



London Borough of Richmond upon Thames

Local Development Framework

**Pre-Publication
Twickenham Area Action Plan**

Sustainability Appraisal

November 2011

NON-TECHNICAL SUMMARY

1 Introduction

This document forms the Sustainability Appraisal (SA), incorporating the requirements for a Strategic Environmental Assessment (SEA), of the Pre-Publication Twickenham Area Action Plan (AAP). This report investigates the likely significant impacts on Twickenham and the wider area in terms of the contribution towards sustainability that might arise if the proposals and policies set out in the Pre-Publication Twickenham Area Action Plan are implemented.

1.1 The Purpose of the SA/SEA

The purpose of the SA (incorporating SEA) is to ensure that environmental, social and economic considerations have been integrated into the preparation of the Twickenham Area Action Plan. The SA will:

- Ensure compliance with the SEA Directive, SEA Regulations and guidance on SEA/SA;
- Review the Local Development Framework's (LDF) relationship with other sectoral plans, and plans operating at a national, regional and more local level with regard to their policies and programmes;
- Establish the baseline environmental, social and economic characteristics of the area;
- Identify any current environmental constraints, issues and problems;
- Help develop viable options and alternatives; and
- Review the sustainability impacts of the options, and of the preferred option.

1.2 Methodology

The SEA/SA process consists of the following stages and is being undertaken in accordance with government guidance contained within the [CLG Plan making manual](#) on Sustainability Appraisals, launched in September 2009, which replaces the 2005 government guidance on 'Sustainability Appraisal of Regional Spatial Strategies and Local Development Documents'.

The methodology is as follows:

- Stage A: Setting the context and objectives, establishing the baseline and deciding on the scope
- Stage B: Developing and refining options
- **Stage C: Preparing the SA Report and appraising the effects of the Plan**
- **Stage D: Consulting on the Plan and the SEA/SA report (current stage)**
- Stage E: Monitoring Implementation of the Plan

Note that the Council has consulted on the draft Scoping Report in February 2011 (Stage A) and a revised Scoping Report was published in May 2011. In June 2011, the consultation on Sustainability Appraisal of the scenarios and options of the Twickenham AAP was carried out (Stage B), which also included Stage A5 (Testing the plan objectives against the SA framework), as the objectives were still being developed and formulated during the scoping.

Scope of the SA/SEA

Baseline data and the development of the SEA/SA framework has been organised in accordance with the topics required by the SEA Directive and as outlined in the CLG Plan Making Manual. The scope of the baseline review has been refined to cover a broader spectrum of sustainability issues, which are a reflection of the combined SEA/SA assessment.

2 Pre-Publication Twickenham Area Action Plan

2.1 Introduction, proposals and policies

The Twickenham Area Action Plan (AAP) will form part of the Local Development Framework (LDF) and set out an overall strategy for the future of Twickenham town centre. The plan will cover the period up to 2027 and will be vital to the promotion of a prosperous local economy and investment.

Other Plans in the LDF are the [Core Strategy](#) (2009), which promotes the revitalisation of the town centre to create a high quality district centre, serving local residents, workers and visitors, and the [Development Management Plan](#) (2011), which sets out more detailed policies for the control of new development including policies for housing, retail and employment, design and limitations on building heights.

For Twickenham, the Area Action Plan will focus on creating a strong employment location, district retail centre, visitor and tourist destination and centre for sports, leisure arts and cultural activities as well as a more diverse evening economy. High quality, sustainable and accessible design and improvements to the environment, traffic management, public transport and pedestrian and cycle links will be required through redevelopment and refurbishment of under utilised land and buildings and creation of new public spaces. The proposals and policies contained within the Twickenham AAP are as follows:

- The spatial strategy
- The transport strategy
- Environmental improvements
- Land use policies
- Area specific proposals

The spatial strategy

The Plan seeks to reinforce the distinctiveness of the five character areas which make up the town centre. The Northern approach around the station will be improved as an entrance to the town and a place to go, with the redevelopment of key sites. The retail core will be reinforced by improving the range and quality of the retail offer with the core retail zone focusing around the junction of King Street, York Street and London Road, including the specialist retail area on Church Street, which could be extended into Water Lane. The food, beverage and convenience retail will be focused between London Road and York Street, and household goods and DIY on Heath Road. The civic and cultural area around York House will be made more of and Twickenham Riverside transformed.

The transport strategy

Address transport and movement in a comprehensive and sustainable way, with the focus on reducing the dominance of vehicular traffic, allowing the creation of an improved pedestrian environment in the retail core and improved links to it. The transport strategy for the AAP consists of a phased programme of improvements and traffic management.

Environmental improvements

Protect and restore features of the existing built and natural environment which have historical, architectural or amenity value. This includes upgrades to existing and creation of new public open/civic spaces, ensuring that redevelopment and transport proposals incorporate environmental improvements, and providing new/well designed and coordinating street furniture and signage. Improved lighting will be installed throughout the town.

Land use policies

The focus of the AAP is to improve Twickenham as a retail centre but it also provides for a wider range of community, leisure and entertainment facilities, which would attract more people to the town centre and generate a higher level of expenditure and more diverse retailer representation. Policies from the adopted Core Strategy and Development Management Plan are applicable to Twickenham and for some land uses these will be sufficient. For other land uses, new policies, specific to Twickenham, will be needed. The specific policies to Twickenham are in relation to retail, employment and economic development.

