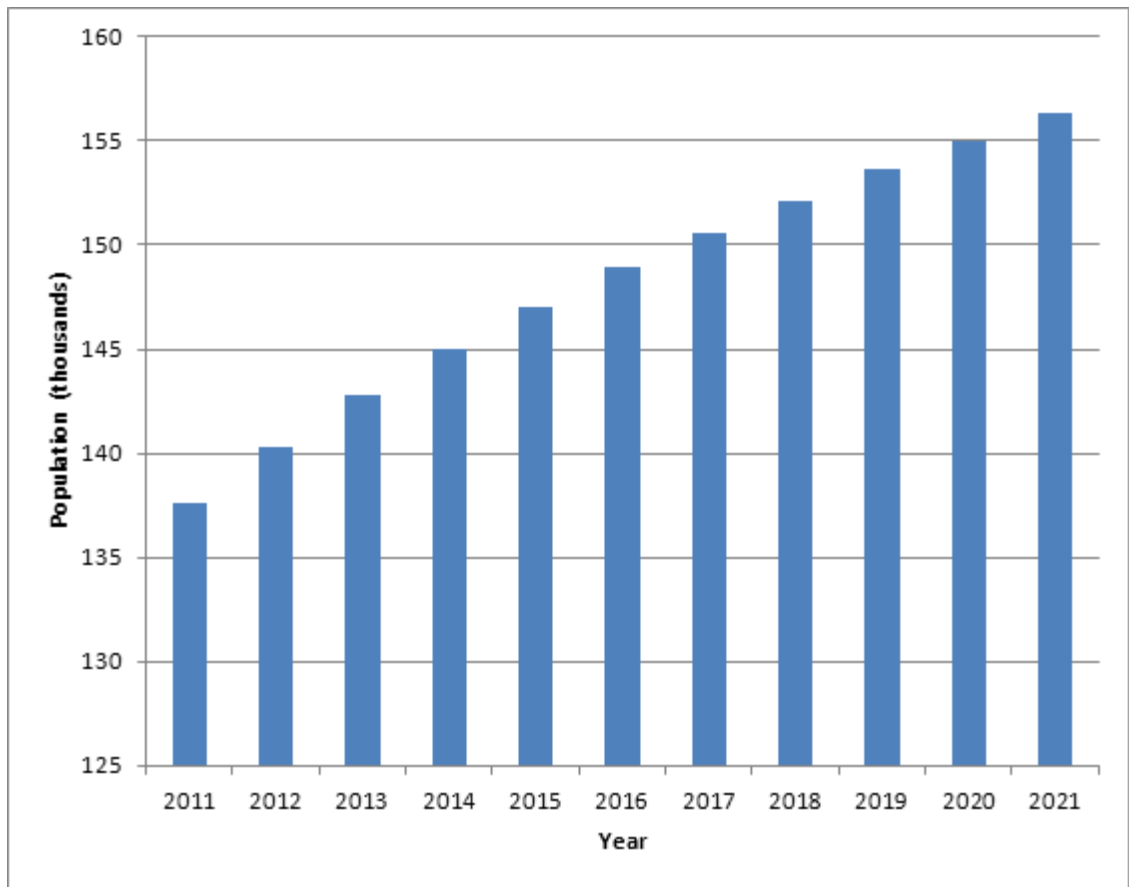
⁹ Office for National Statistics, Subnational population projections, 2010-based projections <http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-246448> (accessed 06/12)

Figure 2-3: Projected population growth in Guildford (2010-2035)¹⁰



¹⁰ Office for National Statistics, Subnational population projections, 2010-based projections <http://www.ons.gov.uk/ons/publications/reference-tables.html?edition=tcn%3A77-246448> [accessed 13.06.12]

Figure 2-4: Projected population growth in Guildford (2011-2021)¹¹

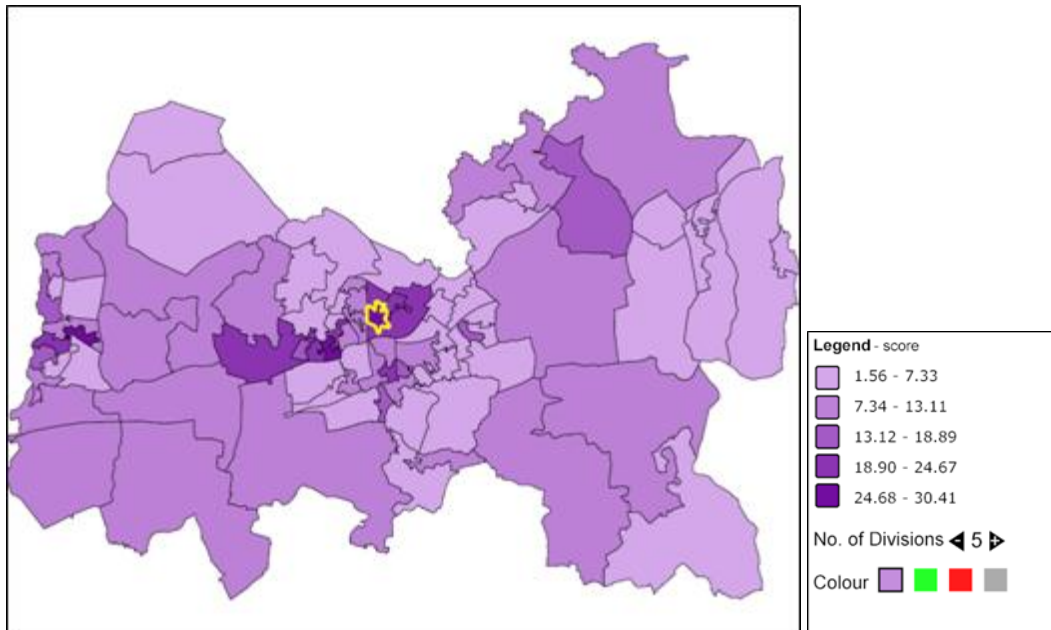


The Index of Multiple Deprivation (2010)¹² ranks Guildford 300 out of 326 (with 326 being the least deprived authority). There are isolated pockets of relative deprivation, two of which the Council is addressing as priorities with local partners, through the Local Strategic Partnership and its successor partnerships.

¹¹ Office of National Statistics (2012) Interim 2011-based Subnational Population Projections <http://www.ons.gov.uk/ons/rel/snpp/sub-national-population-projections/Interim-2011-based/index.html>

¹² DCLG (2010) English Indices of Deprivation [online] Available from: <http://www.communities.gov.uk/publications/corporate/statistics/indices2010>

Figure 2-5: Indices of Multiple Deprivation by LSOA (2010) for Guildford – Dark purple shading indicates that a LSOA is in a lower quintile in terms of deprivation¹³



The Index of Multiple Deprivation 2007, which provides a measure of deprivation based on factors such as income, employment, health, education, housing and crime, ranks Guildford borough as among the least deprived 10% of districts in England. However, there are pockets of deprivation that exist within the borough. For the purposes of the Index of Multiple Deprivation, the Borough is divided into 84 smaller areas called super output areas. Part of Westborough is the fourth most deprived area in Surrey, and Stoke is the fifth most deprived area in Surrey. Both areas are priorities for local partners. A total of ten areas, located in Stoke, Westborough, Ash Wharf, Friary and St Nicolas and Worplesdon¹⁴) are in the most deprived half of local areas nationally, and within the 70 most deprived areas in Surrey (out of 709) (2007)¹⁵.

2.2.1 The likely future situation without the plan

The total population in the South East is projected to increase from 8.2 million in 2006 to 9.5 million in 2026¹⁶; this rise will undoubtedly put pressure on housing availability and affordability. Guildford will need to accommodate its share of this increasing population.

The population in Guildford is predicted to increase to just over 162,000 in 2035 and with more elderly people living in the area due to longer life expectancy and in-migration there will be an increased demand on health and social support services.

¹³ Neighbourhood Statistics (2010) Indices of Deprivation 2010 for Super Output Areas: Guildford 007C [online] available at: <http://www.neighbourhood.statistics.gov.uk>

¹⁴ Guildford Local Strategic Partnership (2009) State of Guildford Borough Report <http://www.guildford.gov.uk/CHttpHandler.ashx?id=806&p=0>

¹⁵ Guildford Local Strategic Partnership (2009) Guildford Borough Sustainable Community Strategy 2009-2026 [online] available at: <http://www.guildford.gov.uk/CHttpHandler.ashx?id=871&p=0>

¹⁶ Government Office for the South East (2009) The South East Plan

Guildford has a higher proportion of people aged between 20 and 44 compared to the national average. This has implications for a series of factors that affect the economy and social well-being of the borough. It is recognised that this proportion is made up of a significant proportion of university and college students – this creates uncertainty when considering long-term population trends.

2.3 What are the key issues and objectives?

The topic of population will be a key focus of the SA and within that there are three specific issues:

1. Catering for population growth in the short-term with its associated social, economic and environmental consequences. Population increases and are likely to place additional pressure on house prices and availability.
 - Housing delivery (this is expected to increase);
 - Housing affordability (this is expected to decline); and
 - Housing need (including market and affordable housing).
2. The age structure of the borough will require continued monitoring as age shifts will have long term implications for health care needs, housing mix and other social services.
 - Borough demographics – proportions of the population likely to need long-term care.
3. Any pockets of deprivation need to be addressed.
 - Changes to IMD (reductions in the most deprived and difference in the proportion of the highest to the lowest levels of deprivation) (the gaps between deprived areas should decrease).

2.3.1 SA objectives

The data analysed supports the inclusion of the following SA Objective in the SA framework:

- SA Objective 6 - To create and sustain vibrant communities

3 HEALTH

3.1 What's the sustainability context?

Health

National Planning Policy (2012):

- A core planning principle is “to take account of and support local strategies to improve health, social and cultural wellbeing for all, and deliver sufficient community and cultural facilities and services to meet local needs.”
- In order to facilitate social interaction and the creation of healthy, inclusive communities, it calls for local planning authorities to “*create a shared vision with communities of the residential environment and facilities they wish to see....to support this, local planning authorities should aim to involve all sections of the community in the development of Local Plans and in planning decisions, and should facilitate neighbourhood planning.*”
- Calls for planning policies to assess the needs of open space, sports and recreation facilities and opportunities for new provision and requires local planning authorities to take a proactive approach to ensure a sufficient choice of school places is available.

The Health and Social Care Act (2012):

- The increasing role that local authorities are expected to play in producing health outcomes is well demonstrated by recent Government legislation. The Health and Social Care Act 2012 transfers responsibility for public health from the NHS to local government (upper tier authorities in the first instance), giving them a duty to improve the health of the people who live in their areas. This will require a more holistic approach to health across all local government functions.

The Marmot Review: Implications for Spatial Planning¹⁷ (2011)

- 'Fair Society, Healthy Lives' ('The Marmot Review') investigated health inequalities in England and the actions needed in order to tackle them. Subsequently, a supplementary report was prepared providing additional evidence relating to spatial planning and health. It does so on the basis that that there is: 'overwhelming evidence that health and environmental inequalities are inexorably linked and that poor environments contribute significantly to poor health and health inequalities'.
- It highlights three main policy actions to ensure that the built environment promotes health and reduces inequalities for all local populations (which should be applied on a universal basis, but with a scale and intensity that is proportionate to the level of disadvantage):
 - 'Fully integrate the planning, transport, housing, environmental and health systems to address the social determinants of health in each locality'
 - 'Prioritise policies and interventions that both reduce health inequalities and mitigate climate change by: Improving active travel; Improving good quality open and green spaces; Improving the quality of food in local areas; Improving the energy efficiency of housing'
 - 'Support locally developed and evidence-based community regeneration programmes that: Remove barriers to community participation and action; and Reduce social isolation'.

Surrey's Joint Health and Wellbeing Strategy¹⁸ 2013

¹⁷ The Marmot Review (2011) The Marmot Review: Implications for Spatial Planning [online] available at: <http://www.nice.org.uk/nicemedia/live/12111/53895/53895.pdf> (accessed 06/2013)

¹⁸ Surrey Health and Wellbeing Board (2013) Surrey's Joint Health and Wellbeing Strategy [online] available at: http://www.surreycc.gov.uk/_data/assets/pdf_file/0004/567382/UPDATED-health-and-wellbeing-strategy-doc.pdf (accessed 06/2013)

Health
<ul style="list-style-type: none"> • The Strategy is the first to be developed by Surrey’s Health and Wellbeing Board. It identifies five priorities for the Board to take forward, and to ensure that: <ul style="list-style-type: none"> - Improving children’s health and wellbeing - Developing a preventative approach - Promoting emotional wellbeing and mental health - Improving older adults’ health and wellbeing - Safeguarding the population
<p>Implications for the Local Plan:</p> <ul style="list-style-type: none"> • The Local Plan must take account of and support local strategies to improve health, social and cultural wellbeing for all, and deliver sufficient community and cultural facilities and services to meet local needs.

3.2 What is the sustainability baseline?

Life expectancy in the borough compares favourably with the national average. In Guildford life expectancy is 81.4 years for males and 84.7 years for females, compared to 78.6 years for males and 82.6 years for females at the national level¹⁹.

Despite this encouraging overall picture, the pattern is not uniform. Male life expectancy in parts of Stoke, Westborough, Onslow, Ash Wharf and Ash South and Tongham is 5.8 years shorter than that in the least deprived areas. Guildford borough has the widest gap in life expectancy between the most and least deprived income groups of all the Surrey districts²⁰.

Guildford performs well when compared to the South East and England for long-term health problems or disability, as presented in Table 3.1 below.

Table 3-1: Long-Term Health Problem or Disability²¹

	Guildford	South East	England
Day-to-Day Activities Limited a Lot	5.2%	6.8%	8.3%
Day-to-Day Activities Limited a Little	7.4%	8.8%	9.3%
Day-to-Day Activities Not Limited	87.4%	84.4%	82.4%

The key objectives of the Surrey NHS Transformation Plan 2010 to 2015²² include reducing health inequalities through the provision of GP-led Health Centres.

¹⁹ NHS (2012) Guildford Health Profile [online] available at: www.apho.org.uk/resource/view.aspx?RID=117310

²⁰ Guildford Borough Council (2009) State of Guildford Borough Report [online] available at: <http://www.guildford.gov.uk/CHttpHandler.ashx?id=806&p=0>

²¹ Office for National Statistics (2013) Long-Term Health Problem or Disability 2011 [online] available at: <http://www.neighbourhood.statistics.gov.uk> (accessed 06/2013)

²² NHS Surrey (2010) Transformation Plan 2010 to 2015 [online] available at: www.surreyhealth.nhs.uk

Before its demise, the Guildford and Waverley Primary Health Care Trust stated that all GP surgeries are currently working at capacity, therefore any increase in housing numbers would put considerable pressure on the current system. Despite working at capacity, the Guildford and Waverley Primary Care Trust does not consider there to be a shortage of GPs in the borough or a need to recruit any more. Guildford has one GP for every 1,565 residents, which is better than the national NHS standard of one GP per 1,800 patients.

Most Surrey residents enjoy relatively good health. However, the Surrey Strategic Partnership Plan²³ recognises that childhood obesity is a significant and growing challenge; 13.2% of Surrey's children were obese in 2007/08 when weighed in the last year of primary school. Targets within the plan include the provision of things to do and places to go for children and young people, particularly the vulnerable and disadvantaged. It is estimated that nearly one in five adults in Surrey is obese and is therefore significantly more likely to experience chronic illness early in life and therefore unable to contribute towards the economy. The document identifies that the county's outdoor recreational facilities are an important factor in encouraging healthy lifestyles and that their preservation and enhancement must be carefully balanced with the need for development.

Although life expectancy is among the highest in the country, and 82% of residents describe their health as being good, male life expectancy in the most deprived parts of the borough is 5.8 years shorter than in the least deprived areas. In addition to this, parts of Friary and St Nicolas, Holy Trinity, Ash South and Tongham, Ash Wharf, Stoke and Ash Vale are within the top national quartile in terms of mental health problems. One in four adults drinks alcohol above sensible levels; this places Guildford in the top ten council areas nationally for hazardous drinking.

Physical activity by adults (28%) is higher than the Surrey (25%) and England (21%) average, but levels for children are lower. Healthy eating levels are high compared to the national average, but some wards have high proportions of residents eating less than one portion of fruit or vegetables a day²⁴.

Sport and Leisure

PPG17 Open Space Sport and Recreation Audit (2006)²⁵ states that Accessible Natural and Semi Natural Greenspace (ANGS) are well distributed around the borough with many sites being located on the urban fringes. The quality of such sites could be improved by providing more and improved facilities at central locations such as car parks, toilets, signs and maps as well as detailed information available before visits. The Report states that it is considered that the quantity is sufficient at present as there are only 45 people per hectare of provision.

Most residents in the borough live close to a built sports facility, however different sports have different demands and the study only identified the location of such facilities and did not assess the demand for such facilities and the demand for facilities related to specific sports. The quality of built sports facilities is generally high and due to the fact these facilities often charge and are public facilities they are usually clean and well maintained. The consultation did however show that many facilities are over used and old.

Amenity Open Space and Playing Fields / Parks are well distributed around the borough with most settlements having access to playing fields. However when analysed in terms of the

²³ Surrey Strategic Partnership (2010) Surrey Strategic Partnership Plan [online] available at: www.surreycc.gov.uk

²⁴ Guildford Local Strategic Partnership (2009) Guildford Borough Sustainable Community Strategy 2009-2026 [online] available at: <http://www.guildford.gov.uk/CHttpHandler.ashx?id=871&p=0>

²⁵ Guildford Borough Council (2006) PPG17 Open Space Sport and Recreation Audit [online] available at: www.guildford.gov.uk

National Playing Field Association (now Fields in Trust) requirement there is still a significant deficit in provision. In the urban areas the deficit is now 109 ha. The 2006 Open Space Audit shows that there are 26 allotments in the borough providing approximately 925 plots, totalling 28.9ha.

3.2.1 *The likely future situation without the plan*

Demands on healthcare in the borough are set to increase due to a growing population and an increasing elderly population.

3.3 **What are the key issues and objectives?**

The topic of health will be a key focus of the SA and within that there are two specific issues:

1. Life expectancy in the borough compares favourably with the South East and the rest of the country. Social and economic impacts of longevity need to be fed into relevant policies and budgets.
 - Life expectancy (this should increase);
 - Proportion of population in full-time care; and
 - Proportion of population that is over retirement age.
2. Obesity in the county is increasing. Provision of adequate sports and leisure facilities to encourage the take up of more active lifestyles should be regarded as an important component of community infrastructure.
 - Levels of obesity – all age groups (this should decrease).

3.3.1 **SA objectives**

The data analysed supports the inclusion of the following SA Objectives in the SA framework:

- SA Objective 2 – To facilitate improved health and well-being of the population, including enabling people to stay independent and reducing inequalities in health.

4 ECONOMY & EMPLOYMENT

4.1 What's the sustainability context?

The NPPF states that, “the Government is committed to ensuring that the planning system does everything it can to support sustainable economic growth”. According to the NPPF, Local Plans are expected to have a clear understanding of business needs within the economic markets that operate in their area and assess the requirements for land or floor space for all foreseeable types of economic activity.

Local Plans also need to assess the existing and future supply of land available for economic development and its sufficiency and suitability to meet the identified requirements, including regular reappraisals of the suitability of previously allocated land.

Paragraph 19 of the NPPF states, “The Government is committed to ensuring that the planning system does everything it can to support sustainable economic growth. Planning should operate to encourage and not act as an impediment to sustainable growth. Therefore significant weight should be placed on the need to support economic growth through the planning system.”

Paragraph 21: “In drawing up Local Plans, local planning authorities should:

- Set out a clear economic vision and strategy for their area which positively and proactively encourages sustainable economic growth;
- Set criteria, or identify strategic sites, for local and inward investment to match the strategy and to meet anticipated needs over the plan period;
- Support existing business sectors, taking account of whether they are expanding or contracting and, where possible, identify and plan for new or emerging sectors likely to locate in their area. Policies should be flexible enough to accommodate needs not anticipated in the plan and to allow a rapid response to changes in economic circumstances;
- Plan positively for the location, promotion and expansion of clusters or networks of knowledge driven, creative or high technology industries;
- Identify priority areas for economic regeneration, infrastructure provision and environmental enhancement; and
- Facilitate flexible working practices such as the integration of residential and commercial uses within the same unit.”

Town centres

The NPPF states that planning policies should promote competitive town centre environments and set out policies for management and growth over the plan period.

Paragraph 23 states, “In drawing up Local Plans, local planning authorities should:

- Recognise town centres as the heart of their communities and pursue policies to support their viability and vitality;
- Define a network and hierarchy of centres that is resilient to anticipated future economic changes;

- Define the extent of town centres and primary shopping area, based on a clear definition of primary and secondary frontages in designated centres and set policies that make clear which uses will be permitted in such locations;
- Promote competitive town centres that provide customer choice and a diverse retail offer and which reflect the individuality of town centres;
- Retain and enhance existing markets and, where appropriate, re-introduce or create new ones, ensuring that markets remain attractive and competitive;
- Allocate a range of suitable sites to meet the scale and type of retail, leisure, commercial, office, tourism, cultural, community and residential development needed in town centres;
- Allocate appropriate edge of centre sites for main town centre uses that are well connected to the town centre where suitable and viable town centres are not available;
- Set policies for the consideration of proposals for main town centre uses which cannot be accommodates in or adjacent to town centres;
- Recognise that residential development can play an important role in ensuring the vitality of centres and set out policies to encourage residential development on appropriate sites; and
- Where town centres are in decline, local planning authorities should plan positively for their future to encourage economic activity.”

Paragraph 26: “When assessing applications for retail, leisure and office development outside of town centres, which are not in accordance with an up-to-date Local Plan, local planning authorities should require an impact assessment if the development is over a proportionate, locally set floorspace threshold” (if there is no locally set threshold, the default threshold is 2,500 sq. m).

An impact assessment is required for applications for retail, leisure and office development outside of town centres, which are not in accordance with an up-to-date Local Plan and are over a proportionate, locally set floorspace threshold²⁶ .

Rural Economy

According to the NPPF paragraph 28, “Planning policies should support economic growth in rural area in order to create jobs and prosperity by taking a positive approach to sustainable new development”.

Paragraph 28 states that “To promote a strong rural economy, local and neighbourhood plans should:

- support the sustainable growth and expansion of all types of business and enterprise in rural areas, both through conversion of existing buildings and well designed new buildings;
- promote the development and diversification of agricultural and other land-based rural businesses;

²⁶ If there is no locally set threshold, the default threshold is 2,500 sq m.

- support sustainable rural tourism and leisure developments that benefit businesses in rural areas, communities and visitors, and which respect the character of the countryside. This should include supporting the provision and expansion of tourist and visitor facilities in appropriate locations where identified needs are not met by existing facilities in rural service centres; and
- promote the retention and development of local services and community facilities in villages, such as local shops, meeting places, sports venues, cultural buildings, public houses and places of worship.”

Surrey Connects Strategy

Surrey Connects is an independent, business-led economic development company working in partnership with stakeholders to stimulate enterprise growth across Surrey. Its vision is “to position Surrey as a world class economy and to double its Gross Value Added by 2030.”

To achieve its vision, Surrey Connects has developed a strategy²⁷ based on the four key themes of global competitiveness, innovation culture, knowledge economy, and driving enterprise. The Surrey Connects Board is working with partners, including the Enterprise M3 Local Enterprise Partnership, to deliver this strategy.

Surrey Economic Partnership Strategy

The Surrey Economic Partnership (SEP)²⁸ was a network of decision makers from the private, public and voluntary sectors that sought to understand and overcome the key challenges facing the Surrey economy. Although the SEP has been disbanded, the strategy is still current and Surrey Connects is responsible for taking it forward.

The SEP identified five key objectives for the county:

1. Increase the levels of investment in Surrey’s economic infrastructure;
2. Increase the innovation and creative capability of Surrey businesses;
3. Improve the skills and creativity in Surrey businesses;
4. Develop a sustainable business economy; and
5. Tackle the complex barriers to the growth of business in Surrey.

Guildford Economic Strategy²⁹

The Guildford Economic Strategy sets out five key objectives in order to achieve the vision of a “top-performing non-metropolitan borough”. These objectives are:

1. ES Objective 1: To support and expand the diversity in the borough’s business base.
2. ES Objective 2: To improve the capacity, output and competitiveness of the borough economy.
3. ES Objective 3: To help sustain and develop a qualified and skilled workforce to meet the demands of local businesses.

²⁷ Surrey Connects (2011) Forward through Smart Economic Growth [online] available at: http://www.surreycc.gov.uk/_data/assets/pdf_file/0006/274875/Surrey-Connects-Strategy-FINAL-August-2011.pdf (accessed 06/2013)

²⁸ Surrey Economic Partnership (2007) Surrey Economic Partnership Strategy [online] available at:

²⁹ Guildford Borough Council (2011) Guildford Economic Strategy 2011 – 2030 [online] available at: <http://www.guildford.gov.uk/CHttpHandler.ashx?id=8379&p=0> (accessed 09/2012)

4. ES Objective 4: To promote sustainable growth and business practices within Guildford.
5. ES Objective 5: To support and expand the economic vitality of the rural areas.

4.2 What is the sustainability baseline?

Education

The Surrey School Organisation Plan³⁰ reports that the number of school places across the Borough as a whole is currently very tight. Surrey County Council anticipates the greatest need for additional primary school places to be in the Guildford Town area. In order to meet the projected increase for places, the Council intends to expand provision of primary school places in the Guildford Urban area. In the secondary sector, an oversupply of school places is projected to reduce until 2019 when it is predicted that the demand for places may exceed supply.⁴⁶

The Surrey Strategic Partnership Plan³¹ reports that the County's children and young people achieve some of the best educational outcomes in the country. This is all schools – it is notable that Surrey has a disproportionately large proportion of children educated in independent schools (21%) compared to the rest of England (7%)³².

In 2007, 78% of young people achieved 5 or more A*-C GCSEs (or vocational equivalent). However, some groups, such as looked after children³³, are underachieving and 3% of the county's young people (aged up to 19) are not in education or employment despite Surrey having one of the strongest economies in the country.

Higher qualification levels in Guildford exceed those for the South East and Great Britain (see Figure 6.1). This can be explained in part by the relatively high number of independent schools in the area and the presence of several further and higher education establishments.

There are many independent schools in the borough, including the Royal Grammar School, St. Catherine's School, Guildford High School, Tormead School and Rydes Hill Preparatory School.

In relation to further and higher education, the borough is home to the Guildford College of Further and Higher Education, Academy of Contemporary Music and the Italia Conti Arts Centre. The campus of the University of Surrey is located in Guildford, as is the inaugural campus of The College of Law and the Guildford School of Acting.

Currently 16.8% of the borough's adult working population are without a level 2 qualification, the minimum for employability (see Figure 6.1). This is a particular challenge for Surrey's knowledge based businesses. The Surrey Strategic Partnership Plan sets out a requirement to ensure that all young people have access to high quality education and adults and young people can make the most of opportunities for further and higher education, training and employment.

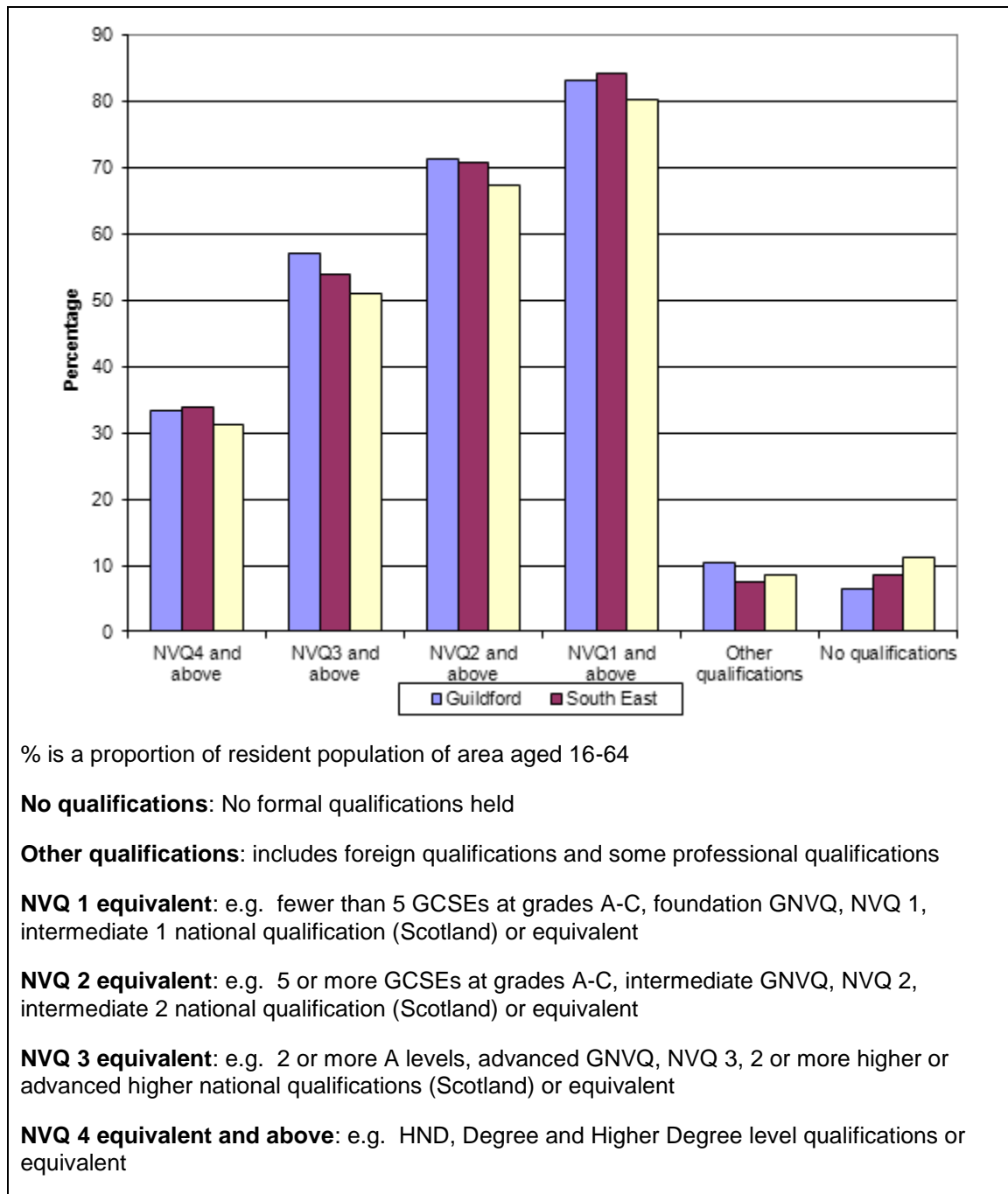
³⁰ Surrey County Council (2012) School Organisation Plan: 2012 – 2021 [online] available at: <http://www.surreycc.gov.uk/learning/schools/education-consultations-and-plans/school-organisation-in-surrey-2012-2021> (accessed 06/2013)

³¹ Surrey Strategic Partnership (2010) Surrey Strategic Partnership Plan 2010 – 2020 [online] available at: http://www.surreycc.gov.uk/_data/assets/pdf_file/0008/172961/Partnership-Plan-Final-April-10.pdf (accessed 09/2012)

³² Surrey Improvement Partnership (2009) Surrey Infrastructure Capacity Study Final report 1B: Infrastructure baseline and future needs analysis [online] available at: http://www.southeastiep.gov.uk/uploads/documents/thefiles/original/Infrastructure_Capacity_Study_Part_B.pdf (accessed 12/2012)

³³ The term 'looked after' was introduced by the Children Act 1989 and refers to children who are subject to care orders and those who are voluntarily accommodated.

Figure 4-1: Qualifications (Jan 2010 - Dec 2010)³⁴



³⁴ www.nomisweb.co.uk [accessed 06/2012]

Economy

Guildford's economy is closely tied to that of London and the proximity of Heathrow and Gatwick Airports. However Guildford's current economic success comes at the price of congested roads, pressure on infrastructure and high house prices. The Guildford Economic Development Study³⁵ highlights these issues as factors that may limit economic growth, in particular congestion and affordable housing whereby 63% of respondents highlighted these factors as barriers to future growth.

According to the Guildford Economic Development Study³⁵, Guildford borough's economy generated an estimated £3,830 million of Gross Value Added (GVA) in 2007. The productivity level per person employed was around £41,000, which is slightly above the regional average of £39,000. In terms of GVA per capita, Guildford borough was ranked 28 out of 380 local authority areas in 2010. The sector with the largest GVA is banking, finance, insurance and business services which contributed around 31% in 2007; less than the regional average of around 33%. The second largest sector is that of public services, education and health.

Looking at GVA by broad industrial sector it is clear that until recent years, Guildford borough has had an over reliance on the public sector compared with the sub-national average. This has recently been reduced by public sector spending cuts and on-going resource efficiencies, including the closing of several government regional offices. The third largest sector in terms of GVA at 15% is retail, distribution, hotels and restaurants; this is around the regional average as are manufacturing, construction and other personal services.

Guildford's Economic Development Study³⁵ notes that "professional services are the bedrock of the Guildford economy; both traditional and technical professional services have performed strongly and might be expected to do so in the future". It also forecasts that growth rates in Guildford to be lower than nearby comparator economies, with losses in manufacturing, construction, wholesale and education.

The spatial distribution of employment is such that three urban wards in Guildford town, two in the town centre and one adjacent to the A3, account for the majority (54%) of employment³⁵. These three wards are Friary and St Nicolas, Onslow and Holy Trinity, which in total account for around 38,200 jobs. The rural wards account for around 25% of all employment³⁵.

The urban wards of Friary and St Nicolas, Onslow and Stoke provide the largest number of manufacturing jobs, although there also significant clusters in a number of rural wards such as Worplesdon and Shalford³⁵.

Guildford is widely recognised as an international centre of excellence for firms in clusters such as knowledge, health, biotechnology and ICT. This is primarily related to the University of Surrey and Surrey Research Park (which includes the Surrey Technology Centre), located in the Onslow Ward, are important for generating a supply of well qualified personnel as well as for establishing and facilitating the formation of a number of new businesses in the Guildford Urban Area. These are closely linked to the University of Surrey. Guildford borough was ranked 19th out of the 380 local authority areas in the UK for knowledge-based businesses as a percentage of all businesses in the area. On overall measure of competitiveness, Guildford borough was ranked 17 of 379 authorities in the country³⁶. Guildford town was the most competitive district (localities with over 100,000 population) by

³⁵ Guildford Borough Council (2009) Guildford Economic Development Study Final Report July 2009 [online] available at: <http://www.guildford.gov.uk/CHttpHandler.ashx?id=5581&p=0> (accessed 07/12)

³⁶ Huggins R. and Thompson P. (2010) The UK Competitiveness Index 2010 [online] available at: <http://www.cforic.org/downloads.php> (accessed 06/2013)

the UK City Competitiveness Index in 2010³⁷, followed by St Albans and Winchester. Guildford and St Albans have significant numbers of high-technology firms. The self-employment rate in Guildford is higher than in comparable districts, which reflects the high level of entrepreneurial activity within the borough.

Construction and Transport is concentrated in the urban wards of Friary and St Nicolas, Stoke and Merrow although there is a presence in all wards including the rural wards. As might be expected, retail and related sectors are fairly widespread. Although employment in retail is concentrated in the town centre wards of Friary and St Nicolas and Holy Trinity, even rural wards such as Effingham and Normandy have more than 100 jobs in this sector. Business and other services are mainly concentrated in Friary and St Nicolas, Holy Trinity and Onslow wards with a significant cluster in Tillingbourne. Nearly a third of all public sector employment is located in Onslow ward with the University of Surrey and the Surrey County Hospital making significant contributions³⁸.

Employment

Guildford borough has a very different employment profile from that of its comparator economies (Bracknell Forest, Reigate & Banstead, Runnymede, Waverley, Windsor & Maidenhead, Woking). In 2011 the Inter Departmental Business Register (IDBR) recorded 68,261 jobs in Guildford borough across 429 different industry sectors. These sectors range from hospitals (including NHS Trusts) which employ more than 3,500 people, to specialist sectors such as the manufacture of paper stationery employing a single person. Commercial services and retail and related services together account for just over half of all employment in Guildford borough. Around 33% of jobs in the borough (22,200) were classified as public sector. Manufacturing accounts for 6.5% of employment and construction a further 4.9%. Agriculture and utilities (energy and water) account for less than 1%.

The borough has a much greater reliance on the public sector and manufacturing than that of its comparator economies, and significantly less reliance on commercial services and finance.

Job density is the number of jobs per resident aged 16-64. A job density of one would mean there is a job for every resident aged 16-64. Job density within the Borough is 0.95 and is slightly higher than that of the South East (0.8) and Great Britain (0.77)³⁹.

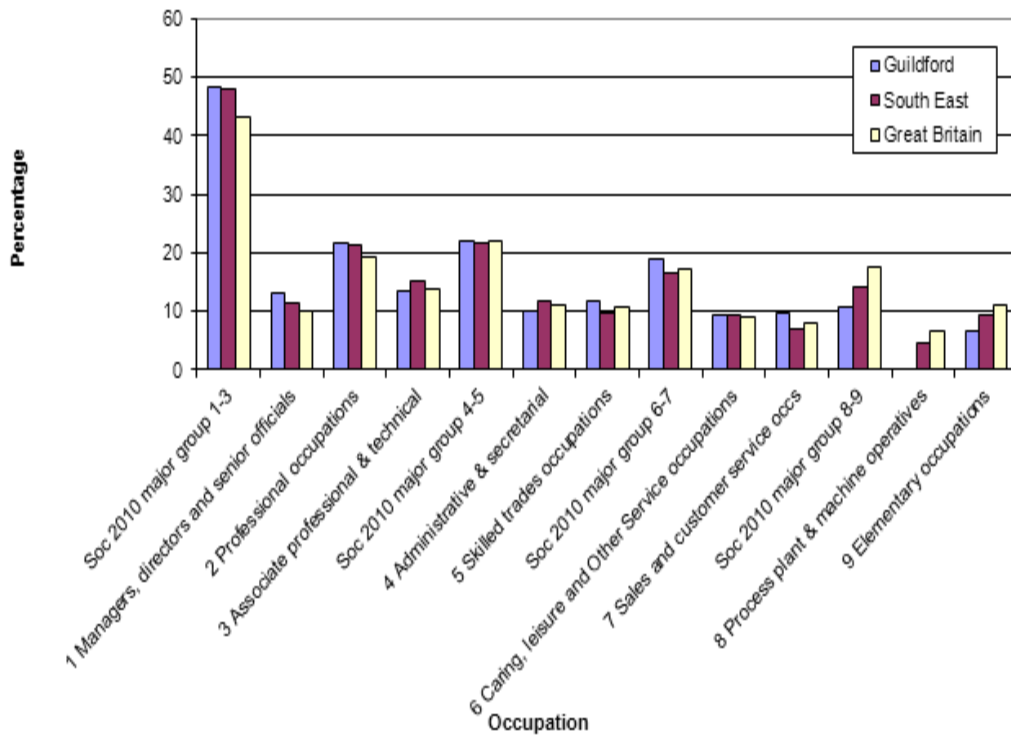
Figure 4-2 illustrates that almost half of Guildford's residents are employed within management, professional and technical occupations. Conversely, the proportion of residents employed in the more elementary occupations (major group 8-9) is just over 10%.

³⁷ Huggins R. and Thompson P. (2010) The UK Competitiveness Index 2010 [online] available at: <http://www.cforic.org/downloads.php> (accessed 06/2013)

³⁸ Guildford Borough Council (2009) Guildford Economic Development Study [online] available at: <http://www.guildford.gov.uk/CHttpHandler.ashx?id=5581&p=0> (accessed 07/12)

³⁹ Office for National Statistics (2010) Job density 2010 [online] Available at: www.nomisweb.co.uk (accessed 06/2012)

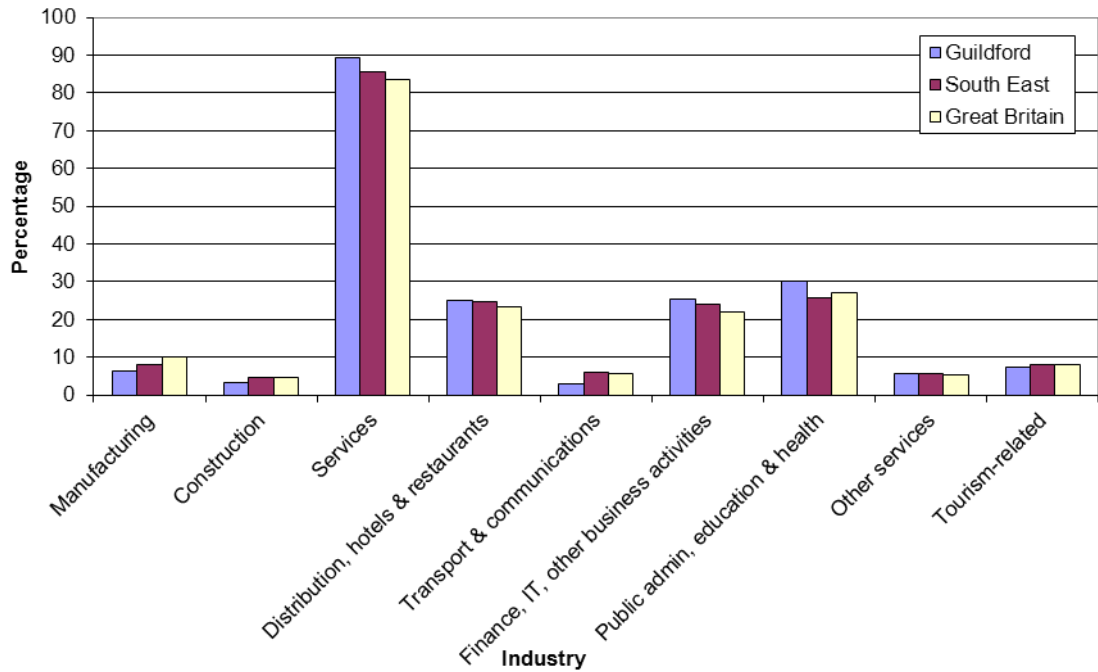
Figure 4-2: Employment by occupation (October 2010 – September 2011)⁴⁰



Similarly, Figure 4-3 illustrates that the vast majority of jobs in Guildford are in the Services industry, with very few in Manufacturing, Construction or Transport and Communications related industries. The proportion of jobs in the Public Admin, Education and Health category, along with Finance, IT and other business activities, is slightly higher than that for the South East and Great Britain.

⁴⁰ Office for National Statistics [online] available at: www.nomisweb.co.uk (accessed 06/2012)

Figure 4-3: Employee jobs by industry (2008)⁴¹



Average (median) salary levels within Guildford are higher than those for the South East and the rest of Great Britain for both males and females (Figure 4-4). This reflects the data in Section 6.1 relating to high levels of educational attainment in the borough and the data above which shows that the vast majority of jobs within the borough are at the highest levels.

⁴¹ Office for National Statistics [online] available at: www.nomisweb.co.uk (accessed 06/2012)

Figure 4-4: Gross weekly pay (median) (2011)⁴²

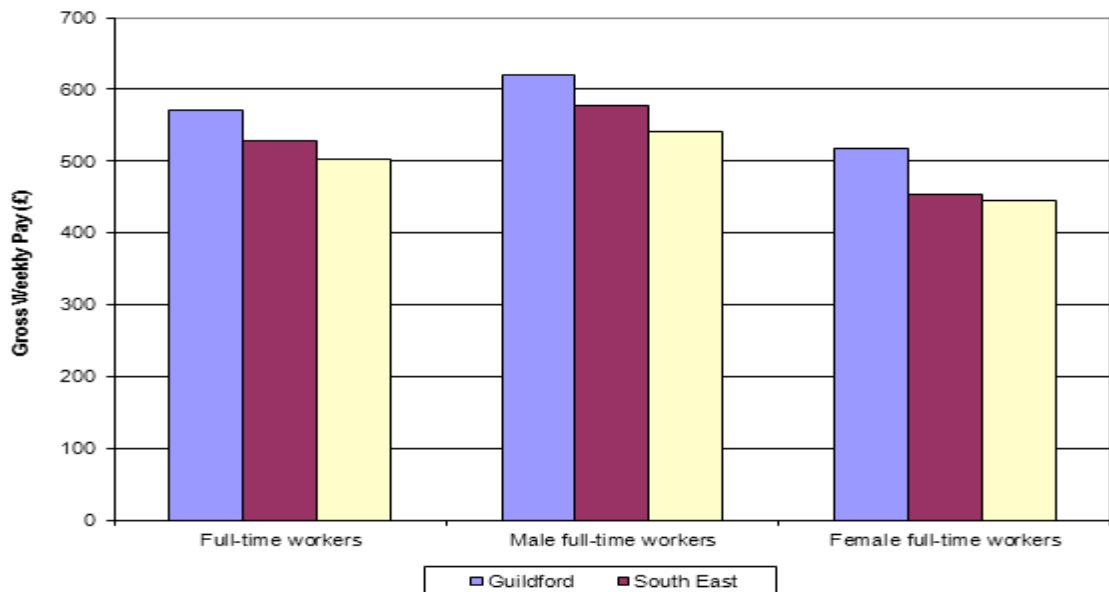


Figure 4-5 below shows that Guildford performs favourably in terms of residents in employment compared to the South East and Great Britain; fewer people are unemployed in Guildford. Higher levels of unemployment are a concern however for rural Surrey and the borough’s more deprived areas.

The Guildford Economic Development Study⁴³ shows that “labour supply exceeds labour demand in three broad occupational groups, namely Managers and senior officials, Professional occupations and Personal service occupations. In all other occupational groups labour demand marginally exceeds labour supply. Notably, the large surplus of resident workers in professional occupations compared to available jobs is striking, given that employers in this occupational group have noted problems finding new staff with the required skills. Clearly a number of these individuals commute to work in neighbouring districts and might be encouraged to fill some of Guildford’s existing Skills Shortage Vacancies in this occupational group.”

It can be assumed that the areas with the highest density of benefit claimants are likely to be those with the greatest proportion of economic inactivity amongst the working age population. The wards of Westborough, Stoke and Ash Wharf make up ten of the top twenty areas with the highest benefit claimant densities. These areas have been identified as each having a high proportion of working age adults with low or no qualifications (Stoke (51%), Westborough (40%) and Ash Wharf (36%)). Although causation cannot be deduced from such figures, there is undoubtedly a correlation between low educational attainment and economic inactivity within Guildford⁴³.

⁴² Earnings by Workplace 2011 [online] available at: www.nomisweb.co.uk [accessed 06/12]

⁴³ Guildford Borough Council (2009) Guildford Economic Development Study [online] available at: <http://www.guildford.gov.uk/CHttpHandler.ashx?id=5581&p=0> (accessed 07/12)

Figure 4-5: Employment status (October 2010 – September 2011)⁴⁴

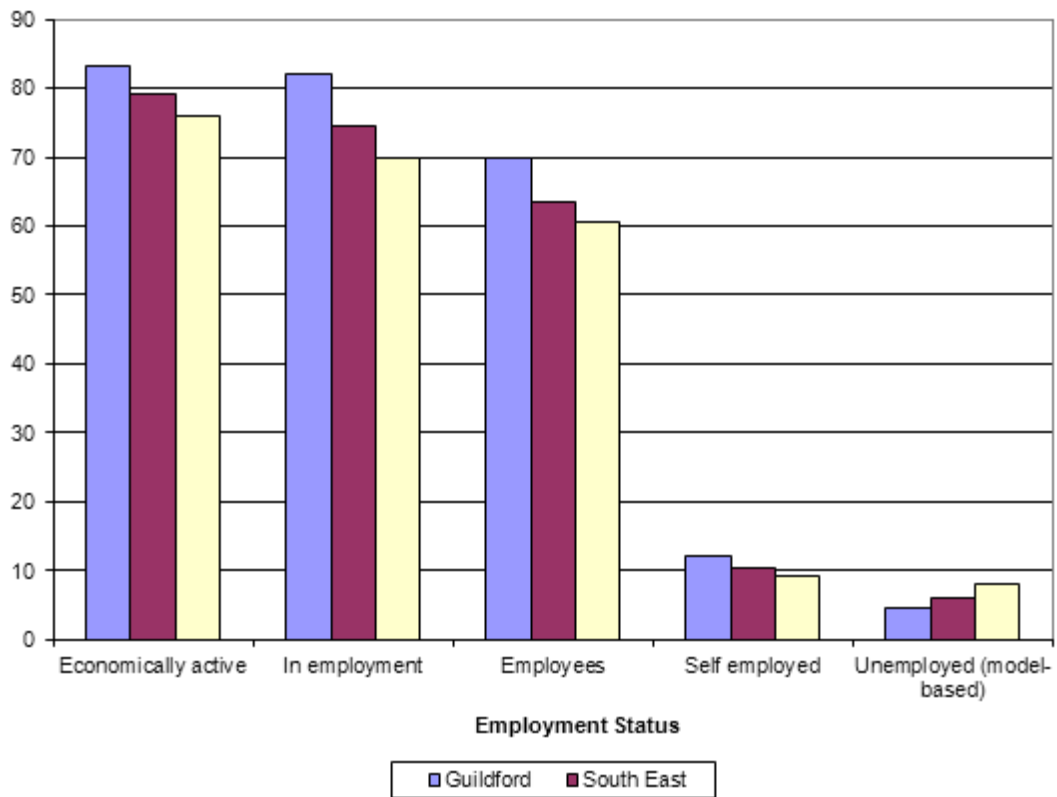
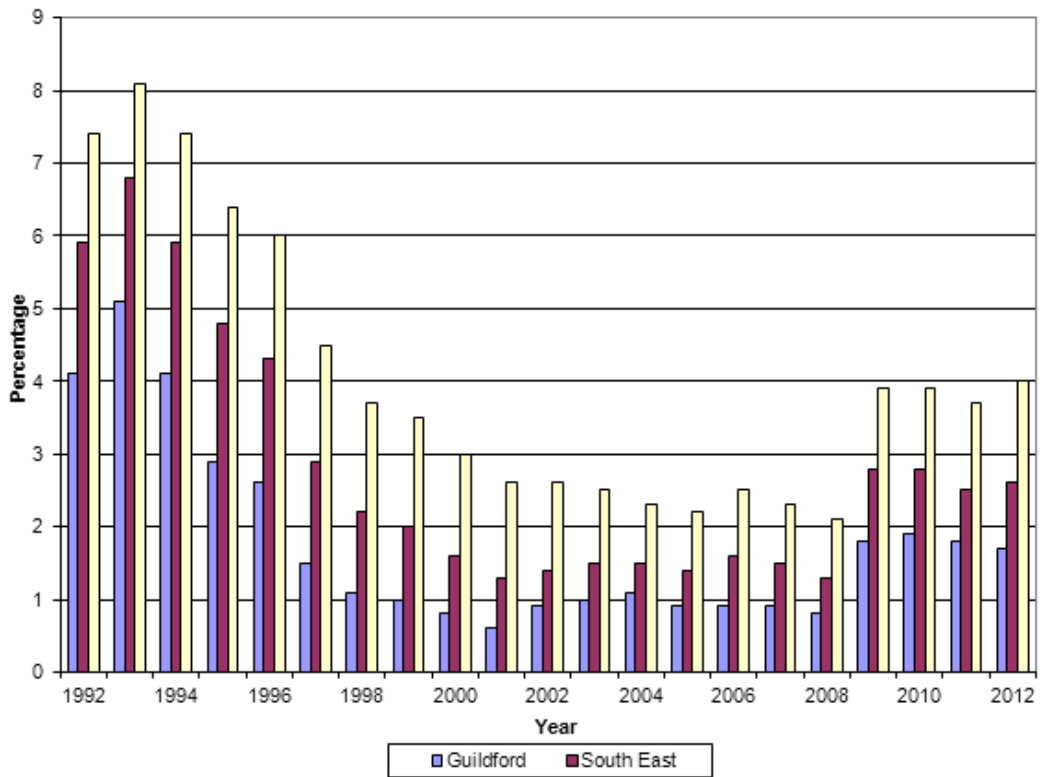


Figure 4-6 overleaf shows that the proportion of the population claiming Job Seeker’s Allowance in Guildford compares favourably with the South East and England. The percentage of Guildford’s population claiming Job Seeker’s Allowance doubled between 2008 and 2009 coinciding with the difficulties of the economic climate. However, the data indicates that the proportion of claimants in 2012 was half that of 1992, which was the last period of recession in the country. It is not clear whether this is as a result of differences in the criteria for claimants over this 20 year period or due to the severity of the recession in the 1990s.

⁴⁴ Employment and unemployment [online] Available from: www.nomisweb.co.uk (accessed 06/2012)

Figure 4-6: Job Seeker’s Allowance claimants⁴⁵



Tourism

The Economic Impact of Tourism Report (2009)⁴⁶ outlines the contribution that tourism makes to the economy of Guildford. The key headline figures for 2009 are:

- 260,000 trips by overnight visitors;
- 1,260,000 overnight visitor nights;
- £64,460,000 spent by overnight visitors;
- 3,705,000 trips by tourism day visitors;
- £139,582,000 spent by tourism day visitors;
- £204,036,000 spent by all visitors;
- £5,747,000 ‘other tourism related’ spend;
- £268,923,000 turnover for local businesses;
- 4,959 actual jobs relating to tourism spending; and

⁴⁵ Data taken in April of each year www.nomisweb.co.uk [accessed 19.06.12]

⁴⁶ Tourism South East Research Services (2010) The Economic Impact of Tourism: Guildford 2009

- 5,300 ONS estimated jobs in tourism-related.

Further analysis of this data provides the following information:

Volume of tourism

- Overall, an estimated 260,000 staying trips were spent in Guildford in 2009, of which around 180,000 were made by domestic visitors (69%) and 80,000 by overseas visitors (31%).
- Staying trips result in an estimated 1.26 million bed nights in the borough. Domestic visitors account for 45% of these nights and overseas visitors accounted for 55%.
- Around 3.7 million tourism day trips were made to the borough (lasting more than 3 hours and taken on an irregular basis) in 2009.
- 29% of all overnight trips to the borough were accommodated in commercial serviced accommodation. 2% of trips involved staying in self-catering accommodation, and 10% involved staying in campus and group accommodation (youth hostels).
- Many overnight visitors stay in the homes of family and relatives. Overall, 56% of all overnight trips were accommodated in the homes of friends and relatives.

Value of tourism

- Total expenditure by visitors to Guildford is estimated to have been in the region of £204 million in 2009. 10% of total trip expenditure was generated by domestic overnight visitors (£20,552,000), 22% was generated by inbound overnight visitors (£43,909,000) and 68% was generated by day visitors (£139,575,000).
 - Of the £64.46 million spent by overnight visitors to Guildford, 32% was received by accommodation providers, 22% by catering businesses, 22% by retailers, 10% by attractions/entertainment providers and 13% by transport related businesses. The latter includes car parking fees and petrol costs.
 - Of the £139.58 million estimated to be spent by day visitors to Guildford, catering businesses and retailers received the largest share at 39% and 38% respectively.
- Expenditure on second homes and on goods and services purchased by friends and relatives visitors were staying with, or visiting, generated a further total £5,747,000 expenditure associated with overnights trips in 2009.
- The £204 million trip expenditure and £5.7 million additional tourism related expenditure translated to **£268,923,000** worth of income for local businesses through direct, indirect and induced effects.
- Overall the model estimates that tourism expenditure in the borough supported **3,633 FTE jobs** and **4,959 actual jobs** (once part-time and seasonal employment is added) in tourism and other service industries in Guildford and within the wider supply chain.
- The Office of National Statistics employment figures drawn from the Annual Business Inquiry shows that an estimated **5,300 jobs in Guildford are in tourism-related** businesses, which **represent 7.5% of the total employee workforce**.

The borough's rural areas play an important role in the tourism and leisure industry. There are several major visitor attractions in the area including the Royal Horticultural Society Gardens at Wisley and Losley Park that attract visitors in large numbers⁴⁷.

Retail

Guildford is the principal shopping and service centre in Surrey and provides a highly successful focus for retail activity in the area. The town is populated by a wide range of shops including major multiple stores and small specialist retailers⁴⁸. The Guildford Town Centre Vitality and Viability Report⁴⁹ identifies a hierarchy of retail locations in Guildford, which is expressed in three categories, based upon the relative importance of the centres to retailing in Guildford:

1. Guildford Town Centre;
2. District centres: Wharf Road, Ash and Station Parade, East Horsley; and
3. Local centres.

Guildford Town Centre is a sub-regional centre, and the primary retail centre in Surrey (based on Experian's Goad floorspace reports). There are currently 534 units in the designated shopping frontage.

Guildford's core shopping area is centred on the pedestrianised lower (western) High Street, which is part of the retail core (primary shopping area) of the Town Centre. The area is characterised by the highest proportion of A1 (shop) uses, the highest Zone A rental values and predominantly the highest pedestrian flow levels.

Guildford's designated shopping frontage consists predominantly (65%) of secondary shopping frontage. The secondary frontage is also part of the retail core and contains a high proportion of retail use, with a limited proportion of uses complementary to the retail offer, which support and vitalise the town centre (including during the evening). The secondary frontage is concentrated around North Street, parts of upper (eastern) High Street, the streets and lanes between High Street and North Street, Friary Centre, and the Tunsgate Centre.

The largest concentration of retail use in the borough outside of any designated shopping area is Ladymead retail park, which was approved prior to the government's sequential approach to retail, introduced in the mid-1990s. The planning permission is specifically for a non-food retail park. The retail park is not designated as a centre in the Local Plan.

This out-of-centre retail park has experienced close to full occupancy and great stability of its occupants. The retail park is clearly successful, with many of the retailers having continuously occupied the same stores for over 18 years, and high rental values continuing. Most of the retailers sell large, bulky goods to car-borne customers, and do not appear to compete with the Town Centre or nearby Local Centres.

There are two district centres in the borough: Wharf Road, Ash and Station Parade, East Horsley. Both district centres appear to be sustaining their viability and attracting a good number of users. Of the two district centres, East Horsley gives the impression of greater

⁴⁷ Guildford Borough Council (2011) Guildford Economic Strategy 2011-2030 [online] available at: <http://www.guildford.gov.uk/CHttpHandler.ashx?id=8379&p=0%20>

⁴⁸ Cushman and Wakefield (2010) Guildford Town Centre Development Study

⁴⁹ Guildford Borough Council (2011) Guildford Town Centre Vitality and Viability Report [online] available at: <http://www.guildford.gov.uk/CHttpHandler.ashx?id=13052&p=0>

vitality due to the larger number of convenience shops, library and post office, its mix of everyday service requirements and its proximity to the railway station.

In addition to this there are also 22 Local Centres in the borough which cater for local needs.

4.2.1 *The likely future situation without the plan*

The success of the borough's economy is tied to that of the UK economy as a whole. For this reason predictions are difficult to make. The economy is currently experiencing a downturn, which is likely to affect Guildford similarly to other parts of the UK.

Without initiatives to develop more vocational courses and job specific qualifications the disparity between those with qualifications and those without will remain.

4.3 **What are the key issues and objectives?**

The topic of the economy and employment will be a key focus of the SA and within that there are two specific issues:

1. There are a significant number of adults with no qualifications;
 - Indicator – qualifications at all stages (this should increase).
2. The high cost of housing prevents key and low level workers from living in much of the borough. This will affect the ability of local businesses to employ these workers;
 - Indicator - Ratio of median salary in the borough compared to ratio of median national salary
 - Indicator – Net change in business floorspace (this should increase)
3. Additional indicators identified are:
 - Overall position / rank of the borough on the UK Competiveness Index (Source: Centre for International Competitiveness) - 17th of 379 local authority areas (this should increase).
 - Overall position / rank of Guildford town in the UK Competiveness Index (Source: Centre for International Competitiveness) - 1st of all localities (excluding London) with populations over 100,000 (this should be maintained).

4.3.1 **SA objectives**

The data analysed supports the inclusion of the following SA objectives in the SA framework:

- SA Objective 5 – To reduce poverty and social exclusion for all
- SA Objective 15 – To maintain Guildford borough and Guildford town's competitive economic role
- SA Objective 16 – To facilitate appropriate development opportunities to meet the changing needs of the economy
- SA Objective 17 – To enhance the borough's rural economy

5 TRANSPORT & ACCESSIBILITY

5.1 What's the sustainability context?

The NPPF promotes the use of sustainable modes of transport and states Local Authorities should support a pattern of development which facilitates the use of sustainable modes of transport.

Paragraph 32: “All developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. Plans and decision should take account of whether:

- The opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;
- Safe and suitable access to the site can be achieved for all people; and
- Improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.”

Paragraph 34: “Plans and decisions should ensure developments that generate significant movement are located where the need to travel will be minimised and the use of sustainable transport modes can be maximised. However this needs to take account of policies set out elsewhere in this Framework, particularly in rural areas.”

The NPPF also states that Local Authorities should seek to improve the quality of parking in town centres and should identify sites to develop infrastructure to widen transport choice.

The NPPF promotes high quality communications infrastructure as essential for sustainable economic growth. It states that, “local planning authorities should support the expansion of electronic communications networks including telecommunications and high speed broadband.” They should aim to keep the number of radio and telecommunication masts to a minimum consistent with efficient operation of the network.

Paragraph 43: “In preparing Local Plans, local planning authorities should support the expansion of electronic communications networks, including telecommunications and high speed broadband”.

Paragraph 44: “Local planning authorities should not impose a ban on new telecommunications development in certain areas, impose blanket Article 4 directions over a wide area or a wide range of telecommunications development or insist on minimum distances between new telecommunications development and existing development”.

Surrey Local Transport Plan 3 (2011 – 2026)⁵⁰

The Surrey Transport Plan is the third Local Transport Plan for the county. The aim of the Transport Plan is, “To help people to meet their transport and travel needs effectively, reliably, safely and sustainably within Surrey; in order to promote economic vibrancy, protect and enhance the environment and improve the quality of life.”

⁵⁰ Surrey County Council (2011) Surrey Transport Plan [online] available at: <http://www.surreycc.gov.uk/roads-and-transport/surrey-transport-plan-ltp3> (accessed 09/12)

There are four objectives of the plan:

- *“Effective transport: To facilitate end-to-end journeys for residents, business and visitors by maintaining the road network, delivering public transport services and, where appropriate, providing enhancements.*
- *Reliable transport: To improve the journey time reliability of travel in Surrey.*
- *Safe transport: To improve road safety and the security of the travelling public in Surrey.*
- *Sustainable transport: To provide an integrated transport system that protects the environment, keeps people healthy and provides for lower carbon transport choices.”*

5.2 What is the sustainability baseline?

Four major roads pass through the borough. The two Strategic Roads are the M25 motorway and the A3 trunk road. The M25 enters the borough briefly at Wisley at its junction with the A3. The A3 runs from north east to south west through the borough and provides road links to both London and the South Coast. Traffic flows on the SRN in Surrey are far higher than those experienced nationally. In 2008, traffic flows on A roads in Surrey, including both trunk roads which form part of the Strategic Road Network and Local Road Network roads which are not, averaged 21,400 vehicles per day; 64% greater than the national average for Great Britain of 13,079 vehicles per day⁵¹.

Sections of the A3 trunk road through Guildford are operating significantly in excess of their theoretical capacity, and so users experience recurrent traffic congestion, principally during the morning and evening peak periods⁵². There is also strong interaction between the conditions for traffic on the A3 and those on the Local Road Network in Guildford. The A3 through Guildford also experiences a high accident rate⁵³, and community severance⁵⁴ and traffic noise⁵⁵ are also problems associated this stretch of the road.