Area specific proposals

The options for the specific sites have been appraised during the previous SA stage. The key sites and area specific proposals as set out in the AAP are as follows:

- Twickenham Station
- Heatham House
- Former Post Office sorting office and open land south of River Crane
- Station Yard
- Regal House
- York House, York House Gardens, Civic Centre and environs
- Telephone Exchange Garfield Road
- Police Station
- Twickenham riverside and approaches

3 Sustainability Appraisal of the proposals and policies

The development and appraisal of the proposals and policies contained within the draft Plan is an iterative process. This process started with appraising the options and scenarios, which were fully informed by Sustainability Appraisal (see SA Progress Report, June 2011). The options and scenarios were then refined to take account of the appraisal and consultation process. The proposals and policies of the Pre-Publication Twickenham Area Action Plan have been fully informed by Sustainability Appraisal and this report presents the outcomes of that Sustainability Appraisal. The Twickenham Area Action Plan must be in accordance with the national, regional and LDF (Core Strategy and Development Management Plan) policies unless there is good evidence to support a different approach.

The proposals and policies of the Pre-Publication Twickenham AAP have been informed by public consultation on the options and scenarios, which was for a six week period from Friday 10 June to Friday 22 July 2011. The main consultation document consisted of a [consultation leaflet](#), setting out the vision, objectives and strategic options and scenarios. This was accompanied by a [Sustainability Appraisal](#), which assessed the environmental, social and economic impacts of the options and scenarios.

The options consultation consisted of a series of events and meetings. Whilst many of the responses were in the form of questionnaires, the results of general and specific meetings were recorded and taken into account, together with initial feasibility work, in the final

analysis. The results of the options consultation can be viewed in a [Summary of all consultation on the options stage](#), or in the [Full report of options consultation](#).

The comments made at the options consultation stage and other research and consultation, including feasibility, have determined the way forward. Following consideration of the options consultation, the Pre-Publication version of the Plan, which is fully informed by Sustainability Appraisal (Stage C), has been prepared.

The proposals and policies of the Twickenham AAP will be publicly consulted upon from 16 December 2011 until 10 February 2012. The process of developing the proposals and policies for Twickenham town centre has been informed by a Sustainability Appraisal to ensure that the Plan is the most sustainable when considered against alternatives.

4 Results and conclusions of the Sustainability Appraisal

The Sustainability Appraisal has recognised that the Twickenham AAP has an important role to play in the sustainable development of this area and the wider borough.

The proposed AAP objectives provide the foundation for the development of proposals and policies for the town centre. However, these objectives are stronger for some areas, such as economic development and retail, than for other areas such as protection of the natural environment or delivery of housing. However, it is recognised that the AAP needs to be in general conformity with higher level plans, including the LDF Core Strategy and Development Management Plan, and in these plans, the objectives cover environmental protection and housing delivery in some detail, so that taking the LDF as a whole the objectives are balanced.

The AAP assessed in this document may have positive and negative impacts in seeking the revitalisation of Twickenham. The positive as well as negative impacts will increase, the more action and intervention is taken. A balanced approach will be required and all impacts and consequences need to be understood prior to taking any actions. Any mitigation measures needed as a result of proposed actions need to be carefully considered to ensure that the outcomes are the most sustainable. Possible dis-benefits of some of the proposals might be mitigated by adjusting the details of the proposals. The Sustainability Appraisal makes recommendations on how sustainability measures could be incorporated into the AAP to mitigate some of these impacts.

Sustainability Appraisal Progress Report

TABLE OF CONTENTS

NON-TECHNICAL SUMMARY	2
1 INTRODUCTION	8
1.1 Strategic Environmental Assessment / Sustainability Appraisal.....	8
1.2 First Stage (A): Scoping Report.....	9
1.3 Second Stage (B): Developing and refining options and assessing effects	10
1.4 Third Stage (C): Preparing the SA report.....	10
1.5 Fourth Stage (D): Consulting on the draft plan (Pre-Publication) and SA report.....	10
1.6 Development of the Twickenham Area Action Plan (AAP)	11
2 OTHER PLANS AND STRATEGIES.....	12
3 BASELINE CHARACTERISATION OF THE BOROUGH AND AAP AREA	15
3.1 Introduction	15
3.2 Summary of key baseline information.....	15
3.3 Twickenham – SWOT Analysis.....	20
4 IDENTIFYING SUSTAINABILITY ISSUES	22
5 SUSTAINABILITY APPRAISAL FRAMEWORK.....	23
5.1 Introduction	23
5.2 SA Objectives.....	23
6 THE TWICKENHAM AREA ACTION PLAN	25
6.1 Vision.....	25
6.2 Objectives.....	25
6.3 Proposals and policies	26
6.4 The Spatial Strategy.....	26
6.5 The Transport Strategy	27
6.6 Environmental Improvements	27
6.7 The Land Use Policies	27
6.8 Area Specific Proposals.....	28

7	TESTING THE PROPOSALS AND POLICIES OF THE PLAN.....	29
7.1	Introduction and methodology.....	29
7.2	Summary of assessment of proposals and policies.....	30
8	MONITORING PROPOSALS	31
9	NEXT STAGES.....	32
10	GLOSSARY	33
	APPENDIX 1 – Relevant policies, plans and programmes	38
	APPENDIX 2 – Sustainability issues	41
	APPENDIX 3 – Proposed Sustainability Appraisal Monitoring Framework	48
	APPENDIX 4 – Sustainability Appraisal matrices of proposals and policies ..	57

1 INTRODUCTION

1.1 Strategic Environmental Assessment / Sustainability Appraisal

1.1.1 The Planning and Compulsory Purchase Act 2004 requires that the Regional Spatial Strategy and Local Development Documents be subject to a Sustainability Appraisal, which will incorporate the requirements of the Strategic Environmental Assessment (SEA) Directive.

1.1.2 This document forms the Sustainability Appraisal (SA) for the Pre-Publication Twickenham Area Action Plan (AAP), which is part of the London Borough of Richmond upon Thames Local Development Framework (LDF). The work on the Twickenham AAP has been fully informed by SA. Firstly, the SA Scoping Report for the AAP, which was consulted upon from 18 February until 1 April 2011, has been used as baseline document for the AAP. This document was subsequently revised as a result of the consultation responses and the [revised Scoping Report](#) was published in May 2011. Options and scenarios for Twickenham, which were fully informed by SA and the results of which were published in the [SA Progress Report](#), dated June 2011, were consulted upon from Friday 10 June to Friday 22 July 2011. The options and scenarios were then refined to take account of the appraisal and consultation process. The proposals and policies of the Pre-Publication Twickenham Area Action Plan have been fully informed by SA and this report presents the outcomes of the SA.