The A31 runs west from the town centre along the top of the Hogs Back and joins with the A331 Blackwater Valley Road at the western end of the borough linking to the M3 motorway. The A25 also runs in an east west direction between Guildford town and Reigate to the east. In Guildford town centre, four main A roads – the A31, the A322, the A281 and the A3100 – converge at the one-way gyratory system. Traffic congestion is experienced on the Local Road Network in Guildford town centre⁵⁴. This congestion affects bus route operations whilst also making cycling and walking less attractive.

The borough is well served by rail with direct lines to London, Portsmouth, Reading and Gatwick. There are twelve rail stations in the borough. These can be classified using Network Rail’s six category classification system as follows:

B – Regional Hub: Guildford;

D – Medium Staffed: Ash Vale, Effingham Junction, Horsley, London Road (Guildford);

⁵¹ Surrey County Council (2008) Transport Statistics for Surrey: Movement Monitoring Report 2008/9 [online] available at: <http://www.surreycc.gov.uk/roads-and-transport/roads-and-transport-policies-plans-and-consultations/roads-and-transport-policies-and-plans/transport-studies/transport-statistics-for-surrey> (accessed 09/12)

⁵² Parsons Brinkerhoff for Highways Agency - A3 Surrey Corridor Study - Strategy Report

⁵³ Ibid

⁵⁴ Surrey County Council (2013) Surrey Future: Congestion Programme – Consultation Draft [online] available at: http://www.surreycc.gov.uk/_data/assets/pdf_file/0009/546309/Congestion-Programme-FINAL.pdf

⁵⁵ Defra (2010) Noise Action Plan: Major Roads (outside first round agglomerations) [online] available at: <http://archive.defra.gov.uk/environment/quality/noise/environment/documents/actionplan/noiseaction-major-roads.pdf>

E – Small Staffed: Ash, Clandon, North Camp; and

F – Small Unstaffed: Chilworth, Gomshall, Shalford, Wanborough.

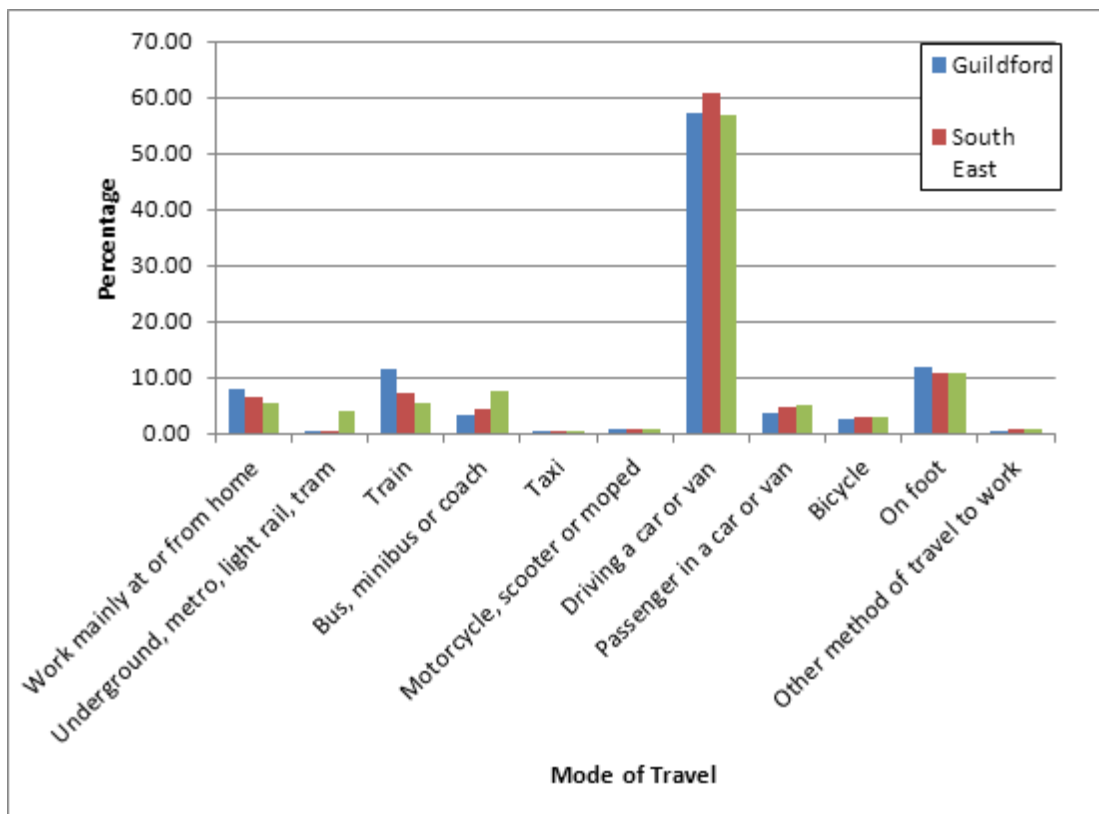
Across the twelve rail stations, there were over 10.5 million estimated entries and exits made in 2010/11, including 7.8 million at Guildford rail station⁵⁶.

The two principal urban areas are the town of Guildford and the urban area of Ash and Tongham. Approximately half the borough's population live in Guildford Town. Most of the borough (89%) is designated as Green Belt. The countryside of the borough is extensive. It contains a number of villages, isolated areas of housing, long established businesses and farms⁵⁷. Pockets of deprivation may exist where households do not have access to a car and there is a poor level of public transport.

Car ownership data suggests that there is an average of 1.49 cars per household in the borough, compared with 1.35 in the South East and 1.16 in England⁵⁸.

Figure 5-1 below illustrates that the majority of Guildford's residents commute to work by driving a car or a van.

Figure 5-1: Travel to work



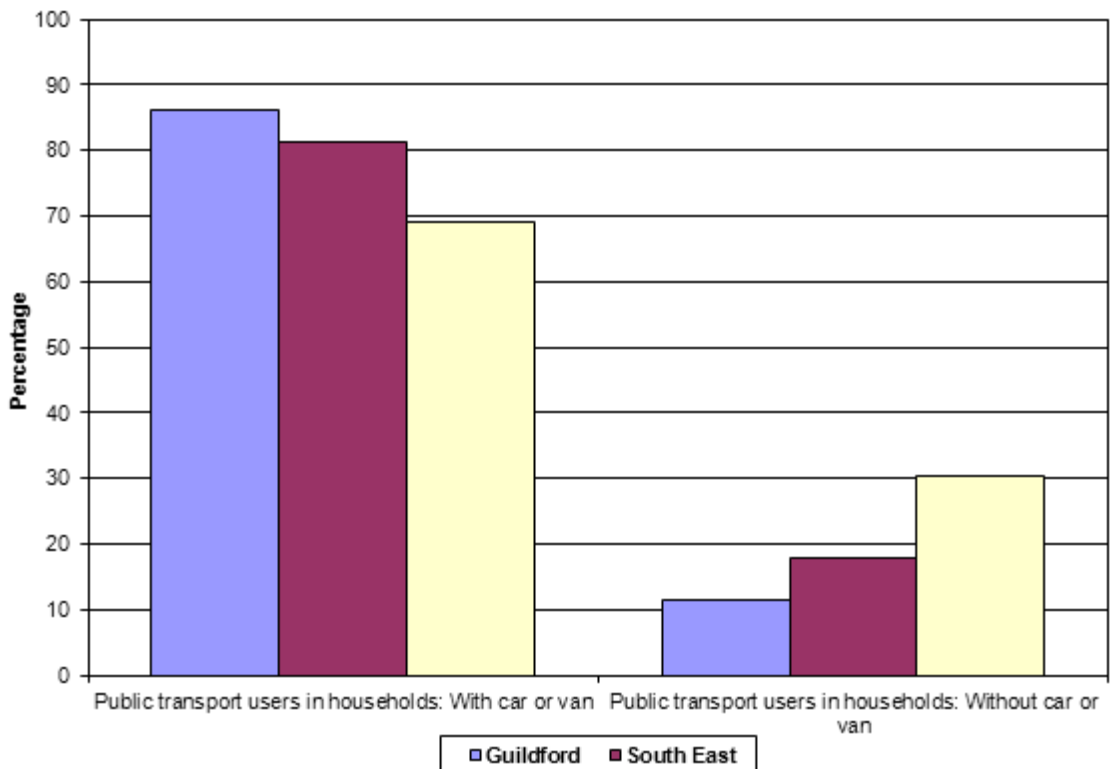
⁵⁶ Office of Rail Regulation (2011) Station Usage Data [online] available at: <http://www.rail-reg.gov.uk/server/show/nav.1529>

⁵⁷ Guildford Borough Council (2009) Guildford Development Framework – Core Strategy Further Preferred Options [online] available at: www.guildford.gov.uk (accessed 09/12)

⁵⁸ Census (2011) Cars or Vans [online] available at: www.neighbourhood.statistics.gov.uk/ (accessed 02/13)

Figure 5-2 illustrates that, in relation to people who travel to work by public transport, the vast majority live in households that have access to a car or van. However, this does not necessarily mean that those travelling to work by public transport have access to a car or van, only that the household is recorded as having such. Nevertheless, the data does suggest that, for some of the population in Guildford, the use of public transport is an attractive alternative to the car, given that a high proportion of people using public transport have a car within the household.

Figure 5-2: Travel to work by public transport⁵⁹



The average distance travelled to work in Guildford is 15.74km, which is slightly higher than for the South East (14.89km) and England (13.31km)⁶⁰. Given that the majority of people travel to work by car, and of those travelling by public transport the majority travel by train, this suggests that many people are travelling outside the borough to access employment, possibly to London given its proximity and ease of access.

Bus patronage in Surrey has increased from 24.15 million passengers per year in 2005/06 to 27.2 million passengers per year in 2007/08⁶¹. Guildford is the only Surrey town where a Park and Ride network has been implemented. There are three existing sites at Spectrum, Merrow and Artington which intercept traffic entering Guildford from the north, east and south respectively. On an average day, the Park and Ride bus services replace some 1000-1500

⁵⁹ Census (2001) [online] available at: www.neighbourhood.statistics.gov.uk (accessed 06/2012)

⁶⁰ Census (2001) Travel to work statistics [online] available at: www.neighbourhood.statistics.gov.uk (accessed 06/2012)

⁶¹ Surrey County Council (2008) Movement Monitoring Report 2008 [online] available at: http://www.surreycc.gov.uk/data/assets/pdf_file/0008/175292/01-Introduction.pdf

return car journeys from key radial road corridors to Guildford town centre during their hours of operation (7.30am-7.30pm)⁶².

Congestion is an identified issue in some areas of the borough. The Surrey Local Transport Plan⁶³ outlines two major transport schemes within the borough:

- Guildford hub improvements - To expand significantly the Guildford Park and Ride Scheme, incorporating up to four new car park sites and to implement further bus priority measures into and within Guildford town centre including a new restricted access crossing of the River Wey. In addition, to develop a public transport service that serves both Park and Ride and the local service markets, thus providing best value for money. Two sites would draw most of their users from the A3, thus relieving congestion on the Highways Agency Network. The implementation of this scheme will complement the A3 Junction Improvement Scheme.
- Planning permission was granted in 2012 for a new Park and Ride to the west of Guildford.

5.2.1 *The likely future situation without the plan*

It is likely that people will continue to use cars as a means of travel unless steps are taken to address the current situation. Access to services in rural areas is likely to continue to be an issue given the rural nature of the borough.

5.3 What are the key issues and objectives?

The topic of Transport and Accessibility will be a key focus of the SA and within that there are three specific issues:

1. For those without a car, access to a range of facilities in rural areas is an issue
 - Percentage of at risk users (households without a car in each census output area) with access to town centres within 30 minutes by public transport and/or walking (this should increase).
2. There are currently no Air Quality Management Areas in the borough
 - There should be no Air Quality Management Areas designated in the borough.
3. Adverse economic, social and environmental impacts of high traffic volumes and a culture of dependence on private car use including recurrent traffic congestion on certain parts of the network at certain times of day, road collisions, community severance, obesity, noise pollution, local air pollution, greenhouse gas emissions, high demand for parking, and amenity of local neighbourhoods.
 - Percentage mode share for sustainable modes, defined as walking, cycling, bus, minibus, coach and train, as methods of travel to work, for all usual residents aged 16 to 74 in employment in Guildford borough (using Census data) (this should increase).

⁶² Guildford Borough Council (2013) Guildford Borough Infrastructure Baseline [online] available at: <http://www.guildford.gov.uk/CHttpHandler.ashx?id=14842&p=0> (accessed 07/2013)

⁶³ Surrey County Council (2011) Surrey Transport Plan – LTP3: Implementation and Finance [online] available at: <http://www.surreycc.gov.uk/roads-and-transport/surrey-transport-plan-ltp3/surrey-transport-plan-implementation-and-finance> (accessed 12/2012)

- Carbon dioxide emissions from all road transport in Surrey except motorway traffic (Data published by DECC as 'Carbon dioxide emissions within the scope of influence of local authorities' (Previously National Indicator 186) which is intended to continue).
- 4. Development in the borough has the potential to exacerbate congestion. This is likely to be the major source of emissions/air pollution within the borough.
 - Indicator – developments with Green Travel Plans.

5.3.1 SA objectives

The data analysed supports the inclusion of the following SA Objective in the SA framework:

- SA Objective 10 – To achieve a pattern of development which minimises journey lengths and encourages the use of sustainable forms of transport (walking, cycling, bus and rail).

6 CRIME & SAFETY

6.1 What’s the sustainability context?

The NPPF requires that “developments create safe and accessible environments where crime and disorder, and the fear of crime, do not undermine quality of life or community cohesion. Places should contain clear and legible pedestrian routes, and high quality public spaces, which encourage the active and continual use of public areas.”

With regards to road safety, the NPPF states that “plans should create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians, avoiding street clutter and where appropriate establishing home zones.”

6.2 What is the sustainability baseline?

The borough is one of the safest parts of the country to live, work and visit and residents generally believe that the statutory agencies are doing a good job in tackling crime and disorder. However, there is a disproportionate fear of crime and concerns about anti-social behaviour in certain parts of Guildford town centre.

In addition, despite overall low crime rates, there are a small number of hotspots with crime levels amongst the highest in the county. Much of the violent crime in the borough, particularly in Guildford town centre, is alcohol related. The highest crime and anti-social behaviour levels are found in Guildford town centre, followed by Westborough, Onslow, Stoke, Worplesdon, Stoughton and Ash Wharf⁶⁴. Guildford’s late night economy of bars and clubs is centred on Bridge Street and the top of North Street in Guildford Town Centre. These two areas are consistently the areas of the highest number of violence and disorder incidences in the whole of Surrey⁶⁵.

The Surrey Strategic Partnership Plan⁶⁶ states that crime levels are low and Surrey Police scores highly in public satisfaction. Despite Surrey’s affluence there are pockets of deprivation in both urban and rural communities. The public’s most significant concerns include reducing low level crime and anti-social behaviour and improving road safety.

Violent crimes towards people have more than doubled between 2001 and 2011, with common assault offences increasing three-fold in this time period (see Table 6-1). However, other crimes such as theft from the person, theft of a motor vehicle and robbery have shown to decrease over time by around 50%; in the case of theft of a motor vehicle, these offences have reduced by over 300%.

Table 6-1: Notifiable offences recorded by the police⁶⁷

Offence	April 2001 – March 2002	April 2005 – March 2006	April 2010 – March 2011
Violence against the Person	948	1,659	2,069
Wounding or Other Act Endangering Life	19	22	12

⁶⁴ Guildford Local Strategic Partnership (2009) Guildford Borough Sustainable Community Strategy 2009-2026 [online] available at: <http://www.guildford.gov.uk/CHttpHandler.ashx?id=871&p=0>

⁶⁵ Safer Guildford Partnership Executive Report 25 January 2012

⁶⁶ Surrey Strategic Partnership (2010) Surrey Strategic Partnership Plan [online] available at: www.surreycc.gov.uk

⁶⁷ National Statistics [online] available at: www.neighbourhood.statistics.gov.uk (accessed 06/2012)

Offence	April 2001 – March 2002	April 2005 – March 2006	April 2010 – March 2011
Other Wounding	457	807	707
Harassment Including Penalty Notices for Disorder	190	447	653
Common Assault	169	232	589
Robbery	78	60	40
Theft from the Person	104	92	54
Criminal Damage Including Arson	1,693	2,212	1,617
Burglary in a Dwelling	419	389	545
Burglary Other than a Dwelling	629	696	742
Theft of a Motor Vehicle	455	255	125
Theft from a Motor Vehicle	736	659	667

6.2.1 *The likely future situation without the plan*

It is likely that the borough overall will continue with relatively low crime rates. However this does not mean that there are no areas that are affected by crime. The fear of crime is high despite a low crime rate; without addressing it this fear will continue.

6.3 **What are the key issues and objectives?**

The principal crime and safety challenges facing the borough are:

1. Violent crime has increased substantially since 2011.
 - Indicator – Notifiable offences recorded by the police (this should decrease).
2. Perception of crime is worse than actual occurrence.
 - Indicator – fear of crime (this should decrease).

6.3.1 **SA objectives**

The data analysed supports the inclusion of the following SA Objectives in the SA framework:

- SA Objective 4 – To create and maintain safer and more secure communities.

7 HOUSING

7.1 What's the sustainability context?

The NPPF states that to boost the supply of housing, local authorities should use an evidence base to ensure that their Local Plans meet the full requirements for market and affordable housing in the housing market area and, where possible, identify developable sites over a 15 year period. It also requires Local Authorities to deliver a wide choice of high quality homes and create inclusive and mixed communities. The NPPF states, “*to promote sustainable development in rural areas, housing should be located where it will enhance or maintain the vitality of rural communities*”.

Paragraph 47: “To boost significantly the supply of housing, local planning authorities should:

- *use their evidence base to ensure that their Local Plan meets the full, objectively assessed needs for market and affordable housing in the housing market area, as far as is consistent with the policies set out in this Framework, including identifying key sites which are critical to the delivery of the housing strategy over the plan period;*
- *identify and update annually a supply of specific deliverable sites sufficient to provide five years worth of housing against their housing requirements with an additional buffer of 5% (moved forward from later in the plan period) to ensure choice and competition in the market for land. Where there has been a record of persistent under delivery of housing, local planning authorities should increase the buffer to 20% (moved forward from later in the plan period) to provide a realistic prospect of achieving the planned supply and to ensure choice and competition in the market for land;*
- *identify a supply of specific, developable sites or broad locations for growth, for years 6-10 and, where possible, for years 11-15;*
- *for market and affordable housing, illustrate the expected rate of housing delivery through a housing trajectory for the plan period and set out a housing implementation strategy for the full range of housing describing how they will maintain delivery of a five-year supply of housing land to meet their housing target; and*
- *set out their own approach to housing density to reflect local circumstances.”*

7.2 What is the sustainability baseline?

The South East is a high demand housing area that has to manage the need arising from considerable demographic growth whilst respecting environmental constraints. Although now revoked, the South East Plan⁶⁸ had set an annual average net additional dwelling requirement for Guildford of 422. This number was remitted by the Secretary of State following Guildford Borough Council’s successful legal challenge to the housing number and location in the plan. As shown in Table 9.1 below the average house price in the county is high in comparison to the regional and national averages. House prices and land values are generally less expensive in the west of the borough, around Ash and Tongham⁶⁹.

⁶⁸ Government Office for the South East (2009) The South East Plan: Regional Spatial Strategy for the South East of England [online] Available from:

<http://webarchive.nationalarchives.gov.uk/20100528142817/http://www.gos.gov.uk/gose/planning/regionalplanning/815640/>

⁶⁹ Guildford Borough Council (2008; updated 2009 and 2011) Guildford Affordable Housing Viability Study [online] Available from: <http://www.guildford.gov.uk/article/3959/Affordable-Housing-Viability-Study>

Table 7-1: Average house prices⁷⁰

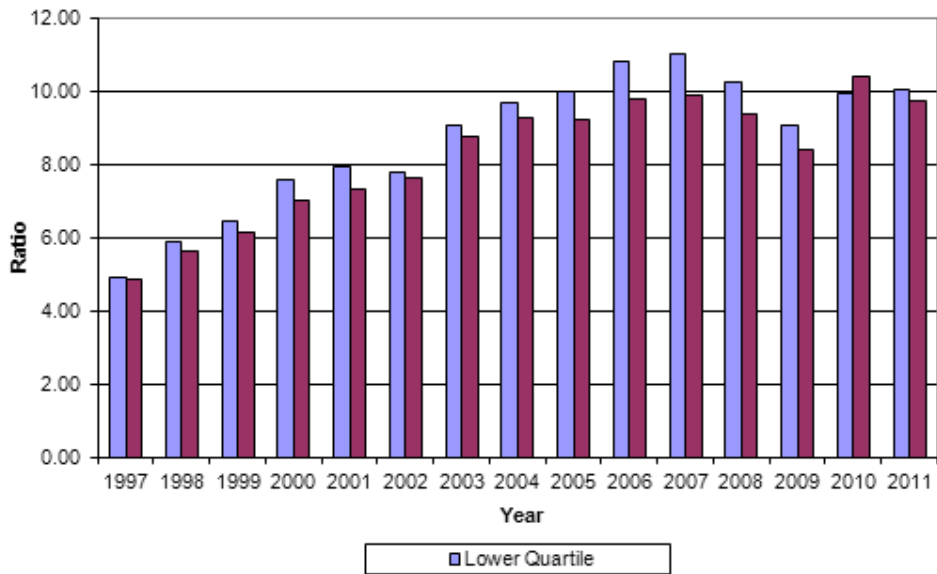
Year*	Surrey	South East	England and Wales
1995	96,702	71,799	62,309
1996	96,320	69,933	59,917
1997	101,778	74,544	61,436
1998	120,789	85,015	66,781
1999	131,848	90,718	70,157
2000	155,796	107,736	79,363
2001	175,946	121,098	87,144
2002	195,878	137,755	98,077
2003	229,208	169,570	122,371
2004	240,332	181,165	138,719
2005	256,782	194,465	155,121
2006	259,491	196,262	159,954
2007	280,877	212,864	172,679
2008	309,193	227,966	182,213
2009	267,791	191,232	155,371
2010	283,457	207,241	163,769
2011	296,076	206,483	162,994
2012	295,156	206,190	161,213

*House prices taken in January.

The lower quartile house price to lower quartile income ratio (the DCLG's preferred measure of housing "affordability") has been increasing steadily since 1997, as illustrated in Figure 7-1. The ratio indicates the multiples of salary required to purchase a home; it has increased from five times the salary in 1997 to over ten times the salary in 2011. The implications of this are that those on lower incomes are unable to afford to buy their own homes.

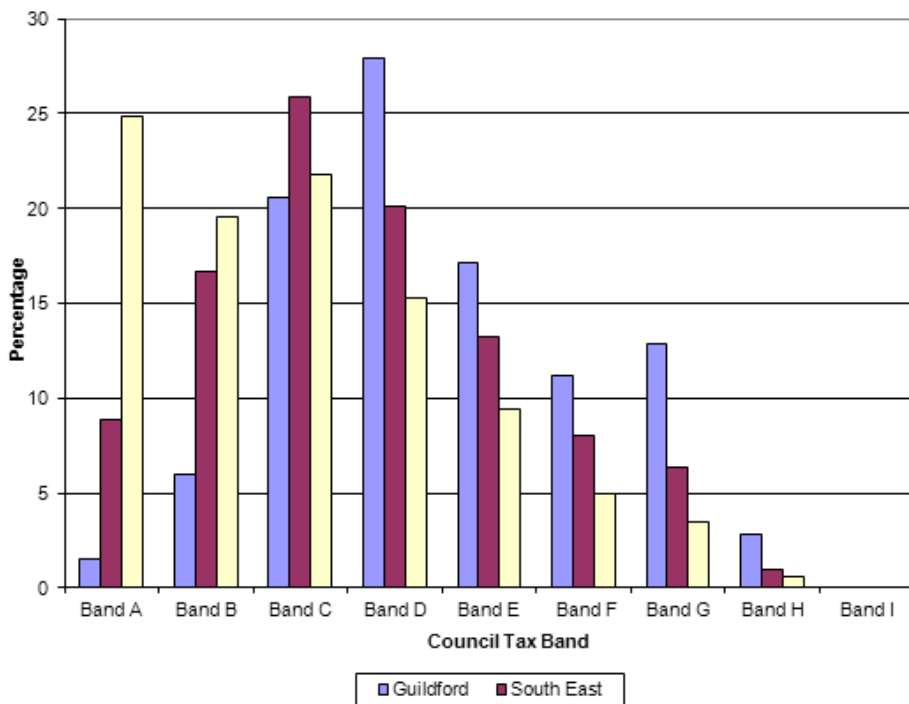
⁷⁰ Land Registry www.landreg.gov.uk [accessed 01/2012]

Figure 7-1: Guildford house price to earnings ratio 1997-2011



The distribution of properties is biased towards the higher Council Tax bandings compared with the South East and England, as shown in Figure 7-2.

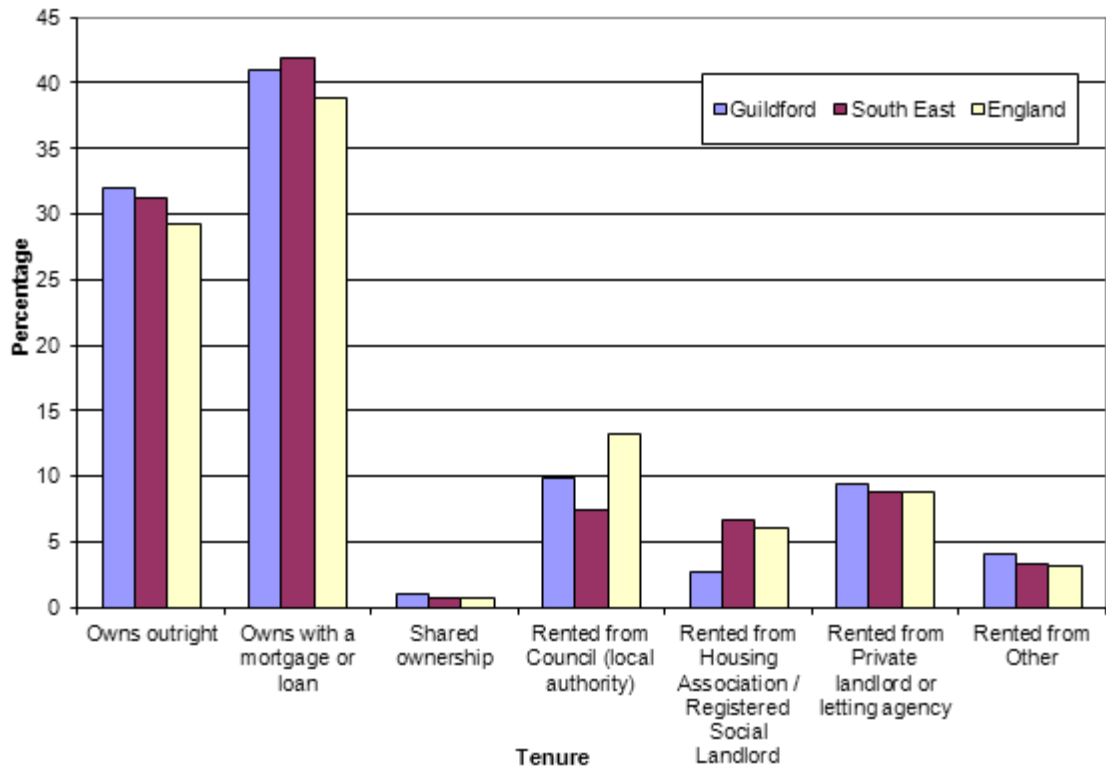
Figure 7-2: Dwellings by council tax band (2011)⁷¹



⁷¹ National Statistics 2011 [online] available at: www.neighbourhood.statistics.gov.uk (accessed 06/12)

Housing tenure in the borough differs from the national picture in that there are a higher proportion of owner-occupiers and a lower proportion of people are housed by registered social landlords or the Council, or renting from private landlords, as shown in Figure 7-3.

Figure 7-3: Housing tenure (2001)⁷²



The West Surrey Strategic Housing Market Assessment (SHMA) commissioned by Waverley, Woking and Guildford Borough Councils estimates that the number of overcrowded households in Guildford is relatively low at 1.9% (1,058) when compared with the South East at 2.0% and national average of 2.7% of households. Conversely, a relatively high proportion of households are recorded as being under-occupied: 23,821 households, which equates to 43.8%⁷³.

The SHMA estimates that in the borough, the net annual affordable housing need (allowing for a substantial backlog) equates to 1,094 homes a year. The SHMA also identifies that 49.3% of future households will require affordable housing as they are unable to buy or rent in the market.

There are 1,430 households per year that cannot afford market housing and are living in unsuitable housing (and require a move to alternative accommodation)⁷⁴. This represents

⁷² Census 2001 www.neighbourhood.statistics.gov.uk [accessed 06/2012]

⁷³ Fordham Research, West Surrey Strategic Housing Market Assessment 2009 www.guildford.gov.uk

⁷⁴ Fordham Research (2009) Housing Needs and Market Assessment Survey for Guildford Borough Council [online] Available from: <http://www.guildford.gov.uk/CHttpHandler.ashx?id=4393&p=0>

2.6% of all existing households in the borough – these households are considered to be in housing need. It is estimated that there is a current need to provide 1,620 units of affordable housing per annum to meet the backlog of need⁷⁵.

Around 38% of households requiring affordable housing contain children; single non-pensioner households comprise around 28% of the demand.

A relatively high proportion of social rented properties in Guildford (41.8%) contain only older people⁷⁵. This may have implications for future supply of, and demand for, specialised social rented accommodation.

There will be a net increase in households of approximately 644 per year; 520 from natural change and 124 due to net in-migration. In general there is expected to be a greater demand for housing than supply. Overall, across all tenures there is an apparent shortfall of 644 dwellings per annum. Of this shortfall, around 53% is for affordable housing.

In the market sector there is an apparent shortfall of 302 units per annum⁷⁵. The majority of the market shortfall is for two bedroom homes although notable shortages are also shown for three and four bedrooms.

The requirement for intermediate housing makes up around 24% of the net shortfall of housing in the borough and there are mainly shortages shown for one and two bedroom homes⁷⁵.

The shortage of social rented housing makes up around 29% of the total shortfall of housing in the borough. Most of the net demand for social rented housing is for two and three bedroom units and the results suggest a surplus of one bedroom homes in this sector.

7.2.1 *The likely future situation without the plan*

The population of the borough is expected to increase in future years. This is likely to exacerbate current shortages of housing and increase housing need. Furthermore the need for affordable housing for local people unable to compete in the open market is likely to continue to be unmet. This is a problem shared by the rest of the South East region.

7.3 What are the key issues and objectives?

The topic of housing will be a key focus of the SA and within that there are three specific issues:

1. High average house prices create affordability problems for local people, first time buyers and essential key workers.
 - Indicator – housing affordability as a function of lower quartile income to lower quartile house price (this should decrease, i.e. become more affordable).
2. There is a deficit in affordable housing supply and the current completion rate is below the annual level required to address the deficit.
 - Indicator – completion rates of affordable housing in new developments (this should increase).

⁷⁵ Fordham Research (2009) Housing Needs and Market Assessment Survey for Guildford Borough Council [online] available at: <http://www.guildford.gov.uk/CHttpHandler.ashx?id=4393&p=0>

3. The need for accommodation for people with care and support needs is likely to increase, given the projected increases in population and the proportion of older people in the borough (see Chapter 1).
 - Indicator – housing completions that provide for long-term care and disability (this should increase).

7.3.1 SA objectives

The data analysed supports the inclusion of the following SA Objective in the SA framework:

- SA Objective 1 – To provide sufficient housing of a suitable mix taking into account local housing need, affordability, deliverability, the needs of the economy, and travel patterns.

8 CULTURAL HERITAGE

8.1 What’s the sustainability context?

Cultural Heritage
<p>World Heritage Convention (1972):</p> <ul style="list-style-type: none"> • Calls for the identification, protection, conservation, presentation and transmission to future generations of the cultural and natural heritage sites.
<p>Ancient Monuments and Archaeological Areas Act (1979):</p> <ul style="list-style-type: none"> • Provides for nationally important archaeological sites to be statutorily protected as “scheduled ancient monuments” (now Scheduled Monuments).
<p>Planning (Listed Buildings and Conservation Areas) Act (1990):</p> <ul style="list-style-type: none"> • Provides specific protection for buildings and areas of special architectural or historic interest and their settings.
<p>National Planning Policy Framework (2012):</p> <ul style="list-style-type: none"> • The Local Plan must ensure the conservation, protection and enhancement of heritage assets including Listed Buildings, Conservation Areas and Scheduled Ancient Monument, and their settings.
<p>Implications for the Local Plan:</p> <ul style="list-style-type: none"> • The Local Plan must ensure the conservation and protection and enhancement of heritage assets including Listed Buildings, Conservation Areas and Scheduled Ancient Monuments, and their settings.

The NPPF states that, “*the Government attaches great importance to the design of the built environment*”. According to the NPPF, local planning authorities should develop policies that set out the quality of development that will be expected for the area. In addition to the design of buildings, planning policies should address the connections between people and places and the integration of new development into the natural, built and historic environment.

The NPPF states, “Permission should be refused for development of poor design that fails to take the opportunities available for improving the character and quality of an area and the way it functions.”

Historic Environment

In relation to the historic environment, paragraph 126 of the NPPF states that local planning authorities should set out a positive strategy for the conservation and enjoyment of the historic environment in their Local Plan, and in doing so should recognise that heritage assets are an irreplaceable resource. Paragraph 157 specifically requires Local Plans to contain a clear strategy for enhancing the natural, built and historic environment.

Paragraph 131 states, “in determining planning applications, local planning authorities should take account of:

- *The desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;*

- *The positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and*
- *The desirability of new development making a positive contribution to local character and distinctiveness.”*

8.2 What is the sustainability baseline?

Key elements of the historic environment of Guildford borough are 39 Conservation Areas⁷⁶, over 1,000 Listed Buildings⁷⁷ and over 200 Locally Listed Buildings. There are also eight Historic Gardens, including the Royal Horticultural Society’s Gardens at Wisley (Grade II*), Sutton Place (Grade II*) and Albury Park⁷⁸, and 31 Scheduled Monuments⁷⁹. There are currently two buildings on the Heritage at Risk register – these are St Mary’s Church on Quarry Street, Guildford and Clandon Park in West Clandon, Guildford⁸⁰. Guildford Borough Council has published Conservation Area Character Appraisals for seven of the Conservation Areas (at Abbotswood, Bridge Street, Chilworth, East Clandon, Onslow Village, Pirbright and Shere), with others currently at ‘draft’ stage⁸¹. As set out in section 8.1, the NPPF requires new development to ensure that heritage interests are protected.

Sites identified through the process of producing a Strategic Housing Land Availability Assessment, Employment Land Assessment and Local Plan sites, are likely to include some locations within settlements that are within or close to heritage assets. Development within the setting of these heritage assets has potential to adversely affect these assets.

8.2.1 *The likely future situation without the plan*

The number of Listed Buildings, Conservation Areas, Scheduled Ancient Monuments and Historic Parks and Gardens means that much of the borough’s character and distinctive built heritage will continue to be conserved and protected from future development. However, if development of these sites (or in their setting) does occur, dependent on form and design, the cultural heritage interests could potentially be affected.

8.3 What are the key issues and objectives?

The topic of cultural heritage will be a key focus of the SA and within that there is one specific issue:

1. There is a need to conserve the historic and cultural heritage for future generations as it is an essential part of what makes the borough a distinct place.
 - Indicator – Heritage assets on the Heritage at Risk register (this should decrease).

⁷⁶ Guildford Borough Council (2012) Conservation Areas [online] available at: <http://www.guildford.gov.uk/article/10449/Maps> (accessed 06/12)

⁷⁷ Guildford Borough Council (2012) Listed Buildings [online] available at: <http://www.guildford.gov.uk/article/885/Listed-buildings> (accessed 06/12)

⁷⁸ English Heritage (2012) The National Heritage List for England [online] available at: <http://www.english-heritage.org.uk/professional/protection/process/national-heritage-list-for-england/> (accessed 06/12)

⁷⁹ Guildford Borough Council (2010) Scheduled Monuments [online] available at: <http://www.guildford.gov.uk/article/909/Scheduled-Monuments> (accessed 06/12)

⁸⁰ English Heritage (2012) Heritage at Risk register [online] available at: <http://risk.english-heritage.org.uk/register.aspx?st=a> (accessed 02/2013)

⁸¹ Guildford Borough Council (2013) Conservation Area Character Appraisals [online] available at: <http://www.guildford.gov.uk/article/898/Conservation-Area-Character-Appraisals> (accessed 02/2013)

8.3.1 **SA objectives**

The data analysed supports the inclusion of the following SA Objective in the SA framework:

- SA Objective 9 – To protect, enhance, and where appropriate make accessible, the archaeological and historic environments and cultural assets of Guildford, for the benefit of residents and visitors.

8.4 **Data gap**

A data gap has been identified in relation to cultural heritage.

- Paragraph 169 of the NPPF states that “*Local planning authorities should have up-to-date evidence about the historic environment in their area and use it to assess the significance of heritage assets and the contribution they make to their environment. They should also use it to predict the likelihood that currently unidentified heritage assets, particularly sites of historic and archaeological interest, will be discovered in the future. Local planning authorities should either maintain or have access to a historic environment record*”.
- English Heritage has advised of the need to produce a Heritage Strategy that sets the baseline for preparation of the Local Plan, and inform both the Sustainability Appraisal and Local Plan. The Council maintains a full record of heritage assets in the Borough and intends to use this to prepare a heritage strategy at a later stage in the preparation of the Local Plan.

9 CLIMATE

9.1 What’s the sustainability context?

Climate

Renewed EU Sustainable Development Strategy (2006):

- Kyoto Protocol commits the EU-15 and most EU-25 to targets for reducing greenhouse gas emissions by 2008 – 2012; the EU-15 target is for an 8% reduction in emissions compared to 1990 levels. Aiming for a global surface average temperature not to rise by more than 2°C compared to the pre-industrial level;
- By 2010 12% of energy consumption, on average, and 21% of electricity consumption, as a common but differentiated target, should be met by renewable sources;
- By 2010 5.75% of transport fuel should consist of biofuels, as an indicative target, (Directive 2003/30/EC); considering raising their proportion to 8% by 2015; and
- Reaching an overall saving of 9% of final energy consumption over 9 years until 2017 as indicated by the Energy End-use Efficiency and Energy Services Directive.

The Climate Change Act (2008) sets a legally binding target for reducing UK Carbon Dioxide (CO₂) emissions by at least 34% by 2020 and at least 80% by 2050 on 1990 levels.

Implications for the Local Plan:

- The Local Plan must promote sustainable patterns of development and reduce the level of greenhouse gas emissions. The Local Plan must seek to mitigate and adapt to the expected impacts of climate change.

Paragraph 94 of the NPPF states that, “local planning authorities should adopt proactive strategies to mitigate and adapt to climate change,⁸² taking full account of flood risk, coastal change and water supply and demand considerations.”

“To support the move to a low carbon future, local planning authorities should:

- plan for new development in locations and ways which reduce greenhouse gas emissions;
- actively support energy efficiency improvements to existing buildings; and
- when setting any local requirement for a building’s sustainability, do so in a way consistent with the Government’s zero carbon buildings policy and
- adopt nationally described standards”.

Local plans should be supported by a Strategic Flood Risk Assessment and should apply a sequential, risk-based approach to the location of development to avoid, where possible, flood risk to people and property.

⁸² In line with objectives and provisions of the Climate Change Act 2008.

9.2 What is the sustainability baseline?

Car ownership data suggests there is an average of 1.45 cars per household in the borough; the majority of Guildford’s residents commute to work by driving a car or a van (see chapter on Transport and Accessibility for more information). Due to the rural nature of much of the borough it is likely that transport is one of the major producers of carbon dioxide emissions.

Carbon dioxide emissions

The carbon dioxide emissions per capita in Guildford are higher than in Surrey or the rest of the country, as illustrated in Figure 9-1. However, in line with the general trend, carbon dioxide emissions per capita in Guildford declined by 1.1 kt CO₂ between 2005 and 2009.

Figure 9-1: Carbon dioxide emissions per capita (t CO₂)⁸³

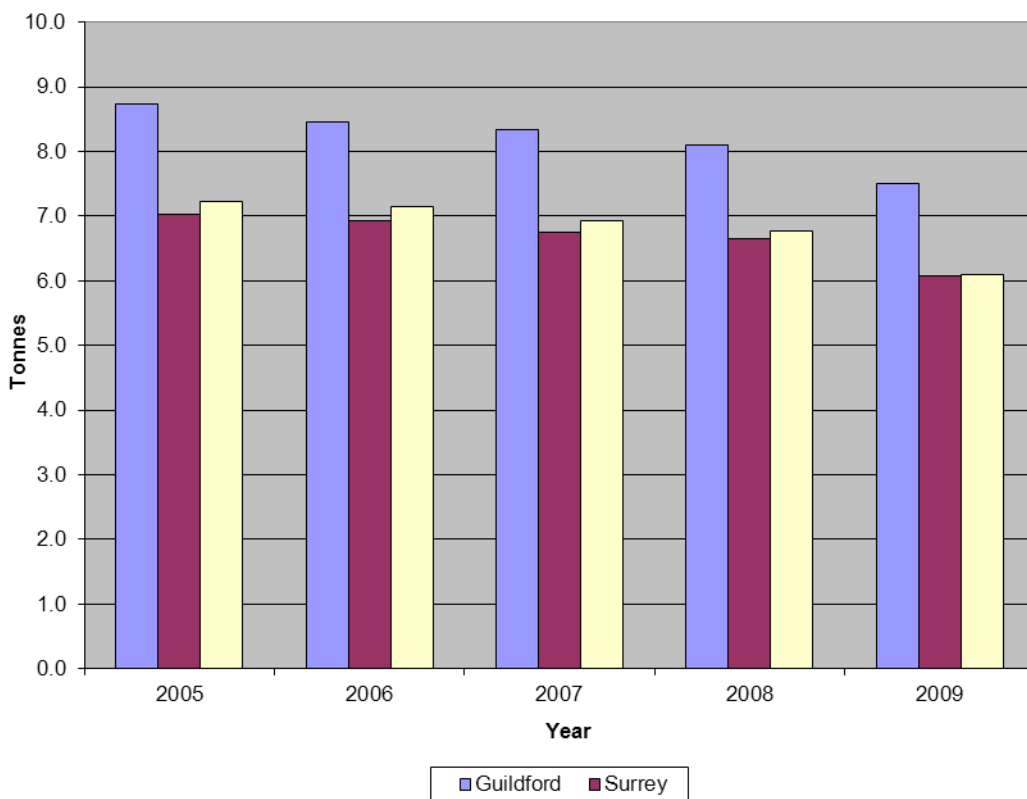
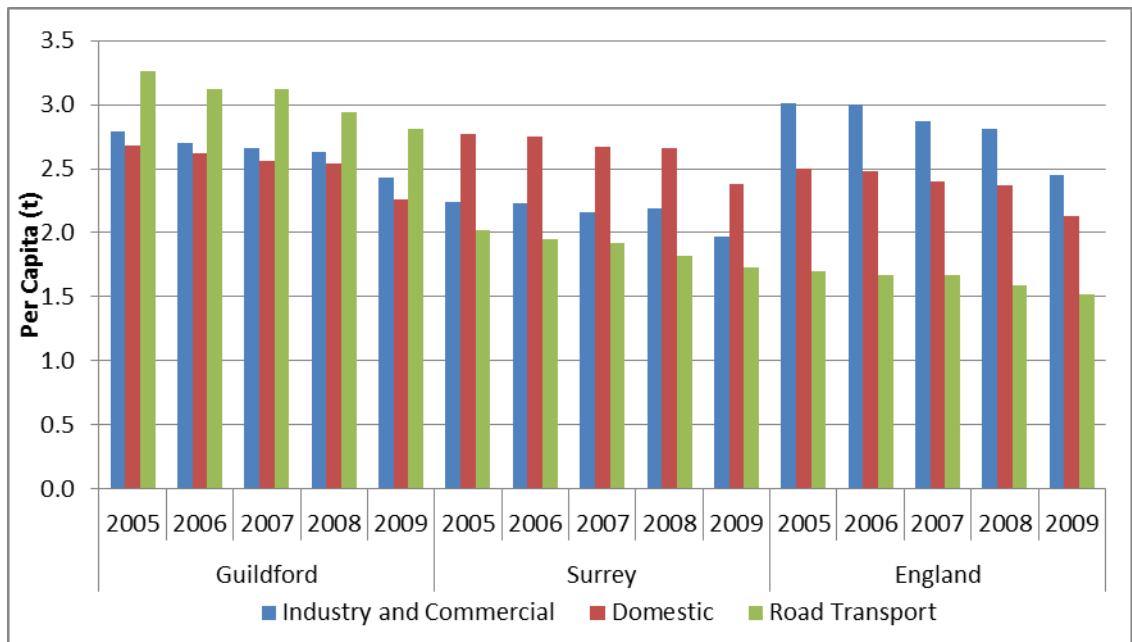


Figure 9-2 breaks down the CO₂ emissions illustrated in Figure 9-1 into their constituent sectors (Industry and Commercial, Domestic and Road Transport). It shows that road transport emissions per capita in Guildford are substantially higher than those for Surrey and England, whereas domestic emissions per capita are somewhat lower. Emissions relating to industry and commerce are slightly higher in Guildford than those in Surrey, but lower than those for England. This suggests that the types of industry and commerce in Guildford are energy-intensive compared with the average for the county.

⁸³ DECC (2012) Local Authority Carbon Dioxide Figures - CO₂ emissions within the scope of influence of Local Authorities 2005-2009 [online] available at: http://webarchive.nationalarchives.gov.uk/20121217150421/http://www.decc.gov.uk/en/content/cms/statistics/climate_stats/gg_emissions/laco2/laco2.aspx (accessed 06/12)

Figure 9-2: Carbon Dioxide emissions per capita, by sector (t CO₂)



Since March 2011⁸⁴ there has been a requirement for residential developments of 1 or more (gross) units, and non-residential developments of 1,000 sqm or more (gross) floorspace, to achieve a 10 percent reduction in carbon emissions through the use of on-site low and zero carbon technologies. Residential development of 1 or more (gross) units is also required to achieve, as a minimum, Code for Sustainable Homes Level 3⁸⁵.

The Climate Change Act 2008 and Energy Act 2008 set targets for the reduction of CO₂ emissions and the increase in the installation of renewable energy capacity.

Renewable Energy Installations/Capacity

Guildford borough contains a number of renewable energy installations. Table 11.3 overleaf outlines the number of installations within the borough and the installed capacity. It also indicates whether the installations are domestic, commercial or industrial.

As can be seen from Table 9-1, the vast majority of renewable energy installations, both in relation to the number of installations and the combined capacity, are domestic.

⁸⁴ Guildford Borough Council (2011) Planning Contributions: Supplementary Planning Document [online] Available from: <http://www.guildford.gov.uk/contributionsspd>

⁸⁵ Guildford Borough Council (2011) Sustainable Design and Construction Supplementary Planning Document [online] Available from: <http://www.guildford.gov.uk/CHttpHandler.ashx?id=8343&p=0>

Table 9-1: Renewable energy installations in Guildford borough (confirmation dates between 01/04/2010 and 26/06/2013)⁸⁶

Technology	Domestic Installations	Domestic Installations Installed Capacity (MW)	Commercial Installations	Commercial Installations Installed Capacity (MW)	Industrial Installations	Industrial Installations Installed Capacity (MW)	Community Installations	Community Installations Installed Capacity (MW)	Total Installations	Total Installed Capacity (MW)
Hydro	1	0.035	0	0.000	0	0.000	0	0.000	1	0.035
Micro CHP	3	0.003	0	0.000	0	0.000	0	0.000	3	0.003
Photovoltaic	821	2.636	12	0.212	1	0.015	5	0.029	839	2.892
Wind	1	0.002	0	0.000	0	0.000	0	0.000	1	0.002
Total Installed Capacity (MW)		2.676		0.212		0.015		0.029		2.932
Total Installations	826		12		1		5		844	

Note: This Table provides details of the following with regard to the Feed in Tariff (FIT) scheme:-

- Total FIT installations by technology and installation type
- Total installed capacity by technology and installation type

The following are notable renewable energy installations in the borough:

- Hydro - In the summer of 2006 a new turbine was installed in the Toll House which generates electricity by utilising the flow of water in the river Wey. This renewable energy microgeneration scheme produces enough electricity to power 34 households every year. The electricity produced by the turbine goes into the local network. As of March 2012 the turbine has generated over 833,721 kilowatt hours. On average the turbine should generate 165,000 kilowatt hours per year; the investment pay back period is approximately 13.5 years⁸⁷.
- Combined Heat and Power (CHP) – In 2005 a CHP unit was installed at the Spectrum Leisure Centre in Guildford to provide one third of the complex's electricity and half of its heating, saving around 300 tonnes of carbon dioxide⁸⁸.

⁸⁶ Ofgem (2013) FIT Installations Statistical Report [online] Available from: https://www.renewablesandchp.ofgem.gov.uk/Public/ReportViewer.aspx?ReportPath=%2fFit%2fFIT+Installations+Statistical+Report_ExtPriv&ReportVisibility=1&ReportCategory=9 (accessed 06/2013)

⁸⁷ www.guildford.gov.uk/hydro

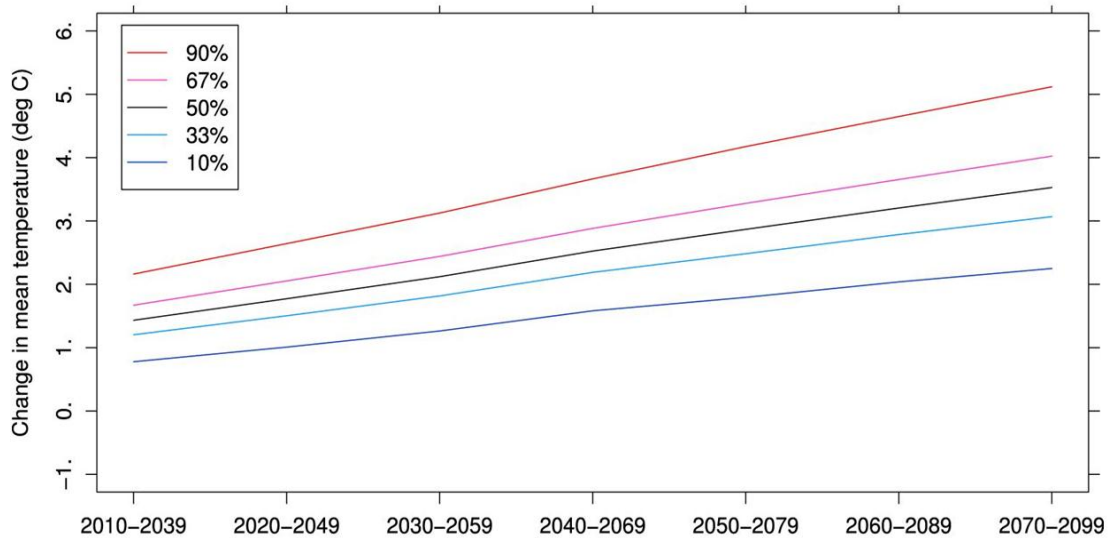
⁸⁸ http://www.getsurrey.co.uk/news/s/94951_cleaner_energy_will_save_spectrum_50k

Water

The South East has been identified as an area of serious water stress⁸⁹. The use of measures to reduce demand for clean water is fundamental to sustainable development in Guildford.

Current climate change projections for the UK suggest that by the 2050s, under the medium emissions scenario, summer temperatures may increase and summer rainfall may decrease. Annual mean temperature in the South East is predicted to increase between 1 and 3 degrees between 2010 and 2099 for the medium emissions scenario, with increasingly wetter winters and drier summers⁹⁰. The temperature and winter precipitation and summer precipitation projections are shown in Figure 9-3 and Figure 9-4 respectively.

Figure 9-3: Annual change in mean temperature for medium emissions scenario⁹¹



Short duration droughts (12-18 months) are likely to become more frequent, so that droughts like 1976 could be more common despite the increased resilience of public water supply and more winter storage⁹². Such droughts will have implications for water bodies and will likely result in reduced river flows, which in turn will have implications for biodiversity as well as water supplies.

Guildford is not subject to regular severe flooding but it does contain Zone 2 and 3 flood areas (see the chapter on Water for more information). The Environment Agency predicts that flood events are likely to become more common therefore flood risk management should be considered in Guildford.

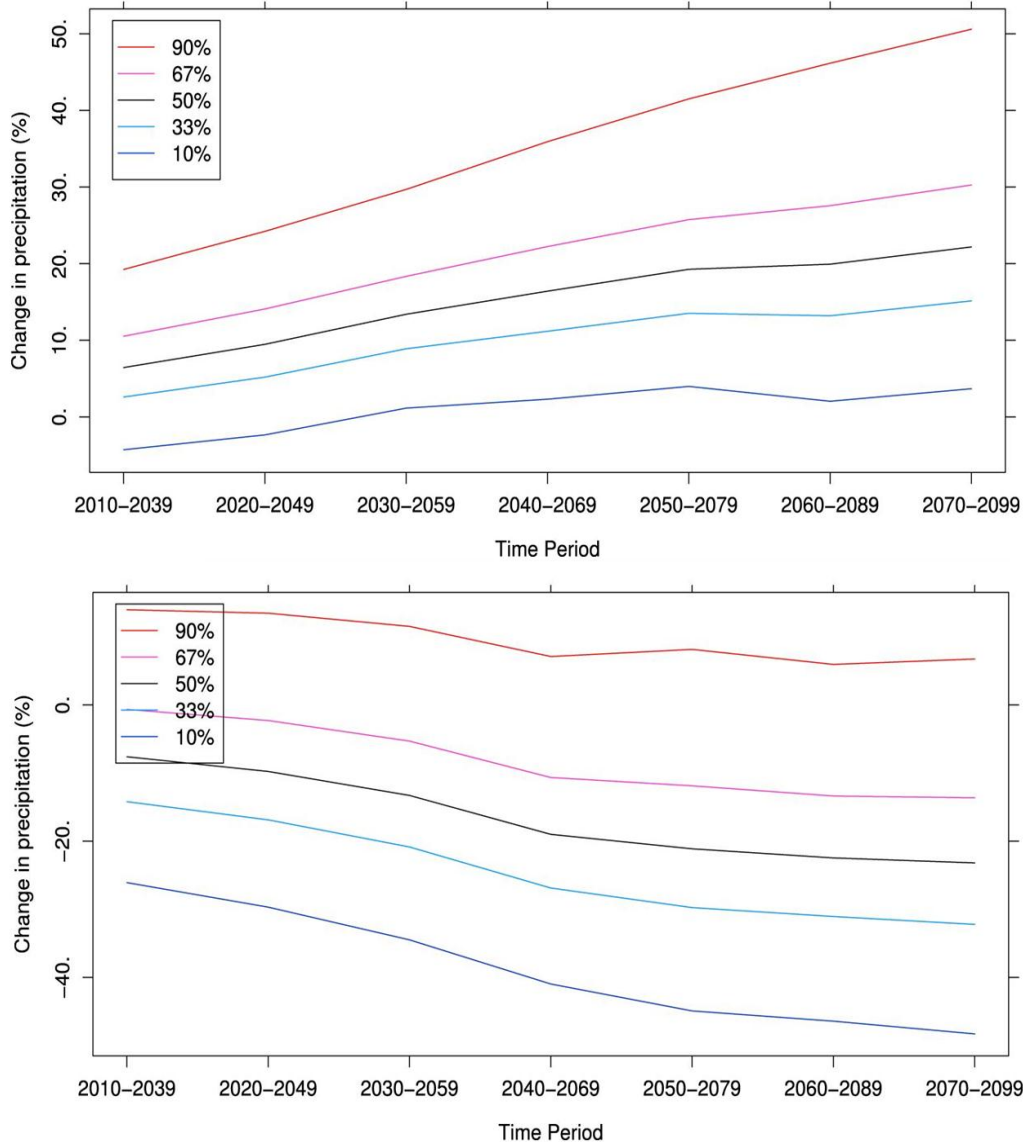
⁸⁹ Environment Agency (undated) The case for change – current and future water availability [online] Available at: <http://publications.environment-agency.gov.uk/PDF/GEHO1111BVEP-E-E.pdf> [accessed 07/2012]

⁹⁰ UKCIP (2012) South East England Graphs [online] available at: <http://ukclimateprojections.defra.gov.uk/21767>

⁹¹ UKCIP (2012) South East England Graphs [online] available at: <http://ukclimateprojections.defra.gov.uk/21767>

⁹² Environment Agency, (undated), The case for change – current and future water availability <http://publications.environment-agency.gov.uk/PDF/GEHO1111BVEP-E-E.pdf> [accessed 07/2012]

Figure 9-4: Annual change in precipitation for winter (top) and summer (bottom) for medium emissions scenario⁹³



9.2.1 *The likely future situation without the plan*

Steps are being taken to reduce emissions of carbon dioxide in the built environment through Building Regulations and the requirement to meet Code for Sustainable Homes standards. However, it is considered likely that emissions from transport will continue to rise in Guildford, given the rural nature of the borough. Adapting to climate change will need to include managing an increased flood risk.

⁹³ UKCIP (2012) South East England Graphs [online] available at: <http://ukclimateprojections.defra.gov.uk/21767>

9.3 What are the key issues and objectives?

The topic of climate will be a key focus of the SA and within that there are four specific issues:

1. Heavier rainfall in winter will increase hazards arising from fluvial flooding and the number of properties that are at risk from flooding will increase. Surface water flooding will increase as a result of more frequent storms. Low river flows will occur because of drier summers;
 - Indicator – number of dwellings at risk of flooding (this should not increase);
 - Indicator – number of permissions granted contrary to Environment Agency advice on flooding (this should decrease).
2. The supply of previously developed land in the borough is likely to decline over time and therefore development of greenfield sites might be required;
 - Indicator - Percentage of new housing and new employment floorspace on previously developed land.
3. Government policy requires new development to promote sustainable construction, energy conservation and renewable energy. Renewable energy generation could pose environmental challenges;
 - Indicator – Amount or proportion of new energy from renewable sources (this should increase);
 - Indicator – Code for Sustainable Homes standards for new builds (this should increase).

9.3.1 SA objectives

The data analysed supports the inclusion of the following SA Objectives in the SA framework:

- SA Objective 3 – To reduce the risk of flooding and the resulting detriment to public well-being, the economy and the environment.
- SA Objective 7 – To make the best use of previously developed land and existing buildings.
- SA Objective 14 – To mitigate the causes and adapt to the effects of climate change through reducing emissions of greenhouse gases

10 AIR QUALITY

10.1 What’s the sustainability context?

Air
<p>Directive 96/62/EC the 'Air Quality Framework Directive':</p> <ul style="list-style-type: none"> • To assess air quality and obtain relevant information; • To maintain ambient air quality where it is good and improve it in other cases.
<p>Directive 1999/30/EC the first 'Daughter Directive':</p> <ul style="list-style-type: none"> • To maintain levels of sulphur dioxide (SO₂), nitrogen dioxide (NO₂), small particles and lead below limit values and to prepare attainment programmes where limit values are unlikely to be met under a 'business as usual' scenario.
<p>Directive 2000/69/EC the second 'Daughter Directive'.</p> <ul style="list-style-type: none"> • To establish limit values for benzene and carbon monoxide (CO).
<p>Directive 2002/3/EC the third 'Daughter Directive'</p> <ul style="list-style-type: none"> • To set long term objectives for equivalent to the World Health Organisation’s new guideline values; • To formulate reduction plans in cases of non-compliance; • To set target values for ozone (O₃).
<p>Directive 2004/107/EC the fourth 'Daughter Directive'</p> <ul style="list-style-type: none"> • To set target values for arsenic (As), cadmium (Cd), mercury (Hg), nickel (Ni) and polycyclic aromatic hydrocarbons (PAHs) in ambient air.
<p>Implications for the Local Plan:</p> <ul style="list-style-type: none"> • The Local Plan must include policies to assess air quality and to maintain and improve it where necessary.

10.2 What is the sustainability baseline?

The Environment Act 1995 required Local Authorities to carry out annual reviews of air quality in their area. Air Quality was required to be assessed against objectives set out in the Air Quality (England) (Amendment) Regulations 2002.

The first review and assessment for Guildford was published in November 2000 and further annual reports have been produced to date. Particulate matter, nitrogen dioxide and meteorological conditions are monitored by a mobile air quality monitoring station. In addition, nitrogen dioxide is also monitored at a number of sites throughout the borough using passive diffusion tubes.

Monitoring of the two pollutants of concern identified in Guildford, particulate matter (PM10) and nitrogen dioxide (NO₂), has been on-going using both automatic monitoring equipment and passive diffusion tubes. In the absence of any major industrial development in the

borough, it is considered that the main source of these emissions is from road transport, particularly in the immediate vicinity of the town gyratory system⁹⁴.

Initiatives to ease traffic congestion by linking car use with the promotion of public and alternative means of transport remains central to reducing pollution from vehicle exhaust emissions in Guildford. Park and Ride schemes, bus lanes, cycling and walking strategies and integrated transport plans all form part of the overall approach.

Neither the short nor the long-term objective value has been exceeded at any site with relevant exposure⁹⁴.

10.2.1 *The likely future situation without the plan*

Air quality is currently such that it is not considered necessary to designate any Air Quality Management Areas within the borough. However, air quality within the borough is mainly associated with road traffic and therefore any increase in population, and associated travel, has the potential to adversely affect air quality in the future.

10.3 What are the key issues and objectives?

The topic of air quality will be a key focus of the SA and within that there are four specific issues:

1. For those without a car, access to a range of facilities in rural areas is an issue.
 - Indicator - Percentage of at risk users (households without a car in each census output area) with access to town centres within 30 minutes by public transport and/or walking (this should increase).
2. There are currently no Air Quality Management Areas (AQMAs) in the borough.
 - Indicator - There should be no Air Quality Management Areas (AQMAs) designated in the borough.
3. Adverse economic, social and environmental impacts of high traffic volumes and a culture of dependence on private car use including recurrent traffic congestion on certain parts of the network at certain times of day, road collisions, community severance, obesity, noise pollution, local air pollution, greenhouse gas emissions, high demand for parking, and amenity of local neighbourhoods.
 - Indicator – Percentage mode share for sustainable modes, defined as walking, cycling, bus, minibuses, coach and train, as methods of travel to work, for all usual residents aged 16 to 74 in employment in Guildford borough (using Census data) (this should increase).
 - Indicator - Carbon dioxide emissions from all road transport in Surrey except motorway traffic (Data published by DECC as ‘Carbon dioxide emissions within the scope of influence of local authorities’ (Previously National Indicator 186 which is intended to continue).
4. Development in the borough has the potential to exacerbate congestion. This is likely to be the major source of emissions / air pollution within the borough.

⁹⁴ Guildford Borough Council (2012) Air Quality Updating and Screening Assessment for Guildford Borough Council [online] available at: <http://www.guildford.gov.uk/CHttpHandler.ashx?id=14493&p=0>

- Indicator - developments with Green Travel Plans.

10.3.1 SA objectives

The data analysed supports the inclusion of the following SA Objective in the SA framework:

- SA Objective 10 – To achieve a pattern of development which minimises journey lengths and encourages the use of sustainable forms of transport (walking, cycling, bus and rail).