1.1.3 A Sustainability Appraisal is a systematic process that attempts to predict and assess the economic, environmental and social effects that may arise from the LDF. The SA should¹:

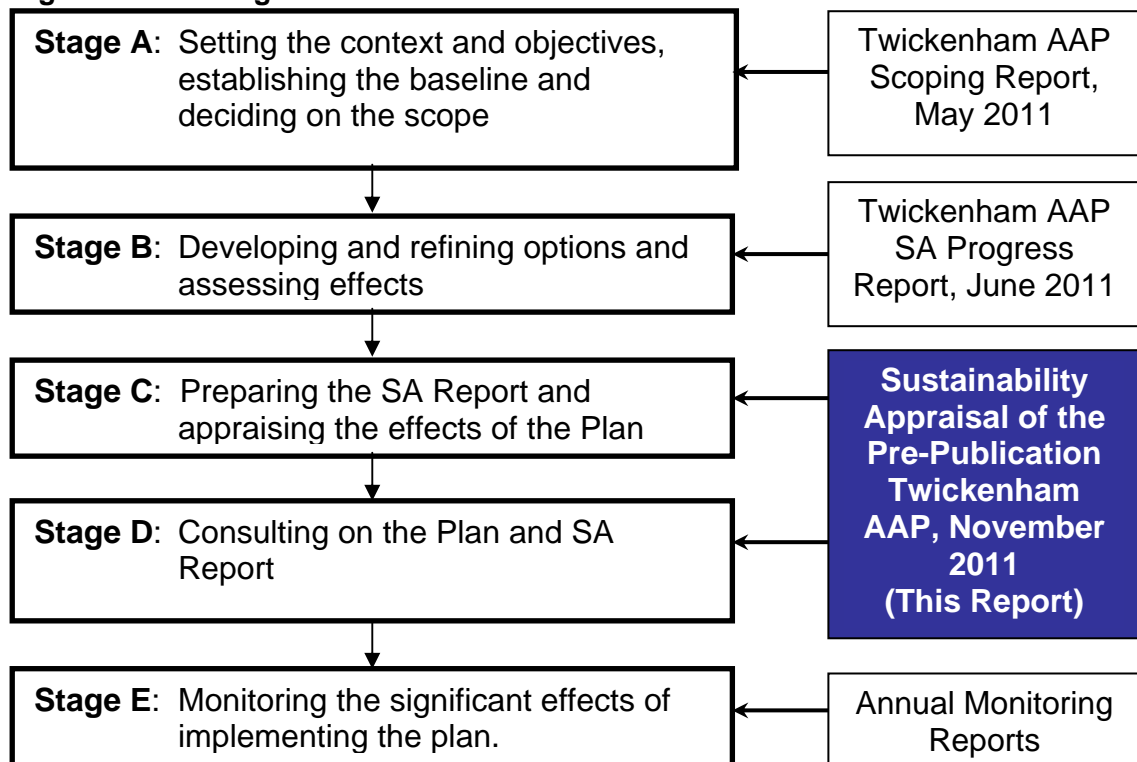
- Take a long term view of how the area covered by the Plan is expected to develop, taking account of social, environmental and economic effects of the proposed plan;
- Provide a mechanism for ensuring that sustainability objectives are translated into sustainable planning policies;
- Reflect global, national and local concerns;
- Provide an audit trail of how the plan has been revised to take account the findings of the SA;
- Form an integral part of all stages of plan preparation, and incorporate the requirements of the European Directive 2001/42/EC “on the assessment of the effects of certain plans and programmes on the environment”, the SEA Directive.²

¹ CLG Plan Making Manual: <http://www.pas.gov.uk/pas/core/page.do?pagelid=152450>

² 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”.

- 1.1.5 The five stages to be carried out during the Sustainability Appraisal are set out in Figure 1 below.

Figure 1: Five stages to SA



1.2 First Stage (A): Scoping Report

- 1.2.1 For the purpose of the Twickenham AAP, the LDF SA Scoping Report (available on http://www.richmond.gov.uk/sustainability_appraisal_ldf) has been revised. The SA Scoping Report for the Twickenham AAP is the result of the first stage in the SA process and it includes baseline information and key environmental issues for the borough and Twickenham. From this information, objectives and indicators have been produced. The objectives form part of the SA framework against which the Twickenham AAP will be assessed. Note that whilst the SA Scoping Report was scoping borough-wide, specific Twickenham details were included in some sections.
- 1.2.2 The [draft SA Scoping Report for the Twickenham AAP](#), which was consulted on from 18 February to 1 April 2011, was a consultation document for the three statutory consultees with environmental responsibilities in England, along with other relevant stakeholders with a sustainability remit. The Council asked for the views of the statutory consultees and any other organisation with interest in sustainability to ascertain whether the Scoping Report addresses the right issues.
- 1.2.3 The Council considered all the submitted responses on the SA Scoping Report. Revisions to the SA Scoping Report, including to the SA Framework and SA objectives (see Table 3 below), have been made as a result of the consultation, and the [Revised SA Scoping Report for the Twickenham AAP \(May 2011\)](#) can be downloaded from the Council's website: http://www.richmond.gov.uk/sustainability_appraisal_ldf

1.3 Second Stage (B): Developing and refining options and assessing effects

1.3.1 Stage B involves:

- Comparing the aims and objectives of the Twickenham Area Action Plan with the 15 sustainability objectives developed as part of the Sustainability Appraisal;
- Developing alternatives to the plan and appraising the options and scenarios set out within the plan; and
- Producing a first draft of a Sustainability Appraisal of those options.