11 SOIL

11.1 What’s the sustainability context?

Soil

The European Soil Thematic Strategy (2006) has the following objectives:

- Establish common principles for the protection and sustainable use of soils;
- Prevent threats to soils, and mitigate the effects of those threats;
- Preserve soil functions within the context of sustainable use; and
- Restore degraded and contaminated soils to approved levels of functionality.

Safeguarding our Soils: A Strategy for England (2009):

- By 2030, all England’s soils will be managed sustainably and degradation threats tackled successfully. This will improve the quality of England’s soils and safeguard their ability to provide essential services for future generations.

Surrey Minerals Plan⁹⁵ (2011):

- The Surrey Minerals Plan seeks to safeguard supply and minimise the environmental impact of mineral working by directing the industry to those areas most suitable to accommodate it and identifying appropriate restoration. It also seeks to reduce the demand for primary-won minerals.

Implications for the Local Plan:

- The Local Plan must ensure the protection and sustainable use of soils.

11.2 What is the sustainability baseline?

Current land use characteristics

Land use within the borough is predominantly agricultural; outside of the urban areas most of the District is designated as Green Belt. The detailed boundaries were established in the Guildford Borough Local Plan 1987 and have remained unchanged since then. A small area of countryside in the west of the borough lies beyond the outer edges of the Green Belt and is valued for its landscape quality and opportunities for informal recreation⁹⁶.

The majority of land within Guildford is classed as urban/non-agricultural. Although 89% of land is designated as Green Belt, this includes many villages and business premises which are non-agricultural. The majority of the agricultural land within the borough is classified as Grade 3 (a or b) and 4 (lower quality) with small pockets of Grade 2. A few areas of the Grade 3 land have been resurveyed to differentiate between Grades 3a and 3b. This has identified small areas of Grade 3a agricultural land. However, most of the Grade 3 soil areas have not yet been resurveyed. The top three grades, Grade 1, 2 and 3a, are referred to as 'Best and Most Versatile' land, and should enjoy significant protection from development in local policies in accordance with the NPPF.

⁹⁵ Surrey County Council (2011) Surrey Minerals Plan 2011: Core Strategy Development Plan Document [online] Available from: http://www.surreycc.gov.uk/_data/assets/pdf_file/0004/177259/Adopted-Core-Strategy-Development-Plan-Document.pdf (accessed 06/2013)

⁹⁶ Guildford Borough Council (2001) Contaminated Land Inspection Strategy [online] Available from: www.guildford.gov.uk

Current industrial land uses

The industry within the borough is classified as light and is restricted to industrial estates such as Slyfield, Lysons Avenue and Middleton Road. There are 46 processes registered under Part B of the Environmental Protection Act 1990, including 26 petrol stations. Current landfill operations are restricted to sites at Albury and Seale, where sand extraction still takes place.

Industrial land use history

A number of categories of historical land use can be identified and these are outlined below, including illustrative cases (the list is not comprehensive)⁹⁷:

Iron

The Guildford Iron foundry was set up near the town mills around 1794 by E. Filmer and patent mangles, iron and stoves were made here, along with castings for the Portsmouth railway. Iron extraction was carried out in Shere at a much earlier date.

Brewing

Numerous smaller breweries existed within the borough which operated alongside the two major breweries based close to the river within Guildford town centre at the location of the current Friary Shopping Centre and Farnham Road car park.

Mineral Extraction

Clay was fired for bricks at a number of locations, including at Guildford Park Brickworks in the later Victorian times for the purposes of building the new cathedral. Sand extraction has also taken place in Albury, Shere, Ripley, Send and Seale/Sands.

Production

In 1625 the East India Company set up Chilworth Gunpowder Mills and became an important source of gunpowder.

A vulcanised fibre factory existed at Broadford, Shalford and operated until the 1980s.

Dennis Brothers originally started out making bicycles in Guildford before moving on to make motorbikes, cars and commercial vehicles. Guildford town was the site of the world's first car manufacturing factory. The various sites they have occupied in the borough are well documented.

Navigational Links

Railway sidings existed beside the 10 stations within the borough.

Ministry of Defence

The Ministry of Defence occupies facilities, notably in the Ash and Pirbright areas. There are also historical links with sites in Stoughton.

⁹⁷ Guildford Borough Council (2001) Contaminated Land Inspection Strategy [online] available at: www.guildford.gov.uk

Landfill sites

Previous areas of landfill have had various forms of control dependent on the date of infill. These have taken place in quarries and pits originally utilised for mineral extraction.

Petrol and Oil Storage

Records maintained by Trading Standards at Surrey County Council demonstrate the existence of petrol stations in a number of locations, many of which have been redeveloped. Fuel storage facilities associated with goods yards and depots are still in use whilst some, including Shere Coal yard and Riverside Road, Guildford have been redeveloped.

Utilities

Gas works, power stations and sewage works have operated in various locations within the borough although only the sewage works remain.

Redevelopment

Planning conditions imposed by the Council and Environment Agency on the redevelopment of sites with previous industrial use have already 'remediated' a number of locations. The extent of the works carried out is dependent on the intended use, technology and guidance available at the time of development. Depending on their vulnerability, these already remediated sites will be reviewed as a matter of course as part of the Contaminated Land Inspection Strategy. For example, the large closed landfill site at Slyfield was provided with a physical gas curtain inserted in the sub-soil to a depth of 4 metres in order to protect the surrounding industrial properties from possible migration of landfill gas.

11.2.1 The likely future situation without the plan

Development is likely to take place on previously developed sites to the extent possible, given the promotion of such through national policy. However, the supply of previously developed sites is likely to decline over time as more are developed and therefore greenfield sites are likely to be required.

The proportion of high quality agricultural land within the borough is relatively small and therefore it is unlikely that this will be at risk from development, given that there is a higher proportion of land that is classified as being of lower quality.

11.3 What are the key issues and objectives?

The topic of soil and soil quality will be a key focus of the SA and within that there are two specific issues:

1. Reusing previously developed land (PDL) will reduce pressure on the undeveloped areas of the countryside;
 - Indicator – Percentage of new housing and new employment floorspace on previously developed land (PDL).
2. Contamination issues may arise on previously developed sites;
 - Indicator – Area (ha) of contaminated land remediated;
 - Indicator – Amount (ha) of development on BVAL (best and most versatile agricultural land).

11.3.1 SA objectives

The data analysed supports the inclusion of the following SA Objectives in the SA framework:

- SA Objective 7 – To make the best use of previously developed land (PDL) and existing buildings.
- SA Objective 11 – To minimise the use of best and most versatile agricultural land (BVAL) and encourage the remediation of contaminated land.

12 WATER

12.1 What’s the sustainability context?

Water

Water Act 2003:

- Amends the Water Resources Act 1991 to, amongst other areas, improve water resources management in the context of abstraction and impounding, mainly through changes in the licensing system; an increased importance is placed on water conservation, and all public bodies need to consider how to conserve the water supplied to premises within their authority boundary.

Water Framework Directive 2000:

- Essential piece of water legislation that aims to promote the sustainable use of all UK water bodies, including coastal waters, estuaries and all inland water bodies (including lakes, canals and groundwater bodies);
- It requires all UK river basins to reach "good status" by 2015, through demanding environmental objectives, including chemical, biological and physical targets; and
- Three types of UK water quality standards are being developed (a formal classification instrument should be completed in late 2007) (Environment Agency, 2007a) and these are: Priority Substances (and Priority Hazardous Substances); Specific Pollutants and Physical-chemical pollutants.

The Environmental Permitting (England and Wales) Regulations 2010⁹⁸

- The Regulations widen the existing streamlined environmental permitting and compliance system in England and Wales by integrating existing permitting regimes covering water discharge consenting (DC), groundwater authorisations (GW) and radioactive substances regulation authorisations (RSR) and the outcomes of the Waste Exemptions Order Review into the Environmental Permitting system.
- The Regulations 2010 reduce the administrative burden of regulation on industry and regulators without compromising the environmental and human health standards previously delivered by the separate regimes and create an extended permitting and compliance system that brings increased clarity and certainty for everyone on how the regulations protect the environment.

Water Industry Act (and Water Industry Act 1991) (Envirowise, 2005):

- Covers the control of the supply of water and provision of sewerage services by the water and sewerage undertakers: It becomes an offence for an owner or occupier of premises to cause water contamination through not maintaining the water fitting in good condition; and
- The Act also defines the criteria for disposal of trade effluent: no effluent can be discharged into the sewer which causes damage to the sewerage systems or people working in it; and wastewater may not be discharged into a sewer unless allowed by the relevant water service company, which may impose conditions regarding the volume and composition of the discharge (e.g. its chemical oxygen demand).

⁹⁸ Environmental Permitting (England and Wales) Regulations 2010 [online] available at: http://www.legislation.gov.uk/ukxi/2010/675/pdfs/ukxiem_20100675_en.pdf

Water

GP3: Groundwater Protection: Policy and Practice (Environment Agency, 2012):

GP3 implements the requirements of the Water Framework Directive and Environmental Permitting Regulations, protecting and enhancing water quality in both surface water and ground water and managing the sustainable supply of water as a resource. Principles are set out to ensure wise resource use and bring benefits to land, wildlife, flood risk management and communities. The Environment Agency's core groundwater policy is:

- To protect and manage groundwater resources for present and future generations in ways that are appropriate for the risks that we identify.
- To achieve this they seek:
- To ensure we meet the needs of the environment and people;
- To manage surface water and groundwater as an integrated whole;
- To use robust measures to prevent the pollution of groundwater;
- To achieve the environmental objectives of the Water Framework Directive;
- To make information on groundwater available and raise the general awareness of groundwater issues;
- To undertake research, so that we have a better understanding of groundwater processes;
- To make sure our policies for managing groundwater support our work in the wider environment.

Nitrates Directive 91/676/EC (and Protection of Water against Agricultural Nitrate Pollution (England and Wales) Regulations 1996, SI 888):

- The Directive is an environmental measure designed to reduce water pollution by nitrate from agricultural sources and to prevent such pollution from occurring in the future;
- Surface or underground waters that are or could be high in nitrate from agricultural sources must be designated as Nitrate Vulnerable Zones (NVZ); and
- Within these zones farmers must observe an action programme of measures restricting the timing and application of fertilisers and manures and must keep accurate records (Environment Agency, 2007b).

Urban Waste Water Treatment Directive 1991:

- The Directive aims to protect the environment from the adverse effects of waste water discharges. All urban waste water must undergo secondary treatment or equivalent, in particular for:
- All discharges from agglomerations of more than 15,000 population equivalent (i.e. with a 5-day BOD of 60g of oxygen per day); and
- All discharges to freshwater and estuaries from agglomerations between 2,000 and 10,000 population equivalent.

Water

NPPF 2002⁹⁹:

- In terms of flooding, the NPPF calls for development to be directed away from areas highest as risk, with development “not to be allocated if there are reasonably available sites appropriate for the proposed development in areas with a lower probability of flooding”. Where development is necessary, it should be made safe without increasing levels of flood risk elsewhere.
- In relation to water resources, the NPPF states that local planning authorities should produce strategic policies to deliver the provision of a variety of infrastructure, including that necessary for water supply.

The Thames Catchment Flood Management Plan 2010¹⁰⁰ :

- The Thames Catchment Flood Management Plan (CFMP) gives an overview of flood risk across the Thames catchment, and recommends ways of managing those risks both immediately and over the next 50-100 years. The CFMP identifies flood risk management policies to assist all key decision makers in the catchment. In the Guildford context, the floodplain is seen as the most important asset in managing flood risk.

Draft Surrey Local Flood Risk Management Strategy 2012-16¹⁰¹ :

- This provides an overview of the on-going flood risk management work underway across Surrey with the aim of increasing awareness of local flood risk issues. It also sets out how partners are working together to reduce flood risk.

Implications for the Local Plan:

- The Local Plan must include measures to protect, manage and conserve water resources and water (river and groundwater) quality.

12.2 What is the sustainability baseline?

Flood Risk

The primary source of flooding within Guildford is from fluvial (river) flooding from the River Wey and its tributaries. The main tributaries of the River Wey are the Tillingbourne and Cranleigh Water. The River Blackwater flows through the west of the borough and is also a source of fluvial flooding within the borough of Guildford. The Surrey Preliminary Flood Risk Assessment¹⁰² found that there is ‘considerable risk’ of flooding from surface water across Surrey, particularly in the North of the county. The majority of flooding within the borough is limited to open space and rural or semi-rural areas. A few developed areas are at high risk from flooding, notably areas of Guildford town centre on both banks of the River Wey, parts of Ash within the Blackwater Valley and some properties in villages along the Tillingbourne. Climate change is expected to cause an increase in peak river flows over the next 50-100

⁹⁹ DCLG (2012) National Planning Policy Framework [online] available at: <http://www.communities.gov.uk/documents/planningandbuilding/pdf/2116950.pdf> (accessed 06/2013)

¹⁰⁰ Environment Agency (2010) Thames Catchment Flood Management Plan

¹⁰¹ Surrey County Council (2012) Draft Surrey Local Flood Risk Management Strategy 2012 – 2016 [online] available at: http://www.surreycc.gov.uk/_data/assets/pdf_file/0006/393486/Surrey-LFRMS-Final-consultation-draft.pdf

¹⁰² Surrey County Council (2011) Preliminary Flood Risk Assessment [online] available at: http://www.surreycc.gov.uk/_data/assets/pdf_file/0004/177430/PFRA.pdf

years and may result in some areas being at greater risk of flooding in the future. The SFRA has identified this as an issue for some small areas of Guildford town centre.

The Environment Agency Flood Zones indicate that areas of the borough lie within Flood Zones 2 and 3 and have a medium or high risk of flooding from the river, particularly within the urban area of Guildford. Guildford borough has over 1000 properties that are at risk in a 1% annual probability river flood, with 590 in Guildford town itself¹⁰³. It is estimated that the number of properties at a 1% risk of flooding from rivers in the Thames CFMP area will increase by approximately 20%, as a result of climate change¹⁰³. Although river flooding poses the greatest risk, surface water flooding, groundwater flooding and flooding from land drainage systems and sewers can also be locally significant. Groundwater flooding occurred in 2000 around the area of Stoke Park, and in this area springs have reappeared indicating that groundwater flooding is a risk in some parts of Guildford, particularly those located on the Chalk or Greensand.

With regard to surface water flooding, a large proportion of the borough is currently undeveloped and so in those areas the surface water is unchanged from Greenfield rates. The most intensive urbanised areas are within Guildford and Ash; here any further development could potentially increase surface water. Sewer flooding is known to occur within the borough. Flooding from the Basingstoke Canal is considered a possibility in the event of an embankment failure or breach¹⁰⁴.

The Environment Agency predicts that flood events are likely to become more common. Design guidance is set out in Surrey Design¹⁰⁵ and the Code for Sustainable Homes¹⁰⁶. The use of sustainable drainage, open space and measures to reduce the rate of run off will be essential to addressing flood risk.

Water Quality

Many rivers in the borough are classified as being 'at risk' in relation to their water quality. The location and ecological status of rivers and lakes in the Wey catchment are shown on a map in Figure 14.1; and a more detailed breakdown is shown in Table 14.1 (major water bodies) and 14.2 (all water bodies).

¹⁰³ Environment Agency (2010) Thames Catchment Flood Management Plan [online] available at: <http://www.environment-agency.gov.uk/research/planning/127387.aspx>

¹⁰⁴ Capita Symonds for Guildford Borough Council (2009) Guildford Strategic Flood Risk Assessment, Volume 1: Decision Support Document [online] available at: <http://www.guildford.gov.uk/article/3968/Strategic-Flood-Risk-Assessment>

¹⁰⁵ Surrey Local Government Association (2002) Surrey Design: A Strategic Guide for Quality Built Environments [online] available at: www.surreycc.gov.uk

¹⁰⁶ DCLG (2013) Improving the energy efficiency of buildings and using planning to protect the environment [online] available at: www.communities.gov.uk/planningandbuilding/sustainability/codesustainablehomes/

Figure 12-1: Wey catchment water quality¹⁰⁷

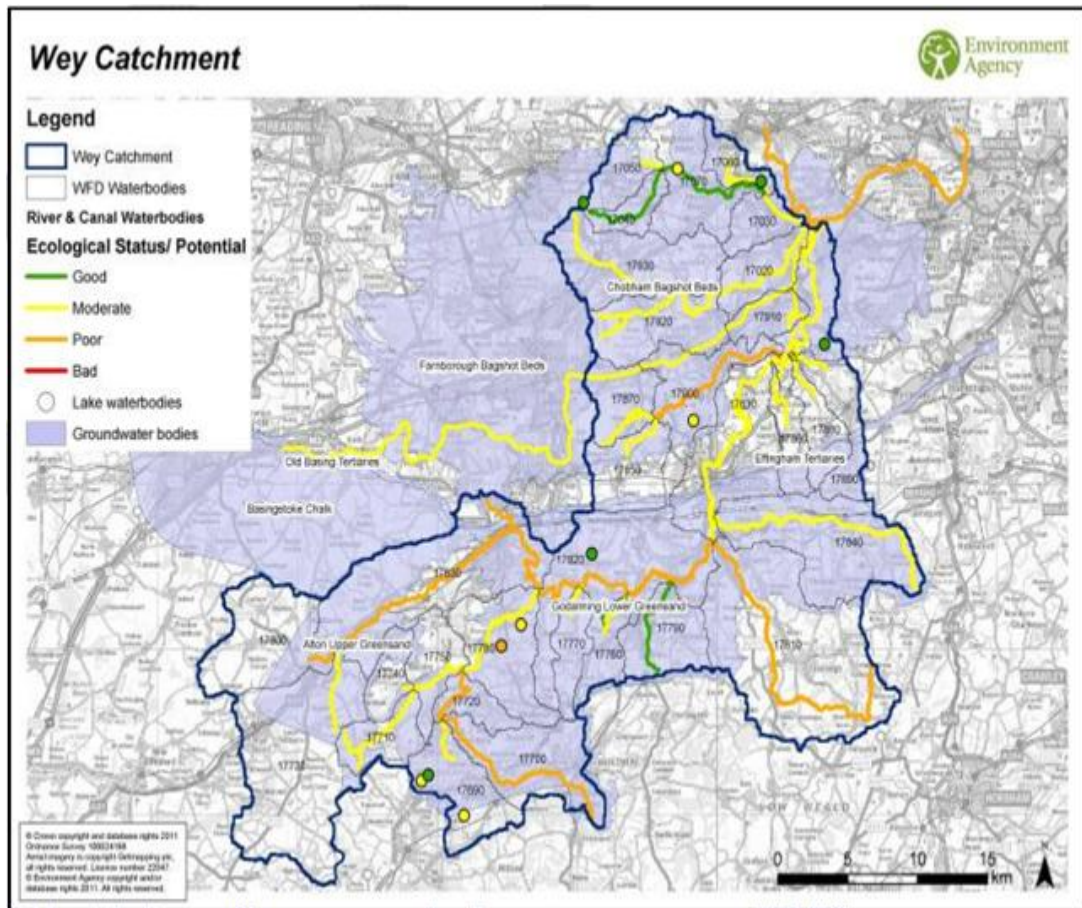


Table 12-1: Water Quality (major water bodies)

	Current Ecological Quality	Current Chemical Quality	2015 Predicted Ecological Quality	2015 Predicted Chemical Quality	Overall Risk
Wey (Unstead Road Bridge, Shalford to Woodbridge Road bridge)	Moderate Potential	Fail	Moderate Potential	Fail	At Risk
Tillingbourne	Moderate Status	Fail	Moderate Status	Fail	At Risk

¹⁰⁷ Environment Agency (2012) Catchment Implementation Plan: Wey Catchment Consultation Draft [online] Available from:

	Current Ecological Quality	Current Chemical Quality	2015 Predicted Ecological Quality	2015 Predicted Chemical Quality	Overall Risk
Wey and Arun canal	Moderate Potential	Does Not Require Assessment	Moderate Potential	Does Not Require Assessment	Not Assessed

Table 12-2: Water quality (all water bodies)¹⁰⁸

Name	Type	2009 Ecological Quality
Wey (Shalford to River Thames confluence at Weybridge)	River	Moderate
Cranleigh Waters	River	Bad
Wey (Tilford to Shalford)	River	Poor
North Wey (Alton to Tilford)	River	Moderate
Tillingbourne	River	Moderate
Clasford Brook and Wood Street Brook	River	Moderate
East Clandon Stream	River	Moderate
Hoe Stream (Normandy to Pirbright)	River	Moderate
Guileshill Brook	River	Moderate
Stratford Brook	River	Moderate
Hoe Stream (Pirbright to River Wey confluence at Woking)	River	Poor
Wey Navigation (Pyrford reach)	River	Moderate
Addlestone Bourne (West End to Hale/Mill Bourne confluence at Mimbridge)	River	Moderate
Boldermere	Lake	Moderate
Whitmoor Common Pond	Lake	Moderate
The Tarn	Lake	Moderate
Wey and Arun Canal	Canal	Moderate

¹⁰⁸ Environment Agency (2009) Water Framework Directive – River Basin Management Plans – Rivers [online] available at: <http://www.environment-agency.gov.uk/research/planning/124978.aspx> (accessed 07/12)

Name	Type	2009 Ecological Quality
Basingstoke canal	Canal	Moderate
Alton Upper Greensand	Groundwater	Poor
Godalming Lower Greensand	Groundwater	Poor
Farnborough Bagshot Beds	Groundwater	Good

12.2.1 *The likely future situation without the plan*

Flood events are likely to become more common in light of climate change and subsequent increases in winter precipitation and more extreme weather events, including storms. Following past trends, river quality is generally poor and therefore additional management is likely to be required to improve this.

12.3 **What are the key issues and objectives?**

The topic of water quality will be a key focus of the SA and within that one specific issue was identified:

1. River quality is generally poor and should be improved;
 - Indicator – ecological and chemical water quality (both of these should improve).

12.3.1 **SA objectives**

The data analysed supports the inclusion of the following SA Objective in the SA framework:

- SA Objective 13 – To maintain and improve the water quality of the borough’s rivers and groundwater, and to achieve sustainable water resources management.

13 BIODIVERSITY

13.1 What’s the sustainability context?

Biodiversity

Bern Convention on the Conservation of European Wildlife and Natural Habitats, 1979:

- To protect endangered species and their habitats.

(Wild) Birds Directive 79/409/EEC, 1979:

- To protect all naturally occurring wild bird species and their habitats, with particular protection of rare species.

Bonn Convention on the Conservation of Migratory Species of the Wild Animals, 1979:

- To protect threatened animals that migrate across national boundaries and/or the high seas.

Habitats and Species Directive 92/43/EEC, 1992:

- To protect important natural habitat (listed in Annex I, amended in Directive 97/62/EC) and species (listed in Annex II), using measures to maintain or restore their "favourable conservation status", principally by Special Areas of Conservation, but also (through land-use and development policies) by management of the landscape features of importance to wildlife outside SACs; and
- To safeguard species leading strict protection (Annex IV). This Directive is transposed into UK law through the Conservation (Natural Habitats &c.) Regulations, 1994.

Biodiversity 2020: A strategy for England’s wildlife and ecosystem services (Defra, 2011):

- This sets out the strategic direction for biodiversity policy for the next decade. In relation to planning, it states that the objective should be to: ‘guide development to the best locations, encourage greener design and enable development to enhance natural networks’.

Biodiversity

The Natural Environment White Paper (NEWP) (2011)¹⁰⁹

- This important statement of Government policy sets out the importance of a healthy, functioning natural environment to sustained economic growth, prospering communities and personal well-being. It was in part a response to the European Commission’s Biodiversity Strategy to halt the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restore them in so far as feasible. It signalled a move away from the traditional approach of protecting biodiversity in ‘nature reserves’ to adopting a landscape approach to protecting and enhancing biodiversity. The NEWP also aims to create a green economy in which economic growth and the health of our natural resources sustain each other and markets, business and Government better reflect the value of nature.
- It includes commitments to:
 - Halt biodiversity loss, support functioning ecosystems and establish coherent ecological networks by 2020;
 - Establish a new voluntary approach to biodiversity offsetting to be tested in pilot areas;
 - Enable partnerships of local authorities, local communities and landowners, the private sector and conservation organisations to establish new Nature Improvement Areas; and
 - Address barriers to using green infrastructure to promote sustainable growth.

NPPF (2012):

- In order to contribute to the Government’s commitment to halt the overall decline in biodiversity, the NPPF states that the planning system should look to minimise impacts on biodiversity, with net gains in biodiversity to be provided wherever possible.
- It refers to the need to:
 - plan for biodiversity at a landscape-scale across local authority boundaries;
 - identify the local ecological network;
 - promote the preservation, restoration and re-creation of priority habitats, ecological networks and species;
 - identify suitable indicators for monitoring biodiversity in the plan; and
 - aim to prevent harm to geological conservation interests.

Implications for the Local Plan:

- The Local Plan must conserve and enhance biodiversity within Guildford.

The NPPF includes a section on the natural environment. It states that the planning system should contribute to and enhance the natural environment and in preparing plans to meet development requirements, the aim should be to minimise pollution and other adverse effects on the local and natural environment. Plans should allocate land with the least environment or amenity value, where practical. Criteria based policies should be set by local planning

¹⁰⁹ Defra (2012) The Natural Choice: securing the value of nature (Natural Environment White Paper) [online] available at: <http://www.official-documents.gov.uk/document/cm80/8082/8082.pdf> (accessed 08/2012)

authorities in which proposals for any development on or affecting protected wildlife sites or landscape areas will be judged.

The NPPF also sets out a number of criteria for local authorities to consider in relation to the protection of valued landscapes. These include giving great weight to protecting landscape and scenic beauty in National Parks and Areas of Outstanding Natural Beauty. It adds that other than in exceptional cases or where it can be demonstrated they are in the public interest, planning permissions should be refused for major developments in designated areas.

The NPPF expects local planning authorities to minimise the impacts of development on biodiversity and provide net gains in biodiversity, where possible.

It refers to the need to:

- plan for biodiversity at a landscape-scale across local authority boundaries;
- identify the local ecological network;
- promote the preservation, restoration and re-creation of priority habitats, ecological networks and species;
- identify suitable indicators for monitoring biodiversity in the plan; and
- aim to prevent harm to geological conservation interests.

The NEWP drew on the findings of the National Ecosystem Assessment (NEA)¹¹⁰, a major project that was able to draw conclusions on the ‘substantial’ benefits that ecosystems provide to society directly and through supporting economic prosperity. The NEA identified development as a key driver of loss and biodiversity offsets as a possible means of increasing ‘private sector involvement in conservation and habitat creation’.

The NPPF (paragraph 118)¹¹¹ considers Ancient Woodland to be an irreplaceable habitat and the NEWP states that “the Government is committed to providing appropriate protection to ancient woodlands and to more restoration of plantations on ancient woodland sites (in recognition of their particular value)”.

The UK Post-2010 Biodiversity Framework¹¹² succeeds the UK Biodiversity Action Plan (BAP) following the publication of the Convention on Biological Diversity’s ‘Strategic Plan for Biodiversity 2011–2020’ and its 20 ‘Aichi targets’, at Nagoya, Japan in October 2010. This sets out five strategic goals to address the underlying causes of biodiversity loss by ‘mainstreaming’ biodiversity across government and society; to reduce the direct pressures on biodiversity and promote sustainable use; to improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity; and to enhance the benefits to all from biodiversity and ecosystems.

¹¹⁰ UNEP-WCMC (2011) UK National Ecosystem Assessment [online] available at: <http://uknea.unep-wcmc.org/Resources/tabid/82/Default.aspx> (accessed 08/2012)

¹¹¹ DCLG (2012) National Planning Policy Framework [online] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf

¹¹² JNCC and Defra (2012) UK Post-2010 Biodiversity Framework [online] available at: <http://jncc.defra.gov.uk/page-6189> (accessed 02/13)

The Thames Basin River Management Plan¹¹³ and the Wey Catchment Implementation Plan¹¹⁴ outline the baseline situation for the catchments and set out the necessary action to achieve Good Ecological Status.

High quality watercourses lead to benefits in terms of biodiversity but are also important in socio-economic terms through providing safe drinking water, flood protection and recreation benefits¹¹⁵. Natural England's guidance on Green Infrastructure¹¹⁶ shows the multifunctional benefits of green infrastructure in adapting to climate change, allowing the migration of species through a network of green and blue infrastructure.

13.2 What is the sustainability baseline?

The Surrey Strategic Partnership Plan¹¹⁷ recognises the importance of Surrey's landscape and habitats, not only because they support biodiversity but also attract tourism and other economic sectors.

The Biodiversity Action Plan (BAP) for Surrey¹¹⁸ has been prepared. Listed below are the habitats identified as important in terms of the biodiversity of the county and are included in the BAP¹¹⁸:

- Chalk grassland;
- Lowland heathland;
- Floodplain grazing marsh;
- Urban;
- Wetland;
- Farmland;
- Woodland;
- Wood pasture and parkland;
- Standing open water and reedbeds;
- Lowland unimproved neutral and dry acid grassland; and
- Road verge.

There are two Species Action Plans included in the Surrey BAP: the Small Blue (butterfly) (*Cupido minimus*) and the otter (*Lutra lutra*)¹¹⁸. In 2003 nine or ten populations of Small blue were thought to remain in Surrey, with populations at Merrow Downs, Pewley Down,

¹¹³ Defra and Environment Agency (2009) Thames Basin Management Plan [online] available at: www.environment-agency.gov.uk

¹¹⁴ Environment Agency (2012) Catchment Implementation Plan: Wey Catchment Consultation Draft

¹¹⁵ Natural England (2009) Green Infrastructure Guidance [online] available at:

<http://publications.naturalengland.org.uk/publication/35033?category=49002> accessed 17/02/2013

¹¹⁶ Natural England (2009) Green Infrastructure Guidance [online] available at:

<http://publications.naturalengland.org.uk/publication/35033?category=49002> accessed 17/02/2013

¹¹⁷ Surrey Strategic Partnership (2010) Surrey Strategic Partnership Plan 2010 – 2020 [online] available at:

http://www.surreycc.gov.uk/data/assets/pdf_file/0008/172961/Partnership-Plan-Final-April-10.pdf

¹¹⁸ Surrey Biodiversity Partnership (1999) Surrey Biodiversity Action Plan [online] available at: www.surreycc.gov.uk

Newlands Corner and Sheepleas in Guildford borough¹¹⁹. There had been no evidence of otters in Guildford until 2005 however there is increasing frequency of otter evidence in the west of Surrey around Frimley and the river Blackwater¹²⁰. Many key species in Surrey are covered by Species Action Plans at national and regional level, or are covered within the Habitat Action Plan associated with that species.

Guildford borough contains several sites which have been designated for their nature conservation value. The international, national and local designated sites within Guildford are shown in Table 13-1 below.

Table 13-1: Designated nature conservation sites within Guildford

Designations	Sites within Guildford
Special Protection Area (SPA)	Thames Basin Heaths form part of a complex of heathlands in southern England that support important breeding bird populations (namely the Dartford warbler, woodlark and nightjar). It comprises of a number of component SSSI/ASSIs including: Ash to Brookwood Heaths; Whitmoor Common; and Ockham and Wisley Common) (covers wider area than Guildford). Approximately 3015 hectares of the SPA is within the borough ¹²¹ .
Special Areas of Conservation (SAC)	The Thursley, Ash, Pirbright and Chobham SAC is partially within the borough, Guildford borough's section is approximately 2,548 hectares of the borough ¹²² .
Sites of Special Scientific Interest (SSSI)	A total of 16 SSSIs are designated within the borough. This covers a total of 2574 hectares of land ¹²³ .
Local Nature Reserves (LNR)	Riverside Park, Guildford; Lakeside Park, Ash Vale; Fox Corner, Pirbright and part of Hackhurst Down ¹²⁴ .
Sites of Nature Conservation Importance (SNCI)	A total of 83 sites are designated as SNCI ¹²⁵ .
Ancient Woodland	There is a network of 493 Ancient Woodland sites in the borough covering 1685 hectares ¹²⁶ .