The scenarios and options developed for the Twickenham Area Action Plan were assessed against the 15 sustainability objectives and the results of this assessment were presented in the [Sustainability Appraisal Progress Report](#), dated June 2011. This report showed the results of the assessment and the extent to which the scenarios and options raised in the Area Action Plan help to achieve the relevant sustainability objectives. In addition, at this stage the objectives of the AAP were 'tested' for compatibility against the SA objectives and were also tested for compatibility with one another. Consultation was carried out on the scenarios and options for Twickenham, including the SA Progress Report, from Friday 10 June to Friday 22 July 2011.

1.4 Third Stage (C): Preparing the SA report

1.3.1 Stage C involves:

Stage C1: Preparing the SA Report

- Predict and assess the environmental, social and economic effects of the preferred proposals and policies of the draft Plan.
- Develop proposals for monitoring.
- Produce the Sustainability Appraisal report.

The proposals and policies for the Twickenham Area Action plan, which have been refined following the consultation on the scenarios and options, have been assessed against the 15 sustainability objectives and the results of which are presented in the SA report – this document.

The purpose of this SA Report is intended to complete Stage C of the appraisal process. This stage is similar to Stage B, but at Stage C the preferred options, proposals and policies are appraised. This SA report will be available for consultation alongside the draft Plan (Pre-Publication Twickenham AAP) during 16 December 2011 to 10 February 2012. The appraisal stages completed for this report reflect the advice of Stage B with the testing of the content of the AAP against the sustainability objectives developed for appraisal.

1.5 Fourth Stage (D): Consulting on the draft plan (Pre-Publication) and SA report

1.5.1 Stage D involves:

- D1: Public participation on the SA Report and draft Plan**
- D2: Assessing significant changes**

- Consultation on the draft Plan, which is the Pre-Publication Twickenham Area Action Plan.

At this stage we will consult on the draft plan and accompanying Sustainability appraisal to find out whether the SA is correct, or if proposals and policies contained within the plan could be made more sustainable – this consultation document.

Stage D2 will be carried out following the consultation on the Pre-Publication of the Twickenham AAP, at which stage it will be determined whether any further changes are required to the AAP. Any subsequent changes will then be incorporated into the Submission version of the AAP, which will be again consulted on and accompanied by Sustainability Appraisal.

1.6 Development of the Twickenham Area Action Plan (AAP)

- 1.4.1 The LDF for the London Borough of Richmond upon Thames will guide development in the future and is made up of a series of documents, prepared in stages. More information on the LDF can be viewed on the [Council's website](#)³. This includes the Local Development Scheme which sets out the programme for the production of documents (see Table 1).

Table 1: Timetable for production of key Development Plan Documents (DPDs)

Name	Function	Dates
Core Strategy DPD	Vision, Strategic policies	Adopted in April 2009
Development Management Plan (DMP)	Detailed policies	Adopted in November 2011
Twickenham AAP	Proposals and policies for Twickenham	Issues – Summer 2010 Options – June/July 2011 Pre-Publication – Winter 2011 Publication & Submission – Summer 2012 Examination in Public – Autumn 2012 Adoption – early 2013
Site Allocations DPD	Proposals for sites	Issues – Summer 2012 Pre-Publication – Winter 2012 Publication & Submission – Spring 2013 Examination in Public – Summer 2013 Adoption – Winter 2013

- 1.4.2 The Core Strategy was adopted in April 2009. It outlines the vision, spatial strategy and 20 core planning policies on topics such as climate change, housing, employment and retailing. The Core Strategy provides the framework for other DPDs within the LDF to build upon, with more detailed policies and to guide development control decisions.
- 1.4.3 The Development Management Plan (DMP) builds on the Core Strategy and includes more detailed policies for the management of development. The DMP was adopted on 1 November 2011.

³ http://www.richmond.gov.uk/home/environment/planning/local_development_framework.htm

- 1.4.4 The Core Strategy objectives are taken forward in the DMP. The Council is now in the pre-publication stage of the Area Action Plan for Twickenham Town Centre, which will be part of the Council's Local Development Framework. This Twickenham AAP will follow the Core Strategy and DMP objectives, and will be in general conformity with regional (adopted London Plan 2011) as well as national policy.
- 1.4.5 The timetable for the SA work is directed by the programme by which the AAP is prepared and goes through successive stages of consultation, development, examination and adoption (see Table 2 above for further details).

2 OTHER PLANS AND STRATEGIES

- 2.1.1 A comprehensive review of relevant Plans, Policies and Programmes (PPPs) was carried out as part of the Scoping Stage (A) in order to ensure that the SA framework and objectives are not in conflict with those in other PPPs and to highlight areas of potential conflict, which may need to be addressed, such as meeting development needs whilst protecting biodiversity and heritage.
- 2.1.2 A full list of all relevant PPPs can be found in Appendix 1 of this Report. These represent legislation from international to local level and in general terms the lower level plans at national and regional level will have increasing relevance and bearing on the emerging plan. In most instances, lower-tier PPPs would already reflect the higher tier requirements, unless they have been more recently produced or revised. A comprehensive analysis of the relationships with the PPPs can be found in Appendix 1 of the Twickenham AAP Scoping Report (May 2011). Note that the National Planning Framework will replace the current PPGs and PPS's with one document early in 2012. The draft has been taken into account as appropriate and at the next stage the SA will be updated to take account of adopted guidance.
- 2.1.3 The key findings from the PPP analysis for the LDF are set out below:

Sustainable Development

LDF documents should be based upon the principles of sustainable development and provide a sustainable spatial vision and objectives. Sustainable development requires economic growth that supports social progress and respects the environment; economic growth, social cohesion and environmental protection therefore must go hand in hand. Key areas of sustainable development are to mitigate and adapt to climate change, protect and enhance the environment, ensure social cohesion and inclusion, manage natural resources more prudently and responsibly and ensure that economic development is sustainable. Therefore, sustainable development should be at the heart and core principle of all LDF documents.

Climate Change

The London Borough of Richmond upon Thames is required to focus on reducing carbon emissions to assist the UK in meeting its legally binding target of 80% reduction in emissions (of 1990 levels) by 2050, and the London-wide target of 60% (of 1990 levels) by 2025. Policies should address climate change and ensure that all new developments reduce carbon emissions, and encourage existing developments to reduce their emissions. The overall aim should be to create sustainable communities with low carbon emissions that are resilient to the effects of climate change through focusing on climate change mitigation and adaptation. The costs associated with taking preventative action will be much less than those associated with dealing with consequences if action is not taken now, according to the Stern Review. Therefore, LDF documents will need to aim to reduce carbon emissions to

mitigate the effects of climate change, and ensure that predicted changes are taken into account in order to create adaptable communities and buildings.

Biodiversity and nature conservation

The nature conservation status of areas in the borough must be taken into account. An Appropriate Assessment will be required of the potential environmental impacts of the LDF on Natura 2000 sites designated under the Habitats Directive. Policies should ensure that areas designated for nature conservation purposes, threatened species and habitats are protected and that development does not have a detrimental impact on biodiversity. The aim should be to enhance biodiversity wherever possible.

Waste Management

The LDF policies should reflect the principles of sustainable waste management, that is to Prevent waste, Prepare for re-use, Recycle & Compost; and Recovery of energy and materials with disposal as the last resort. The LDF must contribute to the national commitment to cut biodegradable municipal waste going to landfill to 75% of 1995 level by 2010, 50% of 1995 level by 2013, and 35% of 1995 level by 2020. The LDF policies will need to support these targets and encourage waste reduction, efficient use of raw materials, increased use of recycled materials and composting in the borough.

Flood Risk

The LDF should aim to reduce the risks of flooding to people/properties and ensure that flooding is given appropriate weight when considering the location and design of new development. A Strategic Flood Risk Assessment should inform the LDF policies and decisions on the location and design of development. The LDF should not promote development in unsustainable locations, such as high flood risk areas, and should not allow development that might increase the risk of flooding to others.

Energy and renewable energy

The LDF needs to consider the way energy is supplied and encourage zero- and low-carbon energy technologies. The aims should be to reduce the contribution to climate change by minimising emissions of carbon dioxide through energy efficiency, combined heat and power, decentralised energy, renewable energy and other technologies. This should also align with the aim of tackling fuel poverty. Production of energy from renewable sources represents a complimentary strategy for meeting targets for reducing carbon emissions. Development that produces renewable energy and use of renewable energy in new developments should be supported.

Pollution and contamination

LDF policies should ensure there is no additional pollution (pollution of land, water, air and noise) from new development and road traffic, and the discharges to the environment associated with any development should be considered and mitigated. The issues of pollution are closely linked with the key areas of water quality, air quality and noise (see below). Policies in the LDF should also consider any contamination effects of development as well as encourage remediation and the re-use of contaminated land.

Water quality and resources

Improving water quality, which includes surface water, ground water and rivers, should be an aim within the LDF. Policies should ensure that water quality is protected and improved where possible, and that developments do not have any detrimental impact on both water quality and water resources. The LDF should also ensure that developments meet challenging water consumption targets in order to address the issue of water scarcity in London. In addition, the LDF should assist in

achieving the target for the ecological status of the borough's rivers, which is "good ecological potential" by 2027.

Air Quality

The LDF should consider the potential that new development, buildings and transport may have adverse impacts on the air quality and potentially increase air pollution. The LDF should take into account the Richmond upon Thames and associated Air Quality Action Plan to meet National Air Quality Strategy targets.

Noise

Measures to reduce and mitigate noise impacts on people, noise-sensitive land uses and biodiversity are required. Noise mapping should be employed to address noise issues and identify areas where noise is detrimental to the health of the environment and the population. Appropriate measures should be considered for reducing and mitigating noise around people and noise sensitive land uses. LDF policies should address noise implications by considering location, design and layout of development.

Transport

Sustainable travel and the promotion of sustainable modes of transport should be integral to the LDF. Policies in the LDF should focus on sustainable transport and include reducing car-dependent development, increase other forms of transport use and promote vibrancy and economic activity in town centres. The LDF should facilitate more walking and cycling, improve linkages and ensure there are sufficient public transport linkages between homes, work places, local services and amenities. Making transport systems more efficient and safer, dealing with direct and indirect impact of road traffic, providing travel choice and accessibility for all are key issues to consider in the LDF. Sustainable modes of transport will also help to achieve the objectives in relation to air and noise pollution.

Housing and economic development

The provision of new homes, commercial premises, infrastructure and transport must be in line with the principles of sustainable development in order to promote sustainable economic growth and social inclusion whilst protecting the environment. This requires a holistic approach to development with locations of residential, commercial and retail outlets taken into account alongside the methods of transport between them. All buildings, including new homes as well as non-domestic buildings, should achieve high levels of environmental ratings to mitigate and adapt to climate change. The LDF should aim to create sustainable housing and consider issues such as design, mixtures of housing types and tenures, associated open amenity spaces and proximity to local centres. The LDF should also maximise the provision of affordable accommodation that meets the needs of the community. Well planned tourism development, such as the regeneration of urban areas, can bring many benefits for local economies and the environment. Policies on housing and economic development also need to consider the potential impacts on the natural environment that could arise from creating new homes, industry and commerce.

Open spaces, recreation and heritage

Open and recreational spaces are essential to the concept of sustainable development. Therefore, LDF documents should focus on the protection and enhancement of open spaces, ensure that facilities are accessible to all and promote social inclusion and health. The LDF should also encourage developments that enhance creativity and culture within the borough and consider the impact of developments on the built / historic environment and cultural heritage.