¹¹⁹ Surrey Biodiversity Partnership (2007) Small Blue Species Action Plan [online] available at:

<http://www.surreybiodiversitypartnership.org/xwiki/bin/view/Species/SmallBlue>

¹²⁰ Surrey Biodiversity Partnership (2010) Surrey Otter Species Action Plan (Draft) [online] available at:

<http://www.surreybiodiversitypartnership.org/xwiki/bin/view/Species/Otter>

¹²¹ JNCC (2001) Thames Basin Heaths [online] available at: <http://jncc.defra.gov.uk/default.aspx?page=2050> (accessed 06/2013)

¹²² Joint Nature Conservation Committee <http://jncc.defra.gov.uk/protectedsites/sacselection/sac.asp?EUCode=UK0012793> [accessed 02/13]

¹²³ Natural England (2012) Condition of SSSI units - compiled 01 May 2012 [online] available at:

<http://www.sssi.naturalengland.org.uk/Special/ssi/report.cfm?category=C.CF> (accessed 07/2012)

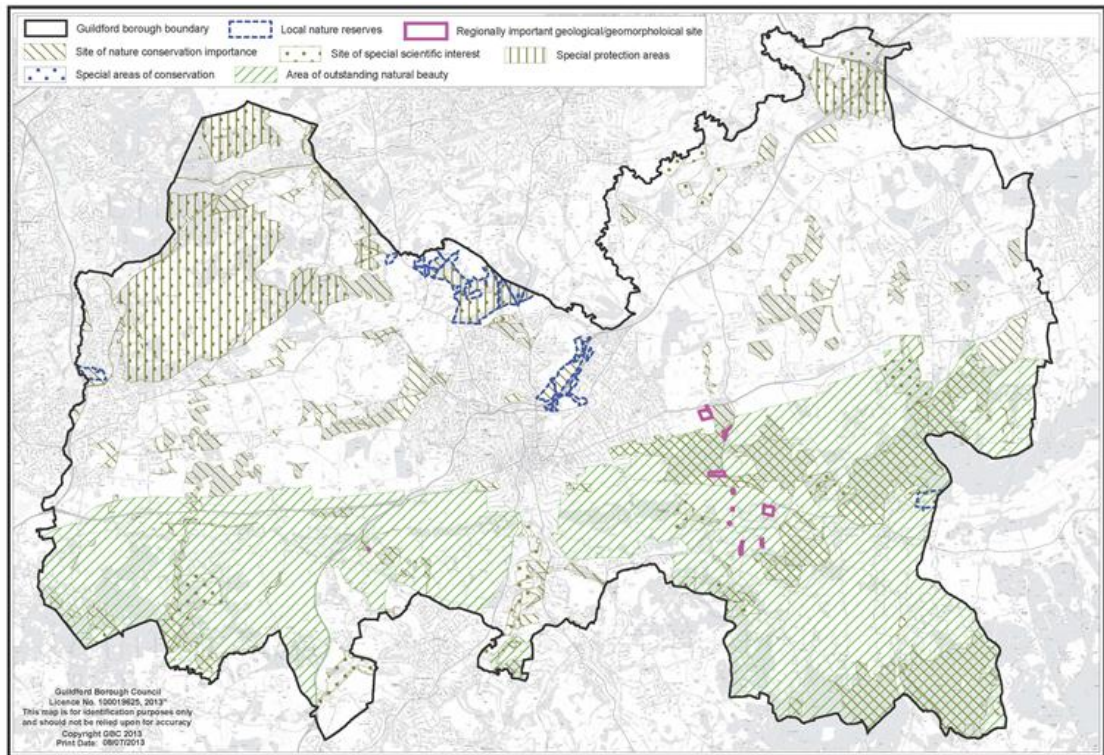
¹²⁴ Surrey County Council (2012) Guildford Local Nature Reserves [online] available at: <http://www.surreycc.gov.uk/environment-housing-and-planning/countryside/explore-surreys-countryside/visit-the-countryside/what-to-see-in-the-surrey-countryside/local-nature-reserves-in-surrey/guildford-local-nature-reserves> (accessed 07/2012)

¹²⁵ Guildford Borough Council (2003) Guildford Borough Local Plan, Adopted January 2003 [online] available at:

<http://www.guildford.gov.uk/localplan>

¹²⁶ Surrey Wildlife Trust (2011)

Figure 13-1: Biodiversity designations in Guildford¹²⁷



Natural England conducts condition assessments on all land designated as SSSI. Of the total hectares assessed, 97.4% of the land designated as SSSI is in favourable condition or is considered to be unfavourable but recovering, as set out in Table 13-2.

Table 13-2: Condition of Sites of Special Scientific Interest (SSSIs) in Guildford borough¹²⁸

Status	Area (Ha)	% Total Hectares Assessed
Favourable	519.22	20.17
Unfavourable (recovering)	1,988.85	77.27
Unfavourable (no change)	50.55	1.96
Unfavourable (declining)	15.28	0.59

- There is a particular issue of the potential impact on European-designated sites: Special Protection Areas (SPAs) and Special Areas of Conservation (SACs). There is specific

¹²⁷ Guildford Borough Council (2003) Local Plan 2003 – Biodiversity Designations [online] available at: <http://www.guildford.gov.uk/localplan>

¹²⁸ Natural England (2012) Condition of SSSI units - compiled 01 May 2012 [online] available at: <http://www.sssi.naturalengland.org.uk/Special/sssi/report.cfm?category=C.CF> (accessed 02/12)

guidance on avoiding or mitigating the potential impact on the Thames Basin Heaths SPA, linked to the proximity of housing development to the SPA. This is the Thames Basin Heaths SPA Avoidance Strategy 2009- 2014¹²⁹. Much of Guildford is within the zone of influence of the Thames Basin Heaths SPA. 6% of land in the borough is within 400m of a SPA site, in which no new homes may be built.

- 47% of land is within 400m-5km of a SPA site. The guidance states that the cumulative effect of further residential development up to 5 kilometres from these protected heathlands will have a significant adverse effect on the heaths and in particular, on three rare species of birds which inhabit the heaths – nightjar, Dartford warbler and woodlark. Table 13-3 shows the numbers of breeding pairs of each bird from the 1999 breeding season.

Table 13-3: Numbers of pairs of protected birds from the 1999 breeding season¹³⁰

Species	Number of Pairs	% of Breeding Population in Great Britain
Dartford Warbler	445	at least 27.8%
Nightjar	264	at least 7.8%
Woodlark	149 Woodlark	at least 9.9%

The Avoidance Strategy aims to overcome negative effects on the SPA through the provision of Suitable Alternative Natural Green space (SANG) to attract people away from the SPA and hence reduce pressure on it. The condition of the SSSIs that make up the Thames Basin Heaths SPA and Thursley, Ash, Pirbright and Chobham SAC is listed below in Table 13-4. The Thames Basin Heaths SPA is particularly sensitive to nitrogen deposition¹³¹. An increase in traffic could lead to more nitrogen emissions and adversely impact the SPA.

Table 13-4: Condition of Sites of Special Scientific Interest (SSSIs) within Guildford borough's Special Protection Area (SPA) and Special Area of Conservation (SAC) sites

Name of SSSI	Constituent SPA/SAC	% Area favourable	% Area unfavourable recovering	% Area unfavourable no change	% Area unfavourable declining	% Area destroy / part destroy
Ockham And Wisley Commons ¹³²	Thames Basin Heaths SPA	33.19%	66.81%	0.00%	0.00%	0.00%
Whitmoor Common ¹³³	Thames Basin Heaths SPA	27.48%	69.28%	3.24%	0.00%	0.00%

¹²⁹ Guildford Borough Council (2009) Thames Basin Heaths [online] available at:

<http://www.guildford.gov.uk/planningandbuildingcontroldocumentsandpublications>

¹³⁰ JNCC (2013) Thames Basin Heaths SPA Description [online] available at: <http://jncc.defra.gov.uk/page-2050-theme=default>

¹³¹ Surrey Biodiversity Partnership (2010) Surrey Biodiversity Action Plan [online] available at:

<http://www.surreybiodiversitypartnership.org/xwiki/bin/view/Home/SurreyBAP>

¹³² Natural England (2013) SSSI condition summary [online] available at:

<http://www.sssi.naturalengland.org.uk/special/sssi/reportAction.cfm?report=sdrt18&category=S&reference=1001052>

Name of SSSI	Constituent SPA/SAC	% Area favourable	% Area unfavourable recovering	% Area unfavourable no change	% Area unfavourable declining	% Area destroy / part destroy
Ash To Brookwood Heaths ¹³³	Thames Basin Heaths SPA; Thursley, Ash, Pirbright and Chobham SAC	31.66%	67.37%	0.00%	0.97%	0.00%
Colony Bog And Bagshot Heath ¹³³	Thames Basin Heaths SPA; Thursley, Ash, Pirbright and Chobham SAC	6.31%	92.56%	0.25%	0.87%	0.00%

The South East Biodiversity Forum¹³⁴ has identified areas considered to have the greatest biodiversity opportunity throughout the region. These Biodiversity Opportunity Areas (BOAs) are the regional priority areas of opportunity for restoration and creation of Biodiversity Action Plan (BAP) habitats. The following BOAs have been identified within Guildford:

- North Downs Scarp; The Hog's Back;
- North Downs Scarp and Dip; Guildford to the Mole Gap;
- Blackwater River;
- River Wey (plus tributaries);
- Ash, Brookwood and Whitmoor Heaths;
- Wisley, Ockham and Walton Heaths;
- Wanborough and Normandy Woods and Meadows; and
- Winterfold and the Hurtwood Greensand Ridge.

The River Wey contains many rivers that are high in levels of Phosphate and/or are heavily modified, leading to loss of habitat diversity and the creation of barriers for fish migration¹³⁵. These issues and the presence of pollutants give rise to poor water quality for a number of rivers, as well as varied biological quality throughout the catchment.

13.2.1 *The likely future situation without the plan*

Although three of the four SSSIs in the borough are currently in unfavourable condition, only a small proportion, approximately 4%, some 70 hectares, is in an unfavourable condition with

¹³³ Natural England (2013) SSSI condition summary [online] available at:

<http://www.sssi.naturalengland.org.uk/special/sssi/reportAction.cfm?report=sdrt18&category=S&reference=1001865>

¹³⁴ South East Biodiversity Forum (2009) South East England Biodiversity Opportunity Areas 2009 Statements Folio [online] available at: <http://strategy.sebiodiversity.org.uk/index.php> (accessed 07/2012)

¹³⁵ Defra and the Environment Agency (2009) Thames River Basin Management Plan

either a decline, or no change in condition. SSSIs will continue to be protected and enhanced through the planning process.

13.3 What are the key issues and objectives?

The topic of biodiversity will be a key focus of the SA and within that there is one specific issue:

1. Large areas of the borough are covered by biodiversity designations, including internationally important SPAs, nationally important SSSIs, SACs, SINCs, and ancient woodland;
 - Indicator – condition of SSSIs and the site integrity of European Sites (this should not worsen and ideally should increase).

13.3.1 SA objectives

The data analysed supports the inclusion of the following SA Objective in the SA framework:

- SA Objective 8 – To conserve and enhance biodiversity and the natural environment.

14 LANDSCAPE

14.1 What’s the sustainability context?

Landscape

European Landscape Convention (2000)

- Commits the UK to "recognise landscapes in law as an essential component of people’s surroundings, an expression of the diversity of their shared cultural and natural heritage, and a foundation of their identity";

National Parks and Access to the Countryside Act (1949):

- Provides for the creation of National Parks and Areas of Outstanding Natural Beauty (AONB);

Countryside and Rights of Way Act (2000):

- Create a framework for public access to the countryside;
- Provides greater protection to Sites of Special Scientific Interest (SSSIs) and new arrangements for the management of AONBs.

NPPF (2012):

- States that the planning system should protect and enhance valued landscapes. Particular weight is given to “*conserving landscape and scenic beauty*”. In designated areas, planning permission should be refused for major development, unless it can be “*demonstrated they are in the public interest*”.
- Emphasises the “*great importance*” of Green Belts, with local planning authorities encouraged to “plan positively to enhance the beneficial use of the Green Belt, with inappropriate development in these areas not to be approved “except in very special circumstances”.
- In relation to Green Belts, Paragraph 81 states “*Once Green Belts have been defined, local planning authorities should plan positively to enhance the beneficial use of the Green Belt, such as looking for opportunities to provide access; to provide opportunities for outdoor sport and recreation; to retain and enhance landscapes, visual amenity and biodiversity; or to improve damaged and derelict land*”.

Guildford Landscape Character Assessment¹³⁶ (2007)

- The borough’s Landscape Character Assessment (LCA) takes a three-tiered approach with a borough-wide study forming the context and framework for the more detailed rural-urban fringe and townscape assessments.
- The LCA provides a comprehensive, integrated characterisation of the borough and sets out a strategy on how change through built development and land management can be guided to protect, conserve and enhance the borough’s landscape character, by indicating sensitivities that should be considered, and providing the most positive opportunities for change and minimising negative impact.

¹³⁶ Guildford Borough Council and Land Use Consultants (2007) Guildford Landscape Character Assessment [online] available at: <http://www.guildford.gov.uk/planningandbuildingcontroldocumentsandpublications>

Landscape

Rights of Way Improvement Plan for Surrey¹³⁷ (2007)

- The Plan contains a number of proposals and priorities for improving accessibility, connectivity, quality and recreational enjoyment across Surrey. It provides a framework for achieving practical improvements on the ground while recognising the need to gain agreement about specific improvement proposals from landowners, users and local people and sets out a process to bring about a consensus. The Plan has a vital role to play in delivering the objectives of the County Council's Local Transport Plan.

Implications for the Local Plan:

- The Local Plan should aim to enhance the character of the landscape.

14.2 What is the sustainability baseline?

The Guildford Landscape Character Assessment¹³⁸ notes the varied and dynamic landscape of the borough, evidenced by the presence of four different countryside character areas at the national level. The Surrey Hills Area of Outstanding Natural Beauty (AONB) lies within the borough and is a key landscape feature. AONBs are a national designation and the value of this designation is reflected in the NPPF. The Area of Great Landscape Value (AGLV) is a county-wide environmental designation.

Rural Landscape

The Guildford Landscape Character Assessment¹³⁸ identifies that physical and cultural influences have combined to create the unique and distinctive character of the rural landscape of Guildford borough. The area is characterised by a diversity of landscapes and these variations and differences are represented by twelve landscape types:

- River Floodplain;
- Chalk Ridge;
- Wooded Chalk Downs;
- Open Chalk Farmland;
- Wooded Rolling Claylands;
- Unsettled Sandy Heath;
- Wooded and Settled Heath;
- Gravel Terrace;
- Greensand Valley;

¹³⁷ Surrey County Council (2007) Rights of Way Improvement Plan for Surrey [online] available at: <http://www.surreycc.gov.uk/environment-housing-and-planning/countryside/explore-surreys-countryside/visit-the-countryside/footpaths-byways-and-bridleways/rights-of-way-improvement-plan> (accessed 06/2013)

¹³⁸ Guildford Borough Council and Land Use Consultants (2007) Guildford Landscape Character Assessment [online] available at: <http://www.guildford.gov.uk/planningandbuildingcontroldocumentsandpublications>

- Mudstone Plateau;
- Wooded Greensand Hills; and
- Open Greensand Hills.

The rural areas are diverse in nature and many have strong character. Their condition is assessed to be mainly moderate or good whereby:

- The ridge of the North Downs provides a distinctive long-distance viewpoint with numerous dramatic views to and from the chalk ridge, and a distinctive backdrop to much of the area.
- Villages are generally well linked to the countryside, mainly through a strong network of mature tree belts and woodlands.
- A series of great historic country houses provides a wealth of designed landscapes and parklands from various ages. Local building materials are particularly influential on the characteristics of many local buildings.
- Historic buildings of varying ages and the spires and towers of local churches often feature in views and provide local distinctiveness and orientation.

There are many things that threaten the character of the borough's rural landscapes. They include the division of land ownership and changing land management practices, traffic growth and pressures for increased public and private recreational facilities¹³⁹.

Rural-urban fringe

The Guildford Landscape Character Assessment¹³⁹ also considers the character of areas that fall within the rural-urban fringe of Guildford, Ash and Tongham. Particular features include:

- The River Wey and its water meadows of great historical significance to the landscape setting of Guildford. The Basingstoke Canal provides this to a lesser extent in Ash.
- The floodplain gravel terraces of the River Wey to the north of Guildford, incorporate large areas of water. These play an important role in creating a clear 'gap' and sense of separation between the town and outlying residential areas. The floodplain of the Blackwater River and a chain of lakes to the west of Ash and Tongham have a similar role.
- Sandy soils and London clay to the north of Guildford and east of Ash and Tongham create a distinctive landscape of wooded and heathland commons. These provide a valued habitat to support biodiversity around Ash Green and at Ash Common.

The concerns for the rural-urban fringe are the possibility of development and recreational pressure in the future, and the impact of urban developments on views into and out of the surrounding 'rural' fringe¹³⁹.

¹³⁹ Guildford Borough Council and Land Use Consultants (2007) Guildford Landscape Character Assessment and Guidance [online] available at: <http://www.guildford.gov.uk/planningandbuildingcontroldocumentsandpublications>

Townscape

There are 57 separate townscape character areas in Guildford, Ash and Tongham, for which the townscape character has been assessed to have varying strengths of character and condition. They range from the historic towns and villages to the 20th century industrial/retail parks. The Landscape Character Assessment¹⁴⁰ notes that:

- Guildford has numerous important views and scenery. These are particularly influenced by the strong topography of the North Downs, which creates many viewpoints and vistas both to and from the town. This provides a strong connection with the surrounding landscape from within the town itself.
- Institutional buildings, set in elevated locations, often form local landmarks and focal points. They are easily seen from the surrounding area. The best example of this is Guildford Cathedral.

Issues within the townscape are also varied. They include new developments without regard for proportion and scale, blocked views and viewpoints, standardised street design and loss or break-up of boundaries.

Within the borough there are 39 Conservation Areas and over 1,000 individual Listed Buildings.

Surrey Design¹⁴¹ is an important guidance document aimed at ensuring that new development is of high quality and complimentary to the townscape, particularly Conservation Areas and Listed Buildings.

14.2.1 *The likely future situation without the plan*

There are various landscape designations within Guildford, including the nationally designated Surrey Hills Area of Outstanding Natural Beauty. The primary purpose of AONB designation is to conserve and enhance the natural beauty of the landscape, with a secondary aim being to meet the need for quiet enjoyment of the countryside. It is therefore considered that those areas that are afforded protection through national designations should retain their character.

14.3 What are the key issues and objectives?

The topic of landscape will be a key focus of the SA and within that there are three specific issues:

1. Development pressures, fuelled by high land and property prices, pose threats to landscape interests;
 - Indicator – the area and buffer zone of ancient woodland (this should not decline and the buffer zone should ideally increase).
2. There is a need to provide opportunities for countryside recreation and access whilst respecting its landscape quality and avoiding conflict with other users;
 - Indicator - the achievement of targets for Biodiversity Opportunity Areas (BOAs) (this should increase).

¹⁴⁰ Guildford Borough Council and Land Use Consultants (2007) Guildford Landscape Character Assessment and Guidance [online] available at: <http://www.guildford.gov.uk/planningandbuildingcontrol/documentsandpublications> (accessed 07/2012)

¹⁴¹ Surrey Local Government Association (2002) Surrey Design: A Strategic Guide for Quality Built Environments [online] available at: www.surreycc.gov.uk

3. Existing areas of high quality open space should be protected and enhanced to avoid changes to the character of built up areas and to reduce pressures on the countryside;

- Indicator – Overall provision of open space (ideally this should remain constant or increase).

14.3.1 SA objectives

The data analysed supports the inclusion of the following SA Objective in the SA framework:

- SA Objective 8 – To conserve and enhance biodiversity and the natural environment.

15 WASTE

15.1 What’s the sustainability context?

Waste

The EU Landfill Directive:

- To reduce biodegradable municipal waste landfilled to 75% of that produced in 1995 by 2010; to 50% by 2013, and to 35% by 2020.

The Waste Strategy 2007:

- decouple waste growth (in all sectors) from economic growth and put more emphasis on waste prevention and re-use;
- meet and exceed the landfill directive diversion targets for biodegradable municipal waste in 2010, 2013 and 2020;
- increase diversion from landfill of non-municipal waste and secure better integration of treatment for municipal and non-municipal waste;
- secure the investment in infrastructure needed to divert waste from landfill and for the management of hazardous waste;
- get the most environmental benefit from that investment, through increased recycling of resources and recovery of energy from residual waste using a mix of technologies.

Statutory targets from the Waste Strategy 2000:

- To recover value¹⁴² from 67% of municipal waste by 2015;
- To recover value from 75% of municipal waste by 2020.

Specific targets for recycling and composting from the Waste Strategy 2007 are:

- To recycle or compost at least 45% of household waste by 2015;
- To recycle or compost at least 50% of household waste by 2020.

Surrey Waste Plan 2008¹⁴³

This sets out policies for the use of land for the handling, treatment and disposal of waste arising in or brought into the County, including identifying sites.

Implications for the Local Plan:

- Surrey County Council is the planning authority for minerals and waste matters and is therefore responsible for preparing minerals and waste planning policies. Guildford Borough Council should seek to promote sustainable waste management within the Local Plan.

¹⁴² In this context 'to recover value' means to recycle, compost, recover energy or materials (e.g. by a process such as anaerobic digestion)

¹⁴³ Surrey County Council (2008) Surrey Waste Plan - Adopted 2008 (Amended 2009) [online] available at: <http://www.surreycc.gov.uk/environment-housing-and-planning/minerals-and-waste-policies-and-plans/surrey-waste-plan/surrey-waste-plan-adopted-plan>

15.2 What is the sustainability baseline?

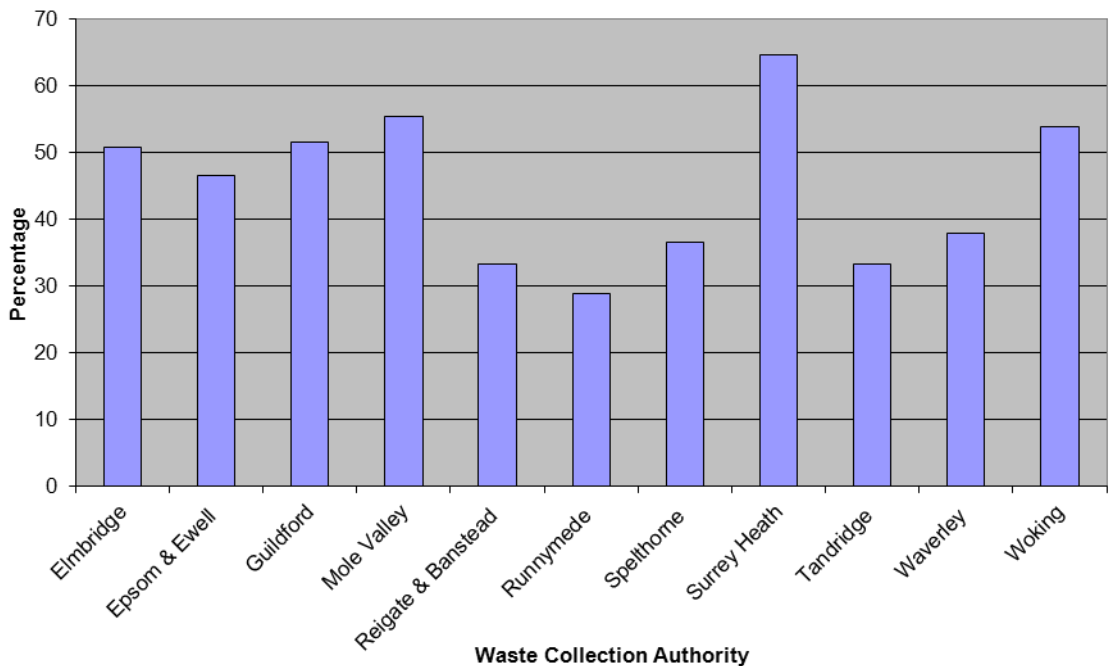
The Surrey Waste Plan¹⁴⁴ recognises that waste has increased historically at a rate of 3% in general. A key objective is, therefore, to reduce the amount of waste produced; reuse materials; and increase the level of recycling and composting.

Municipal Solid Waste (MSW) arisings in Surrey in 2007/08 were 622,382 tonnes. By 2011/12, the MSW arisings had decreased to 545,890 tonnes. This constituted predominantly household waste (93.6%), but also a small fraction of trade waste mixed with household collections, and rubble from small scale household improvements or building work¹⁴⁵.

The amount of waste recycled in the borough has increased steadily over the past few years. Recycling rates for Guildford in 2011/2012 were 52.2%, which was a 12.5% increase on the 2007/08 figure.

Guildford Borough Council collects dry recycling and food waste. Figure 15-1 shows that Guildford compare favourably with the other waste collection authorities in Surrey, collecting just over 50% of municipal waste for re-use, recycling or composting.

Figure 15-1: Re-use, recycling and composting rate of local councils in Surrey (2010/11)¹⁴⁶



¹⁴⁴ Surrey County Council (2008) Surrey Waste Plan - Adopted 2008 (Amended 2009) [online] available at: <http://www.surreycc.gov.uk/environment-housing-and-planning/minerals-and-waste-policies-and-plans/surrey-waste-plan/surrey-waste-plan-adopted-plan>

¹⁴⁵ Surrey County Council (2008; 2012) Minerals and Waste Planning in Surrey - Annual Monitoring Report 2007/08; 2011/2012 [online] available at: <http://www.surreycc.gov.uk/environment-housing-and-planning/minerals-and-waste-policies-and-plans/minerals-and-waste-planning-annual-monitoring-report> (accessed 06/2013)

¹⁴⁶ Surrey County Council (2011) Minerals and Waste Annual Monitoring Report (2010/2011) [online] available at: <http://www.surreycc.gov.uk/environment-housing-and-planning/minerals-and-waste-policies-and-plans/minerals-and-waste-planning-annual-monitoring-report>

In April 2012 Guildford Borough Council introduced a new recycling and refuse service¹⁴⁷ and now collect the following for recycling¹⁴⁸:

- All raw and cooked food waste (which has been removed from all packaging);
- Paper;
- Cardboard;
- Glass;
- Cans and tins;
- Plastics (bottles, yoghurt pots, food trays, ice cream and margarine tubs, carrier bags, straws);
- Bottle caps (all plastic and metal);
- TetraPak foil-lined drink and food cartons;
- Aluminium foil;
- Clean clothes, linen, paired shoes, belts and handbags; and
- Garden waste (optional collection available for a small annual fee).

The County waste facilities have very high recycling rates and significant tonnages. As a result of this the collection authorities need to recycle 64% of their waste stream. As part of the Surrey Waste Partnership the Council has agreed with Surrey County Council to a joint target of 70% recycling and composting of waste by 2014¹⁴⁹.

15.2.1 *The likely future situation without the plan*

The council has a key delivery target to increase recycling and composting to 70% by 2015. The current level (in 2012) is 52%.

Based on past trends and the new recycling and refuse service, it appears the percentage of waste recycled and composted is, and will continue to, increase over time.

15.3 **What are the key issues and objectives?**

The topic of waste will be a key focus of the SA and within that there is one specific issue:

1. There is an identified need to reduce the proportion of waste sent to landfill and increase the proportion of waste that is recycled and composted.
 - Indicator – Proportion of household waste recycling (this should increase); and
 - Indicator – Proportion of municipal waste landfilled (this should decrease).

¹⁴⁷ Guildford Borough Council [online] available at: <http://www.guildford.gov.uk/recycling> (accessed 07/2012)

¹⁴⁸ Guildford Borough Council [online] available at: <http://www.guildford.gov.uk/article/1855/An-overview-of-different-bins-and-bags> (accessed 07/2012)

¹⁴⁹ Guildford District Council (2012) Executive Report Item 6: Reaching 70 per cent recycling and garden waste redesign [online] available at: <http://www.guildford.gov.uk/CHttpHandler.ashx?id=13050&p=0> (accessed 12/2012)

15.3.1 SA objectives

The data analysed supports the inclusion of the following SA Objective in the SA framework:

- SA Objective 12 – To reduce waste generation and achieve the sustainable management of waste.

16 THE SA FRAMEWORK

Table 16-1 below presents a summary of Chapters 2 – 15 and sets out the SA framework.

Table 16-1: The SA framework

Objective	Issues	Indicators	Topic
1. To provide sufficient housing of a suitable mix taking into account local housing need, affordability, deliverability, the needs of the economy, and travel patterns	1. High average house prices create affordability problems for local people, first time buyers and essential key workers.	a) Housing affordability as a function of lower quartile income to lower quartile house price (this should decrease, i.e. become more affordable).	Housing
	2. There is a deficit in affordable housing supply and the current completion rate is below the annual level required to address the deficit.	b) Completion rates of affordable housing in new developments (this should increase).	
	3. The need for accommodation for people with care and support needs is likely to increase, given the projected increases in population and the proportion of older people in the borough	c) Housing completions that provide for long-term care and disability (this should increase).	
2. To facilitate improved health and well-being of the population, including	1. Life expectancy in the borough compares favourably with the South East	a) Life expectancy (this should increase). b) Proportion of population in full-time care. c) Proportion of population that is over retirement age.	Health

Objective	Issues	Indicators	Topic
enabling people to stay independent and reducing inequalities in health	and the rest of the country. Social and economic impacts of longevity need to be fed into relevant policies and budgets.		
	2. Obesity in the county is increasing. Provision of adequate sports and leisure facilities to encourage the take up of more active lifestyles should be regarded as an important component of community infrastructure.	a) Levels of obesity – all age groups (this should decrease).	
3. To reduce the risk of flooding and the resulting detriment to public well-being, the economy and the environment	1. Heavier rainfall in winter will increase hazards arising from fluvial flooding and the number of properties that are at risk from flooding will increase. Surface water flooding will increase as a result of more frequent storms. Low river flows will occur because of drier summers.	a) Number of dwellings at risk of flooding (this should not increase). b) Number of permissions granted contrary to Environment Agency advice on flooding (this should decrease).	Climate
4. To create and maintain safer and more secure	1. Violent crime has increased substantially since 2001.	a) Notifiable offences recorded by the police (this should decrease).	Crime and Safety

Objective	Issues	Indicators	Topic
communities	2. Perception of crime is worse than actual occurrence.	a) Fear of crime (this should decrease).	
5. To reduce poverty and social exclusion for all sectors of the community	1. There are a significant number of adults with no qualifications.	a) Qualifications at all ages (this should increase).	Economy and Employment
6. To create and sustain vibrant communities	1. Catering for population growth in the short-term with its associated social, economic and environmental consequences. Population increases are likely to place additional pressure on house prices and availability.	a) Housing delivery (this should increase). b) Housing affordability (this should improve). c) Housing need (including market and affordable housing) (this should decrease).	Population
	2. The age structure of the borough will require continued monitoring as age shifts will have long term implications for health care needs, housing mix and other social services.	a) Borough demographics – proportion of the population likely to need long-term care. b) Changes to IMD (reductions in the most deprived and difference in the proportion of the highest to the lowest levels of deprivation) (the gaps between deprived areas should decrease). c) Changes to IMD (reductions in the most deprived and difference in the proportion of the highest to the lowest levels of deprivation) (the gaps between deprived areas should decrease).	
	3. Any pockets of deprivation need to be addressed.	a) Changes to the index of multiple deprivation (IMD). Reductions in the most deprived and difference in the proportion of the highest to the lowest levels of deprivation (the gaps between deprived areas should decrease).	