Social environment, health and wellbeing

Decisions made in spatial planning have direct and indirect impacts on and affect the quality of life, including the social environment as well as the health and wellbeing of the population. Planning can for example contribute to an enhanced social environment by improving the liveability of streets and community cohesion, reducing inequalities that exist in access to housing and increasing opportunities for physical activity by improving access to open spaces, sport and recreation facilities, including the provision of walk-able mixed-use neighbourhoods. Therefore, LDF documents should focus on facilitating the improved health and wellbeing of the population, including access to health, education, sport, leisure and recreation facilities. Improved health of the population is also interlinked with reducing air, noise and water pollution as well as a reduction in greenhouse gas emissions.

3 BASELINE CHARACTERISATION OF THE BOROUGH AND AAP AREA

3.1 Introduction

- 3.1.1 Both the SA Guidance and SEA Directive requires the collection of baseline information on environmental, social and economic characteristics of the area to provide the basis for predicting and monitoring effects and aid the identification of sustainability issues and alternative ways of dealing with them. The SEA Directive is concerned with the assessment of '*the likely significant effects on the environment of implementing the plan*', and this requires an understanding of the 'baseline' situation so that the change that might arise from the influence of the plan can be considered.
- 3.1.2 During the preparation of the LDF SA Scoping Report information was collected on sustainability issues on a Borough-wide basis. At the previous stage in the Twickenham AAP Sustainability Appraisal process (Stage A – Scoping), this information was thoroughly reviewed and while the baseline information is borough-wide, specific Twickenham baseline information was included in some sections. Because SA/SEA is an iterative process, it was highlighted in the Scoping Report that future stages may identify other data that need to be collected and monitored. For this purpose, the identified key baseline information for the borough and for the Twickenham AAP area is repeated below. A full analysis of the baseline characterisation of the borough and Twickenham can be found in the Twickenham AAP Scoping Report (Chapter 3).

3.2 Summary of key baseline information

- 3.2.1 The borough covers an area of 5,095 hectares in southwest London. There are about a dozen towns and villages, although almost two thirds of the borough is open space. This is an affluent area though it contains some pockets of relative deprivation, has high property prices (with all the associated problems) and a generally highly educated population. The local community has a clearly expressed view that the borough's natural and built environment, which is of the highest quality, should be protected and enhanced.
- 3.2.2 Richmond upon Thames has over 21 miles of River Thames frontage, the longest stretch of the River Thames of any London borough, and over 100 parks. This includes two Royal Parks, Richmond and Bushy, as well as the Royal Botanical Gardens at Kew and many other wildlife habitats. Within Twickenham Town Centre,

there are 5 Public Open Spaces, 1 Registered Park and Garden (York House) and 4 Other Open Land of Townscape Importance (OOLTI) sites. In addition, there is designated Metropolitan Open Land along the River Crane & River Thames, and the Thames Policy Area.

Population and diversity

- 3.2.3 The borough has a population of 190,900, according to the mid-year estimates for 2010 produced by the Office for National Statistics. Richmond has a higher proportion of people aged over 85+, a bigger proportion of pensionable aged people and a bigger proportion of those aged 0-15 years than the London region. The 30-44 age range comprised 27.6 per cent of the population compared with 21 per cent for England.
- 3.2.4 Richmond upon Thames is one of the least deprived areas in the country and the least deprived within London (IMD 2010). No areas in Richmond are among the 25% most deprived in the country, and 46% of areas are among the least deprived 20% in England. However, there are pockets of relative disadvantage in the Borough. The most deprived wards in the borough are: Ham & Petersham, Heathfield, Hampton North, Barnes, Hampton and Whitton.
- 3.2.5 Richmond is one of the least ethnically diverse boroughs in London. The non-white population is similar to the average for England & Wales with just over 9% of the borough's population in 2001 made up of non-white minority ethnic groups. There is a significant proportion of Irish people living in the borough. The latest ONS experimental Population Estimates by Ethnic Group estimates that in 2007 158.3 thousand (87.9%) residents were white and 22 thousand were non-white in Richmond upon Thames. In London 69 per cent were white. The greatest number of non-white people were Asian or Asian British (5.3%) compared to London with a proportion of 13.3 per cent.

Employment and education

- 3.2.6 Between April 2010 and March 2011 approximately 99,900 residents had jobs, and of these 21,500 (15.3%) were self-employed workers. This is a much higher proportion than in London (10.6%) and Great Britain (9.0%). 68% of Richmond working age residents work in managerial, profession and technical jobs. Only 3.7% work in 'elementary' positions such as manufacturing processing and cleaning. The resident population is highly skilled with 54.9% of the workforce having NVQ4+ and only 5.6% having no qualifications. The level of qualification of the resident workforce in managerial, senior official positions and professional occupations is well above and the workforce in elementary occupations is significantly below the London and UK average. Although unemployment rose significantly during the recession, it remains relatively low. In July 2010, 1.6% of the borough's residents were claiming unemployment benefit, significantly lower than in London and England.
- 3.2.7 The Local Education Authority maintains one nursery school and 16 nursery units, 41 primary schools, eight secondary schools for 11-16 year olds and two special schools. Provision for children with special needs is made in all mainstream schools. There is also a selection of preparatory and independent schools, including Hampton School, Lady Eleanor Holles, St Paul's, St Catherine's School, Radnor House School, the German School and the Swedish School.

Transport

3.2.7 The proximity of the M3, M4 and M25 provide good road communication to the South West, West and Midlands, as well as to the rest of London and the South East. Richmond upon Thames is well catered for by frequent rail and bus services to and from central London and the rest of the South East. High car ownership within the borough combined with high rates of through-commuting results in congestion on local roads; the 2001 Census suggests that 76% of households in the borough have access to a car. The borough has a good record of road safety. A number of school safety measures have been introduced with a target to increase the number of school travel plans. Cycling and walking are also promoted at all schools.

Social care

3.2.9 Richmond Social Services provides a range of services aimed at the most vulnerable within the community, including services for children and families, services for people with learning disabilities, services for adults, and services for people with mental health problems. NHS Richmond is the main commissioning body for primary healthcare in the borough. It works with the Council to develop the Joint Strategic Needs Assessment (JSNA), which is the vehicle through which the local authority and PCT describe the health care and well being needs of local population in order to inform the strategic direction of the service commissioning and delivery.

Housing

3.2.10 At the time of the 2001 Census there were approximately 76,100 homes in the borough, representing an increase of just over 3000 on the 1991 figure. The London-wide Strategic Housing Land Availability Assessment and Housing Capacity Study 2009 proposed a new annual target for the borough of 245 homes per annum for 2011 – 2021. In 2001 the average size household in the borough was 2.23 people, and over a third of households were single people. The level of home ownership is 69% with a further 15% renting from private landlords and another 12% (nearly 9,000) households renting from a registered social landlord. Following the Large Scale Voluntary Transfer of stock to the Richmond Housing Partnership in July 2000, there is no permanent council housing in the borough. The cost of housing is extremely high; for the third quarter of 2010, Richmond upon Thames had the fifth highest average prices in London, with a price of £556,691 – the highest of any outer London borough. The attractiveness of the borough as a place to live is also reflected in the rent levels found in the private sector.

Biodiversity

3.2.11 Richmond has an enormous wealth of wildlife (biodiversity). The Local Biodiversity Action Plan (LBAP) is designed to enable the borough to move forward with a clear set of targets and actions to conserve its priority habitats and species. The borough is exceptional in supporting an abundance of different habitats, several of which are important on an international scale, such as Richmond Park.

3.2.12 The River Thames flows through the borough past open stretches of woodland and parkland, Victorian industrial waterfront and urban frontages. There is public access to much of the riverbank in the borough either by towpath or riverside open space. There are a number of watercourses in Richmond upon Thames designated under the Water Framework Directive (WFD) as having a poor ecological status. The Borough's water resources and supplies must therefore be protected by resisting any proposals that would pose an unacceptable threat to surface water and ground

water quantity and quality. Under the WFD, these need to achieve good ecological potential by 2027.

Flood risk

3.2.13 Significant proportions of the borough are at risk of flooding. The Borough's Strategic Flood Risk Assessment (SFRA) and emerging Surface Water Management Plan (SWMP) analyse and set out these risks. In the borough there are just over 26,500 properties at risk of flooding⁴ from fluvial and tidal sources. This equates to 26 per cent of all properties in the borough, and the majority of the properties at risk are residential. Of the properties identified as being at risk 21% have a significant likelihood of flooding. The tidal flood defences that shield parts of Twickenham from flooding will need to be protected and, if feasible, setback from the river, which could be considered in the AAP.

Climate change

3.2.14 Richmond upon Thames has one of the highest ecological and carbon footprints in London. An individual's carbon footprint is a measure of the amount of CO₂ arising from their lifestyle and the activities they undertake. The carbon footprint in Richmond upon Thames is 13.06⁵ tonnes of CO₂ per capita (2006). The sector with the highest contribution to this footprint is housing, and more specifically the electricity, gas and other fuels used in the home. This carbon footprint is higher than the London average of 11.28 tonnes of CO₂ per capita and the UK average of 12.10 tonnes of CO₂ per capita. It is predicted that summers will become drier and winters wetter, which may lead to increased droughts and flooding. This may increase incidences of water shortage and subsidence. Average temperatures will rise with more extremely hot days but fewer very cold days. This may reduce heating demands but will increase cooling demands. The sea level will rise and there will be more extreme weather events such as intense rainfall and high winds.

3.2.15 Climate change could affect biodiversity and habitats as ponds dry out, and flora and fauna faced with new climatic conditions die out, adapt or move to different climates. Climate change may have economic impacts as increased flooding and storms may have implications as to where businesses are able to locate and affect the goods and services that are required. Infrastructure and emergency services may also be affected. Social issues are also likely to change with people spending more time out of doors in summer, which could increase noise impacts. There are likely to be more heat related emergencies and possibly more diseases normally associated with warmer climates.

3.2.16 Future development in the borough will need to be adaptable and incorporate measures and materials to ensure reduction of harmful green house gases that cause climate change. Development will need to be constructed in such a way in order to: withstand some of the effects that may arise from climate change, such as increasing frequency of flooding and hotter, drier summers; and mitigate and reduce greenhouse gas emissions. Future flooding is a key environmental issue both upstream of Teddington Weir in the fluvial river and downstream in the tidal parts of the Thames.

Air quality

⁴ Figures are indicative and are taken from the 2008 EA -National Flood Risk Assessment

⁵ Resources and Energy Analysis Programme (REAP), 2009. Footprint data, London. [online] (Updated May 2009); Available at: <http://www.resource-accounting.org.uk/downloads/?page=downloads> [Accessed May 2009].

- 3.2.13 Richmond upon Thames's Provisional Air Quality Action Plan (AQAP) sets out the Council's programme to meet air quality objectives. Targets for air quality have been set by the government and by the European Union and are contained in the National Air Quality Strategy (NAQS). The Mayor's Air Quality Strategy sets out policies and actions for London. Air quality monitoring within the borough takes place 24 hours a day using two fixed monitoring stations (at Castelnau outside the Public Library and at the Wetlands Site) and with one mobile unit that is moved around the Borough to different locations. There is also a programme of background monitoring of NO₂ using diffusion tubes which are located at a number of sites throughout the borough.