Objective	Issues	Indicators	Topic
<p>7. To make the best use of previously developed land and existing buildings</p>	<p>1. The supply of previously developed land in the borough is likely to decline over time and therefore development of greenfield sites might be required.</p>	<p>a) Percentage of new housing and new employment floorspace on previously developed land.</p>	<p>Climate</p>
	<p>2. Reusing previously developed land (PDL) will reduce pressure on the undeveloped areas of the countryside.</p>	<p>a) Percentage of new housing and new employment floorspace on previously developed land.</p>	<p>Soil</p>
<p>8. To conserve and enhance biodiversity and the natural environment</p>	<p>1. Large areas of the borough are covered by biodiversity designations, including internationally important SPAs, nationally important SSSIs, SACs, SINCS and ancient woodland.</p>	<p>a) Condition of SSSI and the site integrity of European Sites (this should not worsen and ideally should improve).</p>	<p>Biodiversity</p>
	<p>2. Development pressures, fuelled by high land and property prices, pose threats to landscape interests.</p>	<p>a) The area and buffer zone of ancient woodland (this should not decline and the buffer zone should ideally increase).</p>	<p>Landscape</p>

Objective	Issues	Indicators	Topic
	3. There is a need to provide opportunities for countryside recreation and access whilst respecting its landscape quality and avoiding conflict with other users.	a) The achievement of targets for Biodiversity Opportunity Areas (BOAs) (this should increase).	
	4. Existing areas of high quality open space should be protected and enhanced to avoid changes to the character of built up areas and to reduce pressures on the countryside.	a) Overall provision of open space (ideally this should remain constant or increase).	
9. To protect, enhance, and where appropriate make accessible, the archaeological and historic environments and cultural assets of Guildford, for the benefit of residents and visitors	1. There is a need to conserve the historic and cultural heritage for future generations as it is an essential part of what makes the borough a distinct place.	a) Heritage assets on the Heritage at Risk register (this should decrease).	Cultural Heritage
10. To achieve a pattern of development which minimises journey lengths and	1. For those without a car, access to a range of facilities in rural areas is an issue.	a) Percentage of at risk users (households without a car in each census output area) with access to town centres within 30 minutes by public transport and/or walking (this should increase).	Air / Transport and Accessibility

Objective	Issues	Indicators	Topic
<p>encourages the use of sustainable forms of transport (walking, cycling, bus and rail).</p>	<p>2. There are currently no Air Quality Management Areas (AQMAs) in the borough.</p>	<p>a) There should be no Air Quality Management Areas (AQMAs) designated in the borough.</p>	
	<p>3. Adverse economic, social and environmental impacts of high traffic volumes and a culture of dependence on private car use include recurrent traffic congestion on certain parts of the network at certain times of day, road collisions, community severance, obesity, noise pollution, local air pollution, greenhouse gas emissions, high demand for parking, and amenity of local neighbourhoods.</p>	<p>a) Percentage mode share for sustainable modes, defined as walking, cycling, bus, minibus, coach and train, as methods of travel to work, for all usual residents aged 16 to 74 in employment in Guildford borough (using Census data) (this should increase).</p> <p>b) Carbon dioxide emissions from all road transport in Surrey except motorway traffic (Data published by DECC as 'Carbon dioxide emissions within the scope of influence of local authorities' (Previously National Indicator 186) which is intended to continue) (this should decrease).</p>	
	<p>4. Development in the borough has the potential to exacerbate congestion. This is likely to be the major source of emissions/air pollution within the borough.</p>	<p>a) Developments with Green Travel Plans.</p>	

Objective	Issues	Indicators	Topic
<p>11. To minimise the use of best and most versatile agricultural land (BVAL) and encourage the remediation of contaminated land.</p>	<p>1. Contamination issues may arise on previously developed sites.</p>	<p>a) Area (ha) of contaminated land remediated; b) Indicator – Amount (ha) of development on BVAL (best and most versatile agricultural land).</p>	<p>Soil</p>
<p>12. To reduce waste generation and achieve the sustainable management of waste</p>	<p>1. There is an identified need to reduce the proportion of waste sent to landfill and increase the proportion of waste that is recycled and composted.</p>	<p>a) Proportion of household waste recycling (this should increase). b) Proportion of municipal waste landfilled (this should decrease).</p>	<p>Waste</p>
<p>13. To maintain and improve the water quality of the borough's rivers and groundwater, and to achieve sustainable water resources management</p>	<p>1. River quality is generally poor and should be improved</p>	<p>a) Ecological and chemical water quality (these should improve).</p>	<p>Water</p>

Objective	Issues	Indicators	Topic
14. To mitigate the causes and adapt to the effects of climate change through reducing emissions of greenhouse gases	1. Government policy requires new development to promote sustainable construction, energy conservation and renewable energy. Renewable energy generation could pose environmental challenges.	a) Amount or proportion of new energy from renewable sources (this should increase) b) Code for Sustainable Homes standards for new builds (this should increase).	Climate
15. To maintain Guildford borough and Guildford town's competitive economic role	1. The high cost of housing prevents key and low level workers from living in much of the borough. This will affect the ability of local businesses to employ these workers.	a) Overall position / rank of the borough in the UK Competitiveness Index (this should increase). b) Overall position / rank of Guildford town in the UK Competitiveness Index (this should be maintained).	Economy and Employment
16. To facilitate appropriate development opportunities to meet the changing needs of the economy	1. The high cost of living housing prevents key and low level workers from living in the borough. This will affect the ability of local businesses to employ these workers.	a) Ratio of median salary in the borough compared to median national salary (NOMIS) b) Net change in business floorspace (this should increase)	Economy and Employment
17. To enhance the borough's rural economy	1. The high cost of living housing prevents key and low level workers from living in the borough. This will affect the ability of local businesses to employ these workers.	a) Net change in jobs in rural areas (this should increase).	Economy and Employment

16.1 Sites Assessment

The appraisal of housing / employment/ mixed use 'site options' will be undertaken with a view to informing the decision on sites that should be allocated within the Local Plan. The decision as to which sites to allocate rests with the Council alone, as such the SA serves only as a guide to the relative sustainability of the sites' attributes as objectively assessed with the agreed criteria. The appraisal will use a consistent and transparent approach to assess how each site performs against the objectives using a series of proxy questions or criteria (as not all Objectives readily transfer themselves in the spatial scale required to appraise site attributes), based on those subject to consultation in the December 2012 Scoping Report. This will ensure the assessment yields results which can be compared.

For some objectives, quantitative criteria with distance thresholds can be used. However, for others, a more qualitative appraisal will be undertaken.

It should be borne in mind that the sites being proposed have not been proposed in isolation. The sites have been derived from a number of pieces of evidence including the Strategic Housing Land Availability Assessment (SHLAA), and the Green Belt and Countryside Study (GBCS). These studies used criteria to assess sites in regard to suitability (in the case of the SHLAA) and sustainability (in the case of the GBCS).

We propose to use these criteria, integrated into one place, to undertake the SA of the sites. We will also identify any other criteria that can be used that are in addition to the criteria sourced from these two pieces of evidence. The appraisal of the sites will use a tiered approach, whereby the sites would be first appraised against exclusionary criteria i.e. those issues that may be fundamental to the sustainability of the site e.g. proximity of European Sites. They would then be appraised against discretionary criteria i.e. those that may affect policies / planning approaches to the site e.g. location of transport nodes and proximity to services and facilities.

Where sites have not been tested through the previous studies, they will be appraised in order that there is a fair comparison between sites.

Note that the appraisal of the sites will be predicated on the assessment of the *site's* constraints rather than the potential impact that the development of the site might have. This is because, at this strategic scale, there is not a perfect knowledge of what development proposals might be brought forward on the sites and therefore any assumptions made on the nature of development may be flawed. Therefore the appraisal looks at the absolute attributes of the sites at the current time. It is recognised that highly constrained sites may well be taken forward regardless as detailed development proposals can include mitigation to address constraints.

NEXT STEPS

SA scoping is the first stage in the plan-making / SA process.

The next stage will involve appraising 'reasonable alternatives' for a range of plan issues and feeding back findings to the Council so that they might be taken into account when preparing the draft plan. Once the draft plan has been prepared it will be subjected to SA and an SA Report prepared for consultation alongside it.

The SA Report must contain a range of specified information, essentially: 1) an appraisal of the draft plan and reasonable alternatives, 2) 'outline reasons for selecting the alternatives dealt with'; and 3) other less crucial things (including a summary of the SA scope and a description of 'measures envisaged for monitoring').

The purpose of providing this information in the SA Report is to inform both A) those who might want to make representations on the draft plan approach / alternatives; and B) those tasked with finalising the plan subsequent to the draft plan consultation.

Appendix B

Appraisal Matrix

GTAMS Sustainability Assessment Matrix

SA Objectives	SA Sub-Objectives	Major infrastructure interventions - A3						New road bridge and tunnel proposal from David Ogilvie	New link road and road bridge proposal from Guildford Vision Group
		A3 Widening Widen A3 to three lanes	A3 Northern Bypass New Guildford bypass (north of Guildford)	A3 Tunnel (A31 to A320) Tunnel carrying the A3 through the Guildford urban area: longer tunnel A31 to A320	A3 Tunnel (A31 to A25) Tunnel carrying the A3 through the Guildford urban area: shorter tunnel A31 to A25	A3 Corridor Junction Changes Changes to the existing A3 corridor through Guildford - all junctions all movements			
1 – To provide sufficient housing of a suitable mix taking into account local housing need, affordability, deliverability, the needs of the economy, and travel patterns	1.1 – To deliver transport and movement interventions that support the provision of housing to meet local needs	+	-	-	-	-	0	0	
2 – To facilitate improved health and well-being of the population, including enabling people to stay independent and reducing inequalities in health	2.1 – To encourage active travel, including cycling and walking	-	+	+	+	0	++	++	
	2.2 – To improve links to sites such as open space, sports and leisure facilities	++	-	+	-	-	--	--	
	2.3 – To reduce exposure to noise from traffic and other transport sources in residential areas	--	0	++	++	+	- / 0	- / 0	
	2.4 – To reduce exposure of the population to traffic-related air emissions	- / 0	- / 0	++	++	0	-	-	
3 – To reduce the risk of flooding and the resulting detriment to public wellbeing, the economy and the environment	3.1 – To avoid transport developments that would have the potential to increase the risk of flooding	-	--	-	-	0	-	-	
4 – To create and maintain safer and more secure communities	4.1 – To improve safety and security on pedestrian and cycle routes and public transport	-	-	0	0	0	+	+	
	4.2 – To reduce rates of road traffic accidents	-	-	-	0	+	0	0	
5 – To reduce poverty and social exclusion for all	5.1 – To provide transport and movement interventions that would support access to employment and education sites from residential areas	+	+	0	0	+	+	+	
	5.2 – To provide transport and movement interventions that would benefit vulnerable groups such as older people, disabled people and people on low incomes (in particular those without a car)	-	-	-	-	-	+	+	
6 – To create and sustain vibrant communities	6.1 – To support a vibrant town centre through improved accessibility	++	0	0	0	++	++	++	
7 – To make the best use of previously developed land (PDL) and existing buildings	7.1 – To provide transport and movement interventions that make direct use of, or support the regeneration of, PDL	-	--	0	0	-	0	1	

GTAMS Sustainability Assessment Matrix

SA Objectives	SA Sub-Objectives	Major infrastructure interventions - town centre		Sustainable transport interventions			
		Pedestrianisation of Bridge Street	Closure of Walnut Tree Close to through traffic	Streetscape design, downgrading traffic priority in town centre and across the borough	Improving the quality of pedestrian wayfinding and urban realm along key desire lines	Reduced car use through car clubs and car hire	Park and stride strategy
1 – To provide sufficient housing of a suitable mix taking into account local housing need, affordability, deliverability, the needs of the economy, and travel patterns	1.1 – To deliver transport and movement interventions that support the provision of housing to meet local needs	- Slight increase in delays across the borough's road network, minor increase in public transport journey times in town centre; not likely to support new housing developments.	- Slight overall increase in delays on the borough's road network, and increased car and public transport journey times in town centre; not likely to support new housing developments.	0 No likely significant effects on overall road and public transport capacity.	0 No likely significant effects on overall road and public transport capacity.	0 Not likely to be a significant factor in meeting demands from new housing sites	0 Not likely to be a significant factor in meeting demands from new housing sites
2 – To facilitate improved health and well-being of the population, including enabling people to stay independent and reducing inequalities in health	2.1 – To encourage active travel, including cycling and walking	+ Improved walking route between station and town centre.	+ Provides a safer and more attractive pedestrian / cycle route between the town centre and employment areas to the north.	+ Encourages walking in town centre.	+ Encourages walking in town centre.	0 / + Small impact on active travel (reduced car ownership may encourage more walking for short journeys)	+ Encourages walking as part of journey
	2.2 – To improve links to sites such as open space, sports and leisure facilities	0 SINTRAM shows no significant change in journey times across the borough, suggesting no significant impacts on accessibility of facilities for physical activity.	- SINTRAM shows slight increase in journey times across the borough road network, which may reduce accessibility of facilities for physical activity.	0 No likely significant effects on accessibility of open space, sports and leisure facilities.	+ May be beneficial if desire lines include links to open space, sports and leisure facilities.	0 No likely significant effects on accessibility of open space, sports and leisure facilities.	0 No likely significant effects on accessibility of open space, sports and leisure facilities.
	2.3 – To reduce exposure to noise from traffic and other transport sources in residential areas	- / 0 Displacement of traffic noise on roads in and around the town centre, with consequent increases and decreases in exposure levels. Very minor increase in exposure within Defra noise action plan 'Important Areas'.	0 / + Displacement of traffic from Walnut Tree Close, a largely residential street, onto other town centre approach routes. Benefits to residents on Walnut Tree Close are likely to outweigh slight increases in noise exposure elsewhere. Negligible change in exposure within Defra noise action plan 'Important Areas'.	0 No likely significant effects on noise exposure.	0 No likely significant effects on noise exposure.	0 No likely significant effects on noise exposure.	0 No likely significant effects on noise exposure.
	2.4 – To reduce exposure of the population to traffic-related air emissions	0 SINTRAM shows a negligible impact on total vehicle km across the network as a whole. Redistribution of traffic on roads in and around the town centre would result in increases and decreases in exposure to air pollutants.	0 / + SINTRAM shows no change in total vehicle km across the network as a whole. Displacement of traffic from Walnut Tree Close, a largely residential street, onto other town centre approach routes. Benefits to residents on Walnut Tree Close are likely to outweigh slight increases in pollutant exposure elsewhere.	0 No likely significant effects on pollutant concentrations.	0 No likely significant effects on pollutant concentrations.	+ Potential reduction in traffic emissions across the borough	+ Potential reduction in traffic emissions in town centre
3 – To reduce the risk of flooding and the resulting detriment to public wellbeing, the economy and the environment	3.1 – To avoid transport developments that would have the potential to increase the risk of flooding	0 No likely significant effects on flooding	0 No likely significant effects on flooding	+ Potential positive effects if areas of soft landscaping are increased	+ Potential positive effects if areas of soft landscaping are increased	0 No likely significant effects on flooding	0 No likely significant effects on flooding
4 – To create and maintain safer and more secure communities	4.1 – To improve safety and security on pedestrian and cycle routes and public transport	+ Provides a safer pedestrian route between the station and town centre. Changes in traffic flows around the town centre may affect pedestrian and cycle safety, both positively and negatively.	+ Provides a safer pedestrian / cycle route between the town centre and employment areas to the north.	++ Likely significant road safety improvements for pedestrians and cyclists. Potential to benefit safety on pedestrian routes and at bus stops through measures such as improved visibility, lighting etc.	++ Likely significant road safety improvements for pedestrians and cyclists. Potential to benefit safety on pedestrian routes and at bus stops through measures such as improved visibility, lighting etc.	0 No likely significant effects on cycle and pedestrian safety.	0 No likely significant effects on cycle and pedestrian safety.
	4.2 – To reduce rates of road traffic accidents	0 SINTRAM identifies a negligible change in accident rates corresponding to negligible change in total vehicle km.	0 SINTRAM identifies a negligible change in accident rates corresponding to negligible change in total vehicle km.	+ Potential to reduce road traffic accident rates in the town centre.	+ Potential to reduce road traffic accident rates in the town centre.	+ Reduction in car use may reduce accident rates corresponding to reduced vehicle km	0 Insufficient information to evaluate potential effects on accident rates
5 – To reduce poverty and social exclusion for all	5.1 – To provide transport and movement interventions that would support access to employment and education sites from residential areas	0 SINTRAM shows a significant reduction in traffic on routes to the town centre. Public transport journey times increase slightly (except to the railway station). There is a negligible impact on cross-town journey times.	0 SINTRAM shows a minor increase in traffic on routes to the town centre as well as slight increases to public transport journey times to the town centre and employment sites. Cross-town journey times for general traffic increase slightly.	0 No likely significant effect on accessibility of employment and education sites.	0 No likely significant effect on accessibility of employment and education sites.	0 No likely significant effect on accessibility of employment and education sites.	0 No likely significant effect on accessibility of employment and education sites.
	5.2 – To provide transport and movement interventions that would benefit vulnerable groups such as older people, disabled people and people on low incomes (in particular those without a car)	- Increased public transport journey times will adversely affect non-car users.	- Increased public transport journey times will adversely affect non-car users.	+ Improved pedestrian environment will particularly benefit older people, disabled people and those with young children.	++ May encourage walking and cycling as a low cost means of commuting. Improved safety will particularly benefit older people, disabled people and those with young children.	0 No likely significant differential effects on vulnerable groups	- Older and disabled people are less likely to benefit compared with park and ride, as scheme requires people to walk part of their journey
6 – To create and sustain vibrant communities	6.1 - To support a vibrant town centre through improved accessibility	0 SINTRAM shows a significant reduction in traffic on routes to the town centre, and slight increases in public transport journey times to the town centre.	0 SINTRAM shows a minor increase in traffic on routes to the town centre and a negligible impact on public transport journey times to the town centre.	++ Improved safety and accessibility for pedestrians will encourage a vibrant town centre.	++ Improved safety and accessibility for pedestrians will encourage a vibrant town centre.	0 Not likely to significantly affect access to the town centre	+ Likely to improve access to the town centre
7 – To make the best use of previously developed land (PDL) and existing buildings	7.1 – To provide transport and movement interventions that make direct use of, or support the regeneration of, PDL	0 N / A	0 N / A	0 / + There may be some potential to utilise PDL in urban realm improvements.	0 / + There may be some potential to utilise PDL in urban realm improvements.	0 N / A	0 Potential for use of PDL will depend on location

GTAMS Sustainability Assessment Matrix

SA Objectives	SA Sub-Objectives	Interventions						
		Modifications to parking e.g. change long stay to short stay, premium on-street parking	Dedicated and continuous cycle super-highways	Extensive cycling infrastructure giving cyclists priority and road space	Bike sharing / cycle hire schemes	Expand existing park and ride facilities	Demand responsive public transport - minibuses or similar	Integrated public transport - coordinated timetabling of all public transport and integrated ticketing
1 – To provide sufficient housing of a suitable mix taking into account local housing need, affordability, deliverability, the needs of the economy, and travel patterns	1.1 – To deliver transport and movement interventions that support the provision of housing to meet local needs	0 Not likely to be a significant factor in meeting demands from new housing sites	0 Not likely to be a significant factor in meeting demands from new housing sites	0 Not likely to be a significant factor in meeting demands from new housing sites	0 Not likely to be a significant factor in meeting demands from new housing sites	0 Not likely to be a significant factor in meeting demands from new housing sites	0 Not likely to be a significant factor in meeting demands from new housing sites	0 Not likely to be a significant factor in meeting demands from new housing sites
2 – To facilitate improved health and well-being of the population, including enabling people to stay independent and reducing inequalities in health	2.1 – To encourage active travel, including cycling and walking	+	++	++	++	0	0	0
	2.2 – To improve links to sites such as open space, sports and leisure facilities	0	0	0	0	0	0	0
	2.3 – To reduce exposure to noise from traffic and other transport sources in residential areas	0	0	0	0	0	0	0
	2.4 – To reduce exposure of the population to traffic-related air emissions	+	0	0	0	0	0	0
3 – To reduce the risk of flooding and the resulting detriment to public wellbeing, the economy and the environment	3.1 – To avoid transport developments that would have the potential to increase the risk of flooding	0	0	0	0	0	0	0
4 – To create and maintain safer and more secure communities	4.1 – To improve safety and security on pedestrian and cycle routes and public transport	0	++	++	+	0	0	0
	4.2 – To reduce rates of road traffic accidents	0	++	++	+	0	0	0
5 – To reduce poverty and social exclusion for all	5.1 – To provide transport and movement interventions that would support access to employment and education sites from residential areas	0	+	0	0	+	0	0
	5.2 – To provide transport and movement interventions that would benefit vulnerable groups such as older people, disabled people and people on low incomes (in particular those without a car)	-	0	0	0	0	0	+
6 – To create and sustain vibrant communities	6.1 - To support a vibrant town centre through improved accessibility	0	+	+	+	+	+	+
7 – To make the best use of previously developed land (PDL) and existing buildings	7.1 – To provide transport and movement interventions that make direct use of, or support the regeneration of, PDL	0 N / A	0 N / A	0 N / A	0 N / A	0 Potential for use of PDL will depend on location	0 N / A	0 N / A

GTAMS Sustainability Assessment Matrix

SA Objectives	SA Sub-Objectives	Sustainability Assessment Matrix						
		Bus priority and corridor improvements - segregation, information systems, stop improvements, signal priority	New segregated or mostly segregated public transport system (BRT/ guided bus / tram / light rail)	Expand workplace shuttle services	Promotion of tele/home working and flexible hours, with incentives to employers	Development of teleworking offices in local areas to reduce commuting distances	Creation of well signed network of walking and cycling routes linking key trip attractors	Improvements to pedestrian realm including replacing overbridges / subways with at-grade crossings, widening pavements etc.
1 – To provide sufficient housing of a suitable mix taking into account local housing need, affordability, deliverability, the needs of the economy, and travel patterns	1.1 – To deliver transport and movement interventions that support the provision of housing to meet local needs	0 Not likely to be a significant factor in meeting demands from new housing sites	+	0 Not likely to be a significant factor in meeting demands from new housing sites	0 Not likely to be a significant factor in meeting demands from new housing sites	0 Not likely to be a significant factor in meeting demands from new housing sites	0 Not likely to be a significant factor in meeting demands from new housing sites	0 Not likely to be a significant factor in meeting demands from new housing sites
2 – To facilitate improved health and well-being of the population, including enabling people to stay independent and reducing inequalities in health	2.1 – To encourage active travel, including cycling and walking	0 No likely significant effect on active travel	0 No likely significant effect on active travel	0 No likely significant effect on active travel	0 No likely significant effect on active travel	0 No likely significant effect on active travel	+	+
	2.2 – To improve links to sites such as open space, sports and leisure facilities	0 No likely significant effects on accessibility of open space, sports and leisure facilities.	0 No likely significant effects on accessibility of open space, sports and leisure facilities.	0 No likely significant effects on accessibility of open space, sports and leisure facilities.	0 No likely significant effects on accessibility of open space, sports and leisure facilities.	0 No likely significant effects on accessibility of open space, sports and leisure facilities.	+	0
	2.3 – To reduce exposure to noise from traffic and other transport sources in residential areas	0 No likely significant effects on noise exposure.	0 No likely significant effects on noise exposure.	0 No likely significant effects on noise exposure.	0 No likely significant effects on noise exposure.	0 No likely significant effects on noise exposure.	0	0
	2.4 – To reduce exposure of the population to traffic-related air emissions	0 No likely significant effects on pollutant concentrations.	+	0 No likely significant effects on pollutant concentrations.	+	+	0	0
3 – To reduce the risk of flooding and the resulting detriment to public wellbeing, the economy and the environment	3.1 – To avoid transport developments that would have the potential to increase the risk of flooding	0 No likely significant effects on flooding	0 No likely significant effects on flooding	0 No likely significant effects on flooding	0 No likely significant effects on flooding	0 Minor increases in run-off from new developments would be mitigated through measures built into the design.	0	0
4 – To create and maintain safer and more secure communities	4.1 – To improve safety and security on pedestrian and cycle routes and public transport	0 No likely significant effects on cycle and pedestrian safety.	0 No likely significant effects on cycle and pedestrian safety.	0 No likely significant effects on cycle and pedestrian safety.	0 No likely significant effects on cycle and pedestrian safety.	0 No likely significant effects on cycle and pedestrian safety.	+	++
	4.2 – To reduce rates of road traffic accidents	0 Insufficient information to evaluate potential effects on accident rates	0 Insufficient information to evaluate potential effects on accident rates	0 Insufficient information to evaluate potential effects on accident rates	0 Insufficient information to evaluate potential effects on accident rates	0 Insufficient information to evaluate potential effects on accident rates	0	++
5 – To reduce poverty and social exclusion for all	5.1 – To provide transport and movement interventions that would support access to employment and education sites from residential areas	+	0	++	+	+	0	0
	5.2 – To provide transport and movement interventions that would benefit vulnerable groups such as older people, disabled people and people on low incomes (in particular those without a car)	+	0	0	++	0	0	0
6 – To create and sustain vibrant communities	6.1 – To support a vibrant town centre through improved accessibility	+	+	0	0	0	+	+
7 – To make the best use of previously developed land (PDL) and existing buildings	7.1 – To provide transport and movement interventions that make direct use of, or support the regeneration of, PDL	0 N / A	-	0 N / A	0 N / A	0	0	0

GTAMS Sustainability Assessment Matrix

SA Objectives	SA Sub-Objectives	Other interventions							
		New wider ped bridge linking Walnut Tree Cls to Bedford Rd car park site, improving links between station and town centre	Low emission vehicles with recharging facilities and priority parking	Low emission public transport / Council fleet	Freight consolidation centre for town centre deliveries plus restrictions on HGVs entering town centre by time of day	New park and ride facilities	Additional rail services on Reading - Gatwick line	New rail halt or station at Park Barn / Surrey Research Park	
1 – To provide sufficient housing of a suitable mix taking into account local housing need, affordability, deliverability, the needs of the economy, and travel patterns	1.1 – To deliver transport and movement interventions that support the provision of housing to meet local needs	0 Not likely to be a significant factor in meeting demands from new housing sites	0 Not likely to be a significant factor in meeting demands from new housing sites	0 Not likely to be a significant factor in meeting demands from new housing sites	0 Not likely to be a significant factor in meeting demands from new housing sites	0 Not likely to be a significant factor in meeting demands from new housing sites	0 Not likely to be a significant factor in meeting demands from new housing sites	0 Not likely to be a significant factor in meeting demands from new housing sites	0 Not likely to be a significant factor in meeting demands from new housing sites
2 – To facilitate improved health and well-being of the population, including enabling people to stay independent and reducing inequalities in health	2.1 – To encourage active travel, including cycling and walking	+ Encourages walking	0 No likely significant effect on active travel	0 No likely significant effect on active travel	0 No likely significant effect on active travel	0 No likely significant effect on active travel	0 No likely significant effect on active travel	0 No likely significant effect on active travel	0 No likely significant effect on active travel
	2.2 – To improve links to sites such as open space, sports and leisure facilities	0 No likely significant effects on accessibility of open space, sports and leisure facilities.	0 No likely significant effects on accessibility of open space, sports and leisure facilities.	0 No likely significant effects on accessibility of open space, sports and leisure facilities.	0 No likely significant effects on accessibility of open space, sports and leisure facilities.	0 No likely significant effects on accessibility of open space, sports and leisure facilities.	0 No likely significant effects on accessibility of open space, sports and leisure facilities.	0 No likely significant effects on accessibility of open space, sports and leisure facilities.	0 No likely significant effects on accessibility of open space, sports and leisure facilities.
	2.3 – To reduce exposure to noise from traffic and other transport sources in residential areas	0 No likely significant effects on noise exposure.	0 No likely significant effects on noise exposure.	0 No likely significant effects on noise exposure.	0 No likely significant effects on noise exposure.	0 No likely significant effects on noise exposure.	0 No likely significant effects on noise exposure.	0 Insufficient information to assess potential increase in exposure to rail noise	0 No likely significant effects on noise exposure.
	2.4 – To reduce exposure of the population to traffic-related air emissions	0 No likely significant effects on pollutant concentrations.	++ Encourages low emission vehicles as an alternative to standard vehicles	++ Reduces emission levels from public transport and Council fleet	+Reduces emissions from HGVs in town centre	0 No likely significant effects on pollutant concentrations.	0 No likely significant effects on pollutant concentrations.	0 No likely significant effects on pollutant concentrations.	0 No likely significant effects on pollutant concentrations.
3 – To reduce the risk of flooding and the resulting detriment to public wellbeing, the economy and the environment	3.1 – To avoid transport developments that would have the potential to increase the risk of flooding	0 No likely significant effects on flooding	0 No likely significant effects on flooding	0 No likely significant effects on flooding	0 Minor increases in run-off from parking areas would be mitigated through measures built into the design.	0 Minor increases in run-off from parking areas would be mitigated through measures built into the design.	0 No likely significant effects on flooding	0 No likely significant effects on flooding	0 No likely significant effects on flooding
4 – To create and maintain safer and more secure communities	4.1 – To improve safety and security on pedestrian and cycle routes and public transport	0 No likely significant effects on cycle and pedestrian safety.	0 No likely significant effects on cycle and pedestrian safety.	0 No likely significant effects on cycle and pedestrian safety.	++ May improve pedestrian and cycle safety in town centre by reducing the volume of HGV traffic, particularly at peak times.	0 No likely significant effects on cycle and pedestrian safety.	0 No likely significant effects on cycle and pedestrian safety.	0 No likely significant effects on cycle and pedestrian safety.	0 No likely significant effects on cycle and pedestrian safety.
	4.2 – To reduce rates of road traffic accidents	0 No likely significant effects on cycle and pedestrian safety.	0 Insufficient information to evaluate potential effects on accident rates	0 Insufficient information to evaluate potential effects on accident rates	0 Insufficient information to evaluate potential effects on accident rates	0 Insufficient information to evaluate potential effects on accident rates	0 No likely significant effects on accident rates	0 No likely significant effects on accident rates	0 No likely significant effects on accident rates
5 – To reduce poverty and social exclusion for all	5.1 – To provide transport and movement interventions that would support access to employment and education sites from residential areas	0 No likely significant effect on accessibility of employment and education sites.	0 No likely significant effect on accessibility of employment and education sites.	0 No likely significant effect on accessibility of employment and education sites.	0 No likely significant effect on accessibility of employment and education sites.	+May improve access to town centre and employment sites, depending on connection routes	0 No likely significant effect on accessibility of employment and education sites.	++ Likely to significantly improve access to employment at Park Barn and Surrey Research Park	0 No likely significant effects on accessibility of employment and education sites.
	5.2 – To provide transport and movement interventions that would benefit vulnerable groups such as older people, disabled people and people on low incomes (in particular those without a car)	0 No likely significant differential effects on vulnerable groups	0 No likely significant differential effects on vulnerable groups	0 No likely significant differential effects on vulnerable groups	0 No likely significant differential effects on vulnerable groups	0 No likely significant differential effects on vulnerable groups	0 No likely significant differential effects on vulnerable groups	0 No likely significant differential effects on vulnerable groups	0 No likely significant differential effects on vulnerable groups
6 – To create and sustain vibrant communities	6.1 - To support a vibrant town centre through improved accessibility	+ Likely to improve access to the town centre	0 No likely significant effects on access to the town centre	0 No likely significant effects on access to the town centre	+Likely to improve peak time traffic flows to the town centre	+Likely to improve access to the town centre	0 No likely significant effects on access to the town centre from within the borough	0 No likely significant effects on access to the town centre	0 No likely significant effects on access to the town centre
7 – To make the best use of previously developed land (PDL) and existing buildings	7.1 – To provide transport and movement interventions that make direct use of, or support the regeneration of, PDL	0 N / A	0 N / A	0 N / A	0 Potential for use of PDL will depend on location	0 Potential for use of PDL will depend on location	0 N / A	0 Potential for use of PDL will depend on location	0 Potential for use of PDL will depend on location

GTAMS Sustainability Assessment Matrix

SA Objectives	SA Sub-Objectives					Sustainable Movement Corridor	
		New rail halt or station at Merrow	Reinstatement of rail services along corridor between Cranleigh and Guildford	Improved rail access to Heathrow	Increased capacity for services between Guildford and Waterloo		
1 – To provide sufficient housing of a suitable mix taking into account local housing need, affordability, deliverability, the needs of the economy, and travel patterns	1.1 – To deliver transport and movement interventions that support the provision of housing to meet local needs	0 Not likely to be a significant factor in meeting demands from new housing sites	0 Not likely to be a significant factor in meeting demands from new housing sites	0 Not likely to be a significant factor in meeting demands from new housing sites	+	Increased public transport capacity may help to absorb increased demand from new housing schemes.	
2 – To facilitate improved health and well-being of the population, including enabling people to stay independent and reducing inequalities in health	2.1 – To encourage active travel, including cycling and walking	0 No likely significant effect on active travel	0 No likely significant effect on active travel	0 No likely significant effect on active travel	0 No likely significant effect on active travel	++ Strongly encourages walking and cycling.	
	2.2 – To improve links to sites such as open space, sports and leisure facilities	0 No likely significant effects on accessibility of open space, sports and leisure facilities.	0 No likely significant effects on accessibility of open space, sports and leisure facilities.	0 No likely significant effects on accessibility of open space, sports and leisure facilities.	0 No likely significant effects on accessibility of open space, sports and leisure facilities.	+	May be beneficial if it includes links to open space, sports and leisure facilities.
	2.3 – To reduce exposure to noise from traffic and other transport sources in residential areas	0 No likely significant effects on noise exposure.	- May increase exposure to rail noise	- May increase exposure to rail noise	0 Insufficient information to assess potential increase in exposure to rail noise	0 No likely significant effects on noise exposure.	
	2.4 – To reduce exposure of the population to traffic-related air emissions	0 No likely significant effects on pollutant concentrations.	0 No likely significant effects on pollutant concentrations.	0 No likely significant effects on pollutant concentrations.	0 No likely significant effects on pollutant concentrations.	+	Provision of a low-emission alternative to car travel
3 – To reduce the risk of flooding and the resulting detriment to public wellbeing, the economy and the environment	3.1 – To avoid transport developments that would have the potential to increase the risk of flooding	0 No likely significant effects on flooding	0 Minor increases in run-off from rail line would be mitigated through measures built into the design.	0 Minor increases in run-off from rail line would be mitigated through measures built into the design.	0 No likely significant effects on flooding	0 No likely significant effects on flooding	
4 – To create and maintain safer and more secure communities	4.1 – To improve safety and security on pedestrian and cycle routes and public transport	0 No likely significant effects on cycle and pedestrian safety.	0 No likely significant effects on cycle and pedestrian safety.	0 No likely significant effects on cycle and pedestrian safety.	0 No likely significant effects on cycle and pedestrian safety.	++ Reduces interface between cyclists and vehicles, improving cycle safety	
	4.2 – To reduce rates of road traffic accidents	0 No likely significant effects on accident rates	0 No likely significant effects on accident rates	0 No likely significant effects on accident rates	0 No likely significant effects on accident rates	++ Reduces interface between cyclists and vehicles, improving cycle safety	
5 – To reduce poverty and social exclusion for all	5.1 – To provide transport and movement interventions that would support access to employment and education sites from residential areas	++ Improves access to employment sites in Guildford town centre from residential area of Merrow	++ Improves access to employment sites in Guildford town centre from residential area of Cranleigh	++ Improves access to employment opportunities at Heathrow	++ Improves access to employment opportunities in London	+	May provide viable alternative means of accessing employment and education sites, depending on selected routes
	5.2 – To provide transport and movement interventions that would benefit vulnerable groups such as older people, disabled people and people on low incomes (in particular those without a car)	0 No likely significant differential effects on vulnerable groups	0 No likely significant differential effects on vulnerable groups	0 No likely significant differential effects on vulnerable groups	0 No likely significant differential effects on vulnerable groups	++ May encourage walking and cycling as a low cost means of commuting. Improved safety will particularly benefit older people, disabled people and those with young children. Improved local public transport services will benefit non-car users.	
6 – To create and sustain vibrant communities	6.1 – To support a vibrant town centre through improved accessibility	+	+	0	0	+	
		Likely to improve access to the town centre	Likely to improve access to the town centre	No likely significant effects on access to the town centre from within the borough	No likely significant effects on access to the town centre from within the borough	Likely to improve access to the town centre	
7 – To make the best use of previously developed land (PDL) and existing buildings	7.1 – To provide transport and movement interventions that make direct use of, or support the regeneration of, PDL	0 Potential for use of PDL will depend on location	- Unlikely that a new route would comprise a significant proportion of PDL	- Unlikely that a new route would comprise a significant proportion of PDL	0 No effect	0 Potential for use of PDL will depend on location	

GTAMS Sustainability Assessment Matrix

SA Objectives	SA Sub-Objectives	Major infrastructure interventions - town centre		Sustainable transport interventions			
		Pedestrianisation of Bridge Street	Closure of Walnut Tree Close to through traffic	Streetscape design, downgrading traffic priority in town centre and across the borough	Improving the quality of pedestrian wayfinding and urban realm along key desire lines	Reduced car use through car clubs and car hire	Park and stride strategy
8 – To conserve and enhance biodiversity and the natural environment	8.1 – To avoid transport interventions that would directly impact on protected sites	0 No likely significant impacts on protected sites.	0 No likely significant impacts on protected sites.	0 No likely significant impacts on protected sites.	0 No likely significant impacts on protected sites.	0 No effect	0 Location would need to be selected to avoid protected sites
	8.2 – To avoid transport interventions that would adversely affect the landscape and natural environment, for example through visual effects, pollution emissions, or loss of habitats	0 No likely significant impacts on the natural environment and landscape.	0 No likely significant impacts on the natural environment and landscape.	0 No likely significant impacts on the natural environment and landscape.	0 No likely significant impacts on the natural environment and landscape.	0 No effect	0 Location would need to be selected to avoid adverse effects on the landscape and natural environment
9 – To protect, enhance, and where appropriate make accessible, the archaeological and historic environments and cultural assets of Guildford, for the benefit of residents and visitors.	9.1 – To avoid transport interventions that would directly impact on protected resources	0 No likely significant impacts on protected historic resources.	0 No likely significant impacts on protected historic resources.	0 No likely significant impacts on protected historic resources.	0 No likely significant impacts on protected historic resources.	0 No effect	0 Location would need to be selected to avoid adverse effects on protected resources.
	9.2 – To provide transport and movement interventions that would improve access to cultural and historic resources	0 SINTRAM shows significant reductions in traffic on routes to the town centre, and minor increases in public transport journey times to the town centre, where the castle and other features such as historic listed buildings are located.	0 SINTRAM shows minor increases in traffic on routes to the town centre, and minor increases in public transport journey times to the town centre where the castle and other features such as historic listed buildings are located.	++ Improved streetscape design will enhance the setting of the castle and historic town centre.	++ Improved streetscape design will enhance the setting of the castle and historic town centre.	0 No effect	+ Improved access to town centre, where the castle and other historic features are located.
10 – To achieve a pattern of development which minimises journey lengths and encourages the use of sustainable forms of transport (walking, cycling, bus and rail)	N/A – this objective relates to aspects of spatial development which are outside the remit of GTAMS.	Not assessed	Not assessed	Not assessed	Not assessed	Not assessed	Not assessed
11 – To minimise the use of best and most versatile agricultural land (BVAL) and encourage the remediation of contaminated land.	11.1 – To avoid transport interventions that would result in the loss of BVAL.	0 No effect	0 No effect	0 No effect	0 No effect	0 No effect	0 Location would need to be selected to avoid the loss of BVAL.
12 – To reduce waste generation and achieve the sustainable management of waste.	12.1 – To avoid transport interventions that would generate significant volumes of waste (e.g. tunnelling, etc.)	0 No significant construction works required.	0 No significant construction works required.	0 No significant construction works required.	0 No significant construction works required.	0 No significant construction works required.	- If demolition of buildings and structures are required significant volumes of waste might be created. Dependant upon route and design.
13 – To maintain and improve the water quality of the borough's rivers and groundwater, and to achieve sustainable water resources management.	13.1 – To avoid transport interventions that would impact on surface or ground water resources	0 No likely significant impacts on surface or ground water.	0 No likely significant impacts on surface or ground water.	0/+ Potential for enhancement of riverside areas in town centre.	0/+ Potential for enhancement of riverside areas in town centre.	0 No effect	0/- Effect would be dependant on the location and nature of any physical works.
14 – To mitigate the causes and adapt to the effects of climate change through reducing emissions of greenhouse gases	14.1 – To provide transport and movement interventions that avoid or minimise emissions of greenhouse gasses	0 SINTRAM shows a negligible change to total vehicle km across the network as a whole.	0/+ SINTRAM shows no change to total vehicle km across the network as a whole.	0 No likely significant effects on emissions. Promotes walking as a sustainable carbon-free transport mode.	0 No likely significant effects on emissions. Promotes walking as a sustainable carbon-free transport mode.	0/+ Potential to support the number of vehicles owned by households and increase the use of modern, low emissions vehicles.	+ Potential to support a reduction in private car use - particularly in the centre of Guildford - and reduce overall GHG emissions associated with cars being used in urban areas / Town Centre.
15 – To maintain Guildford borough and Guildford town's competitive economic role	15.1 – To provide local transport and movement interventions that enhance access to the town centre and key employment sites	0 SINTRAM shows a significant reduction in traffic on routes to the town centre. Public transport journey times increase slightly (except to the railway station). There is a negligible impact on cross-town journey times.	0 SINTRAM shows a minor increase in traffic on routes to the town centre as well as slight increases to public transport journey times to the town centre and employment sites. Cross-town journey times for general traffic increase slightly.	0 No likely significant effect on accessibility of employment and education sites.	0 No likely significant effect on accessibility of employment and education sites.	0 No effect	+ Potential to enhance accessibility to the centre of Guildford and thereby indirectly contribute to the town and borough's economic role.
	15.2 – To provide / improve strategic links that will support Guildford's competitive economic role	0 The changes would not affect strategic links to the wider road / rail network or airports.	0 The changes would not affect strategic links to the wider road / rail network or airports.	0 The changes would not affect strategic links to the wider road / rail network or airports.	0 The changes would not affect strategic links to the wider road / rail network or airports.	0 No effect	+ Potential to enhance accessibility to the centre of Guildford and thereby indirectly contribute to the town and borough's economic role.
16 – To facilitate appropriate development opportunities to meet the changing needs of the economy	16.1 – To provide transport and movement interventions that will benefit key workers living in the borough	0 SINTRAM shows very minor increase in public transport journey times to the town centre. Effects on transport capacity and new housing delivery are not considered significant. Therefore no likely significant effects on key workers.	0 SINTRAM shows very minor increase in public transport journey times to the town centre. Effects on transport capacity and new housing delivery are not considered significant. Therefore no likely significant effects on key workers.	0 No likely significant effects on key workers.	0 No likely significant effects on key workers.	0/+ Potential to support key workers by reducing the need to fund a private car for transport.	0/+ Potential to benefit all workers.
17 – To enhance the borough's rural economy	17.1 – To improve transport links in rural areas around Guildford	0 The proposals would change traffic movements and journey times within the town. No likely significant effects on rural areas.	0 The proposals would change traffic movements and journey times within the town. No likely significant effects on rural areas.	0 No likely significant impacts on rural areas.	0 No likely significant impacts on rural areas.	0 No effect	0 No effect

GTAMS Sustainability Assessment Matrix

SA Objectives	SA Sub-Objectives	Sustainability Assessment Matrix						
		Bus priority and corridor improvements - segregation, information systems, stop improvements, signal priority	New segregated or mostly segregated public transport system (BRT/ guided bus / tram / light rail)	Expand workplace shuttle services	Promotion of tele/home working and flexible hours, with incentives to employers	Development of teleworking offices in local areas to reduce commuting distances	Creation of well signed network of walking and cycling routes linking key trip attractors	Improvements to pedestrian realm including replacing overbridges / subways with at-grade crossings, widening pavements etc.
8 – To conserve and enhance biodiversity and the natural environment	8.1 – To avoid transport interventions that would directly impact on protected sites	0 No effect	- Potential for new infrastructure to impact on protected sites. Would need to be taken into account in site selection.	0 No effect	0 No effect	0 No effect	0 Routes would need to be selected to avoid protected sites	0 No effect
	8.2 – To avoid transport interventions that would adversely affect the landscape and natural environment, for example through visual effects, pollution emissions, or loss of habitats	0 No effect	- Potential for new infrastructure to impact on adverse effects on the landscape and natural environment. Would need to be taken into account in site selection.	0 No effect	0 No effect	0 No effect	0 Routes would need to be selected to avoid adverse effects on the landscape and natural environment	0 No effect
9 – To protect, enhance, and where appropriate make accessible, the archaeological and historic environments and cultural assets of Guildford, for the benefit of residents and visitors.	9.1 – To avoid transport interventions that would directly impact on protected resources	0 No effect	- Potential for new infrastructure to impact on adverse effects on protected resources. Would need to be taken into account in site selection.	0 No effect	0 No effect	0 No effect	0 Routes would need to be selected to avoid adverse effects on protected resources.	0 No effect
	9.2 – To provide transport and movement interventions that would improve access to cultural and historic resources	+ Improved access to town centre, where the castle and other historic features are located (depends on route)	+ Improved access to town centre, where the castle and other historic features are located (depends on route)	0 No effect	0 No effect	0 No effect	++ Potential for significant benefits, if trip attractors include cultural sites such as the castle.	+ Improved access to town centre, where the castle and other historic features are located (depends on route)
10 – To achieve a pattern of development which minimises journey lengths and encourages the use of sustainable forms of transport (walking, cycling, bus and rail)	N/A – this objective relates to aspects of spatial development which are outside the remit of GTAMS.	Not assessed	Not assessed	Not assessed	Not assessed	Not assessed	Not assessed	Not assessed
11 – To minimise the use of best and most versatile agricultural land (BVAL) and encourage the remediation of contaminated land.	11.1 – To avoid transport interventions that would result in the loss of BVAL.	0 No effect	- Potential for new infrastructure to impact on adverse effects on BVAL. Would need to be taken into account in site selection.	0 No effect	0 No effect	0 No effect	0 No effect	0 No effect
12 – To reduce waste generation and achieve the sustainable management of waste.	12.1 – To avoid transport interventions that would generate significant volumes of waste (e.g. tunnelling, etc.)	0 No effect	- Would require demolition of buildings, generating significant volumes of waste. Dependant upon route and design.	0 No effect	0 No effect	0 No effect	0 No effect	0 No effect
13 – To maintain and improve the water quality of the borough's rivers and groundwater, and to achieve sustainable water resources management.	13.1 – To avoid transport interventions that would impact on surface or ground water resources	0 No effect	0/- Effect would be dependant on the location and nature of any physical works.	0 No effect	0 No effect	0 No effect	0 No effect	0 No effect
14 – To mitigate the causes and adapt to the effects of climate change through reducing emissions of greenhouse gases	14.1 – To provide transport and movement interventions that avoid or minimise emissions of greenhouse gasses	+ Potential to support a reduction in private car use by making public transport faster and more reliable (when compared to private car use) and therefore contribute towards reduced GHG emissions.	+ Potential to support a reduction in private car use by providing further alternatives that are not as affected by existing congestion and road traffic.	+ Potential to support a reduction in private car use by making it easier to use public transport (e.g. to sites without existing public transport links) and therefore contribute towards reduced GHG emissions.	+ Support a reduction in private car use by reducing or avoiding the need to travel and therefore contribute towards reduced GHG emissions.	+ Support a reduction in private car use by reducing or avoiding the need to travel and therefore contribute towards reduced GHG emissions.	+ Potential to support a reduction in private car use by making walking and cycling more attractive alternative modes of transport to private car use.	+ Potential to support a reduction in private car use by making walking and cycling more attractive alternative modes of transport to private car use.
15 – To maintain Guildford borough and Guildford town's competitive economic role	15.1 – To provide local transport and movement interventions that enhance access to the town centre and key employment sites	+ This will provide faster and potentially more reliable bus travel and help to address factors that may deter car drivers from using the bus network (accuracy of peak hour bus timetables).	+ This will provide a faster and potentially more reliable addition to bus travel which will help to improve accessibility into the town centre and employment sites.	+ This will help to access out of town employment sites that do not have existing frequent peak hour links to public transport hubs. This will help to make these employment sites more attractive to employees and employers.	0 No effect	0 No effect	+ Potential to improve town centre and employment site access by making walking and cycling more attractive alternative modes of transport to private car use through better information.	+ Potential to improve town centre and employment site access by making walking and cycling more attractive alternative modes of transport to private car use by creating a more pleasant environment.
	15.2 – To provide / improve strategic links that will support Guildford's competitive economic role	+ This will provide faster and potentially more reliable bus travel and help to address factors that may deter car drivers from using the bus network (accuracy of peak hour bus timetables).	+ This will provide a faster and potentially more reliable addition to bus travel which will help to improve accessibility into the town centre and employment sites.	+ This will help to access out of town employment sites that do not have existing frequent peak hour links to public transport hubs. This will help to make these employment sites more attractive to employees and employers.	0 No effect	0 No effect	+ Potential to improve town centre and employment site access by making walking and cycling more attractive alternative modes of transport to private car use through better information.	+ Potential to improve town centre and employment site access by making walking and cycling more attractive alternative modes of transport to private car use by creating a more pleasant environment.
16 – To facilitate appropriate development opportunities to meet the changing needs of the economy	16.1 – To provide transport and movement interventions that will benefit key workers living in the borough	0/+ Potential to benefit all workers.	0/+ Potential to benefit all workers.	0/+ Potential to benefit all workers.	0 No effect	0 No effect	0/+ Potential to benefit all workers.	0/+ Potential to benefit all workers.
17 – To enhance the borough's rural economy	17.1 – To improve transport links in rural areas around Guildford	0/+ Potential to benefit depending on extent and distribution.	0/+ Potential to benefit depending on extent and distribution.	0/+ Potential to benefit all workers.	+ Benefit for rural areas by helping to reduce the need to travel or commute.	+ Benefit for rural areas by helping to reduce the need to travel or commute.	0/+ Potential to benefit depending on location.	0 No effect

GTAMS Sustainability Assessment Matrix

SA Objectives	SA Sub-Objectives	Other interventions							
		New wider ped bridge linking Walnut Tree Cls to Bedford Rd car park site, improving links between station and town centre	Low emission vehicles with recharging facilities and priority parking	Low emission public transport / Council fleet	Freight consolidation centre for town centre deliveries plus restrictions on HGVs entering town centre by time of day	New park and ride facilities	Additional rail services on Reading - Gatwick line	New rail halt or station at Park Barn / Surrey Research Park	
8 – To conserve and enhance biodiversity and the natural environment	8.1 – To avoid transport interventions that would directly impact on protected sites	0 No effect	0 No effect	0 No effect	0 Site would need to be selected to avoid protected sites	0 Site would need to be selected to avoid protected sites	0 No effect	0 Not likely to result in land take from protected sites	
	8.2 – To avoid transport interventions that would adversely affect the landscape and natural environment, for example through visual effects, pollution emissions, or loss of habitats	0 No effect	0 No effect	0 No effect	0 Site would need to be selected to avoid adverse effects on the landscape and natural environment	0 Site would need to be selected to avoid adverse effects on the landscape and natural environment	0 No effect	0 Not likely to result in adverse effects on the landscape or natural environment	
9 – To protect, enhance, and where appropriate make accessible, the archaeological and historic environments and cultural assets of Guildford, for the benefit of residents and visitors.	9.1 – To avoid transport interventions that would directly impact on protected resources	0 No effect	0 No effect	0 No effect	0 Site would need to be selected to avoid adverse effects on protected resources.	0 Site would need to be selected to avoid adverse effects on protected resources.	0 No effect	0 Not likely to result in adverse effects on protected resources	
	9.2 – To provide transport and movement interventions that would improve access to cultural and historic resources	+ Improved access to town centre, where the castle and other historic features are located (depends on route)	0 No effect	0 No effect	0 Main benefits likely to occur during peak times. No significant effect of leisure travel.	+ Improved access to town centre, where the castle and other historic features are located.	0 No effect	0 No effect	
10 – To achieve a pattern of development which minimises journey lengths and encourages the use of sustainable forms of transport (walking, cycling, bus and rail)	N/A – this objective relates to aspects of spatial development which are outside the remit of GTAMS.	Not assessed	Not assessed	Not assessed	Not assessed	Not assessed	Not assessed	Not assessed	
11 – To minimise the use of best and most versatile agricultural land (BVAL) and encourage the remediation of contaminated land.	11.1 – To avoid transport interventions that would result in the loss of BVAL.	0 No effect	0 No effect	0 No effect	0 Site would need to be selected to avoid adverse effects on BVAL	0 Site would need to be selected to avoid adverse effects on BVAL.	0 No effect	0 Not likely to result in adverse effects on BVAL.	
12 – To reduce waste generation and achieve the sustainable management of waste.	12.1 – To avoid transport interventions that would generate significant volumes of waste (e.g. tunnelling, etc.)	0 No effect	0 No effect	0 No effect	- Depending on location there is the potential for construction to generate waste (e.g. earthworks and/or demolition). Would need to be taken into account in site selection.	- Depending on location there is the potential for construction to generate waste (e.g. earthworks and/or demolition). Would need to be taken into account in site selection.	0 No effect	- Depending on location there is the potential for construction to generate waste (e.g. earthworks and/or demolition). Would need to be taken into account in site selection.	
13 – To maintain and improve the water quality of the borough's rivers and groundwater, and to achieve sustainable water resources management.	13.1 – To avoid transport interventions that would impact on surface or ground water resources	0 No effect	0 No effect	0 No effect	0/- Effect would be dependant on the location and nature of any physical works.	0/- Effect would be dependant on the location and nature of any physical works.	0 No effect	0/- Effect would be dependant on the location and nature of any physical works.	
14 – To mitigate the causes and adapt to the effects of climate change through reducing emissions of greenhouse gases	14.1 – To provide transport and movement interventions that avoid or minimise emissions of greenhouse gasses	+ Potential to support a reduction in private car use by making walking a more attractive alternative mode of transport to private car use.	+ Directly supports greenhouse gas emission reductions by making it easier for drivers to use low emission vehicles to access the town centre.	++ Directly supports greenhouse gas emission reductions by 'decarbonising' public transport system.	+ Directly supports greenhouse gas emission reductions by reducing the total number of vehicle movements within the Town Centre.	+ Potential to support a reduction in private car use - particularly in the centre of Guildford - and reduce overall GHG emissions associated with cars being used in urban areas / Town Centre.	+ Directly supports greenhouse gas emission reductions by providing greater capacity within the existing rail network and supporting modal shift (i.e. less carbon intensive modes of transport).	+ Directly supports greenhouse gas emission reductions by increasing access to the existing rail network and supporting modal shift (i.e. less carbon intensive modes of transport).	
15 – To maintain Guildford borough and Guildford town's competitive economic role	15.1 – To provide local transport and movement interventions that enhance access to the town centre and key employment sites	+ Potential to improve town centre and employment site access by making walking a more attractive alternative mode of transport to private car use by creating a more pleasant environment.	0 No effect	0 No effect	+ Indirectly this helps to improve access to the town centre by removing HGV movements and making the town centre a more attractive location for pedestrians and cyclists.	+ Potential to enhance accessibility to the centre of Guildford and thereby indirectly contribute to the town and borough's economic role.	++ This has the potential to support economic competitiveness by increasing the accessibility of Guildford and the borough to the wider area and the South East.	++ This has the potential to support economic competitiveness by increasing the accessibility of Guildford, the Surrey Research Park, and the borough to the wider area and the South East.	
	15.2 – To provide / improve strategic links that will support Guildford's competitive economic role	+ Potential to improve town centre and employment site access by making walking and cycling more attractive alternative modes of transport to private car use by creating a more pleasant environment.	0 No effect	0 No effect	+ Indirectly this helps to improve access to the town centre by removing HGV movements and making the town centre a more attractive location for pedestrians and cyclists.	+ Potential to enhance accessibility to the centre of Guildford and thereby indirectly contribute to the town and borough's economic role.	++ This has the potential to support economic competitiveness by increasing the accessibility of Guildford and the borough to the wider area and the South East.	++ This has the potential to support economic competitiveness by increasing the accessibility of Guildford, the Surrey Research Park, and the borough to the wider area and the South East.	
16 – To facilitate appropriate development opportunities to meet the changing needs of the economy	16.1 – To provide transport and movement interventions that will benefit key workers living in the borough	0/+ Potential to benefit all workers.	0/+ Potential to benefit all workers.	0 No effect	0 No effect	0/+ Potential to benefit all workers.	0/+ Potential to benefit all workers.	0/+ Potential to benefit all workers.	
17 – To enhance the borough's rural economy	17.1 – To improve transport links in rural areas around Guildford	0 No effect	0 No effect	0 No effect	0 No effect	0/+ Potential to benefit depending on extent and distribution.	0 No effect	0 No effect	

GTAMS Sustainability Assessment Matrix

SA Objectives	SA Sub-Objectives					Sustainable Movement Corridor
		New rail halt or station at Merrow	Reinstatement of rail services along corridor between Cranleigh and Guildford	Improved rail access to Heathrow	Increased capacity for services between Guildford and Waterloo	
8 – To conserve and enhance biodiversity and the natural environment	8.1 – To avoid transport interventions that would directly impact on protected sites	0 Not likely to result in land take from protected sites	- Potential for new infrastructure to impact on protected sites. Would need to be taken into account in site selection.	- Potential for new infrastructure to impact on protected sites. Would need to be taken into account in site selection.	0 N / A	0 Routes would need to be selected to avoid protected sites
	8.2 – To avoid transport interventions that would adversely affect the landscape and natural environment, for example through visual effects, pollution emissions, or loss of habitats	0 Not likely to result in adverse effects on the landscape or natural environment	- Potential for new infrastructure to impact on the landscape and natural environment. Would need to be taken into account in site selection.	- Potential for new infrastructure to impact on the landscape and natural environment. Would need to be taken into account in site selection.	0 No effect	0 Routes would need to be selected to avoid adverse effects on the landscape and natural environment
9 – To protect, enhance, and where appropriate make accessible, the archaeological and historic environments and cultural assets of Guildford, for the benefit of residents and visitors.	9.1 – To avoid transport interventions that would directly impact on protected resources	0 Not likely to result in adverse effects on protected resources	- Potential for new infrastructure to impact on protected resources. Would need to be taken into account in site selection.	- Potential for new infrastructure to impact on protected resources. Would need to be taken into account in site selection.	0 No effect	0 Likely to be within the existing highway network. If off-line sections are included, location would need to be selected to avoid adverse effects on protected resources.
	9.2 – To provide transport and movement interventions that would improve access to cultural and historic resources	0 No effect	0 No effect	0 No effect	0 No effect	+ Improved access to town centre, where the castle and other historic features are located.
10 – To achieve a pattern of development which minimises journey lengths and encourages the use of sustainable forms of transport (walking, cycling, bus and rail)	N/A – this objective relates to aspects of spatial development which are outside the remit of GTAMS.	Not assessed	Not assessed	Not assessed	Not assessed	Not assessed
11 – To minimise the use of best and most versatile agricultural land (BVAL) and encourage the remediation of contaminated land.	11.1 – To avoid transport interventions that would result in the loss of BVAL.	0 Not likely to result in adverse effects on BVAL.	- Potential for new infrastructure to impact on BVAL. Would need to be taken into account in site selection.	- Potential for new infrastructure to impact on BVAL. Would need to be taken into account in site selection.	0 No effect	0 No effect. Likely to be within existing highway network and therefore limited risk to BVAL.
12 – To reduce waste generation and achieve the sustainable management of waste.	12.1 – To avoid transport interventions that would generate significant volumes of waste (e.g. tunnelling, etc.)	- Depending on location there is the potential for construction to generate waste (e.g. earthworks and/or demolition). Would need to be taken into account in site selection.	- Depending on location there is the potential for construction to generate waste (e.g. earthworks and/or demolition). Would need to be taken into account in site selection.	0 No effect	0 No effect	- Depending on location and nature of works there is the potential for construction to generate waste (e.g. earthworks and/or demolition). Would need to be taken into account in site selection.
13 – To maintain and improve the water quality of the borough's rivers and groundwater, and to achieve sustainable water resources management.	13.1 – To avoid transport interventions that would impact on surface or ground water resources	0/- Effect would be dependant on the location and nature of any physical works.	0/- Effect would be dependant on the location and nature of any physical works.	0 No effect	0 No effect	0/- Effect would be dependant on the location and nature of any physical works.
14 – To mitigate the causes and adapt to the effects of climate change through reducing emissions of greenhouse gasses	14.1 – To provide transport and movement interventions that avoid or minimise emissions of greenhouse gasses	+ Directly supports greenhouse gas emission reductions by increasing access to the rail network and supporting modal shift (i.e. less carbon intensive modes of transport).	+ Directly supports greenhouse gas emission reductions by increasing access to the existing rail network and supporting modal shift (i.e. less carbon intensive modes of transport).	+ Directly supports greenhouse gas emission reductions by increasing access to the rail network and supporting modal shift (i.e. less carbon intensive modes of transport).	+ Directly supports greenhouse gas emission reductions by increasing access to the rail network and supporting modal shift (i.e. less carbon intensive modes of transport).	+ Potential to support a reduction in private car use by making public transport, walking and cycling more attractive alternative modes of transport to private car use.
15 – To maintain Guildford borough and Guildford town's competitive economic role	15.1 – To provide local transport and movement interventions that enhance access to the town centre and key employment sites	+ Potential to enhance accessibility to the centre of Guildford and thereby indirectly contribute to the town and borough's economic role.	+ Potential to enhance accessibility to the centre of Guildford and thereby indirectly contribute to the town and borough's economic role.	++ This has the potential to support economic competitiveness by increasing the accessibility of Guildford and the borough to the wider area, South East and abroad.	++ This has the potential to support economic competitiveness by increasing the accessibility of Guildford, the Surrey Research Park, and the borough to the wider area and the South East.	+ This will provide faster and potentially more reliable bus travel and help to address factors that may deter car drivers from using the bus network (accuracy of peak hour bus timetables). Will improve access by bicycle and walking.
	15.2 – To provide / improve strategic links that will support Guildford's competitive economic role	+ Potential to enhance accessibility to the centre of Guildford and thereby indirectly contribute to the town and borough's economic role.	+ Potential to enhance accessibility to the centre of Guildford and thereby indirectly contribute to the town and borough's economic role.	++ This has the potential to support economic competitiveness by increasing the accessibility of Guildford and the borough to the wider area, South East and abroad.	++ This has the potential to support economic competitiveness by increasing the accessibility of Guildford, the Surrey Research Park, and the borough to the wider area and the South East.	+ This will provide a faster and potentially more reliable addition to bus travel which will help to improve accessibility into the town centre and employment sites. Will improve access by bicycle and walking.
16 – To facilitate appropriate development opportunities to meet the changing needs of the economy	16.1 – To provide transport and movement interventions that will benefit key workers living in the borough	0/+ Potential to benefit all workers.	0/+ Potential to benefit all workers.	0/+ Potential to benefit all workers.	0/+ Potential to benefit all workers.	0/+ Potential to benefit all workers.
17 – To enhance the borough's rural economy	17.1 – To improve transport links in rural areas around Guildford	++ This has the potential to improve access to non-car modes of transport for residents living in Merrow.	++ This has the potential to improve access to non-car modes of transport along this route.	0 No effect	0 No effect	0 No likely significant impacts on rural areas.