Environmental quality

- 3.2.15 In January 2011, an environmental quality survey was carried out for Twickenham Town Centre. The results showed that the town centre is heavily dominated by motorised traffic (particularly cars and buses), with some dangerous crossing points. There remain opportunities to improve clutter and litter problems as well as street furniture. The core of the town centre has a down market feel and the environmental aesthetics and public realm of this area is of generally poor quality. The western part of the town centre is also traffic dominated but it is considered to be of good environmental quality. There are some empty shops and some sites and frontages along Heath Road that need attention. The eastern part of Twickenham embankment has recently been upgraded to a very high standard, and the unimproved area of the embankment should follow this upgrade. The linkages from Kings Road to the embankment are considered to be very important. Some of these roads are of very poor quality with a slightly derelict feel and insufficient vegetation. The eastern part of the town centre is also dominated by transportation, clutter and in need of upgrading, but overall, this area can be considered as having good environmental aesthetics and public realm quality. The area around Twickenham railway station and the link to the town centre is very important for the town. In general, the junctions within this area are very poor, with poor landscaping, difficult for pedestrian movement and with clutter and litter problems as well as unpleasant noise levels. The full results of this survey can be found on this page: http://www.richmond.gov.uk/twickenham_area_action_plan_evidence.htm

Waste and recycling

- 3.2.16 The London Borough of Richmond is a Waste Collection Authority and part of the West London Waste Authority (WLWA) which is the authority responsible for its waste collection, disposal and recycling. There is a kerbside recycling collection for residential properties and recycling facilities are situated throughout the borough. Currently around 36 per cent of waste in the Borough is recycled mainly at the Townmead Road waste transfer station in Kew. Once waste has been collected it is delivered to WLWA's Transport Avenue waste transfer station located in Brentford. The household waste collected per person in London has fallen by 13% over the last four years, from 451 kg in 2006/07 to 391 kg in 2009/10. The household waste collected per person per year increased by 4% between 2006/07 and 2008/09. It rose from 432 kg per person to 451 kg per person, but has since fallen back to 430 kg. However, Richmond upon Thames has one of the highest recycling and composting rates in London. The current rate of 43.01% in 2009/10 was significantly higher than the London average of 31.8 per cent, and the WLWA rate of 38%. Landfill remains the primary waste disposal method used by the WLWA. Despite the improvement in recent years there needs to be a diversion of waste going to landfill to alternative methods of disposal.

Historic environment

3.2.17 The borough has 72 Designated Conservation Areas and around 1600 listed buildings. There are 3 Scheduled Ancient Monuments in the borough (The Brew House, Bushy Park; Hampton Court; Kew Place), but none within Twickenham. There are many other buildings that make significant contributions to the built appearance and quality in the borough including over 4000 Buildings of Townscape Merit. The borough's Conservation Area Statements and Studies include details of many of the most impressive buildings and include audits of streetscape items of heritage or aesthetic value in each area. Within Twickenham Town Centre, there are 3 Conservation Areas (Queens Road, Amyand Park Road and Twickenham Riverside Conservation Area), 51 Listed Buildings (47 Grade II, 4 Grade II*) and 123 Buildings of Townscape Merit.

Sport and leisure

3.2.18 The borough has a varied arts scene, making use of its many beautiful venues, such as the Orange Tree Theatre and Richmond Theatre. There are 11 lending libraries and a Central Reference Library, catering for all ages. The borough is the home of the English Rugby Football Union (RFU) in Twickenham and a number of rugby clubs at the Stoop Memorial Ground, the Old Deer Park and Richmond Athletic Ground. There are sports centres in Richmond upon Thames catering for many sports, several of which are river-based. There are numerous fitness clubs, various tennis and cricket clubs and excellent golf courses, Council swimming pools at Richmond and Teddington, and a community-run outdoor pool at Hampton. Rugby, hockey and rowing are also well-established sports in the area.

3.3 Twickenham – SWOT Analysis

3.3.1 As part of the first stage of the Twickenham Area Action Plan, a town centre analysis has been carried out, which was informed by a SWOT (Strengths – Weaknesses – Opportunities – Threats) analysis. The results of the SWOT analysis are presented in this sub-section:

3.3.2 The key strengths are:

- It has attracted relatively high levels of investment in the past and this is anticipated to continue
- Large retail centre, albeit mostly serving residents in nearby areas
- A significant proportion of the local community live within 1 mile of the town centre. Large student population (4,000)
- It has significant heritage assets and a rich history
- The riverside
- Shops, boutiques and restaurants on Church Street and near the riverside
- Relatively high quality food offer
- Twickenham stadium generates significant income visitors (1.7 million visitors) and additional economic activity which is set to increase with the World Cup in 2015
- Active community
- Variety of arts and cultural events including the Twickenham Carnival
- It is accessible by car
- It has good public transport links (bus and train)
- It is well served by public car parks

3.3.3 The key weaknesses are:

- Lack of identity/ brand
- Lack of focal point/ heart
- It has a loose and ill-defined shopping area
- Poor impressions and image of King Street
- Lack of defined entry points into the town centre (station/ Heath Street)
- Number and visual impact of rundown sites
- Large number of small retail units, not fit for modern retailer requirements
- The town centre does not provide the variety of shops and services that would be expected from a town of its size
- Lack of higher-end retail stores and national multiples in the town centre
- Traffic domination and congestion on London Road/King Street/Heath Road which detracts from environmental quality, has associated environmental impacts (noise and pollution) and makes it difficult for pedestrians to cross the road
- King Street is a “pinch-point” for cars, heavy goods vehicles, pedestrians, cyclists and buses
- Poor quality facilities provided by the rail station
- Lack of connection with the river, which is not visible from the centre
- While many local businesses benefit from the RFU, it can also be disruptive to others
- Evidence of empty office space, shortage of new/high-quality stock on the market
- Poor architectural merit of more recent developments detracts from historic nature of area (Santander building)

3.3.4 The key opportunities are:

- Availability of development sites in visible areas
- Interest and investment from developers in sites within the AAP area
- Need to create more links with the river and re-establish it as a major asset to the town, which links the cultural assets (including with Richmond and other areas)
- More focus on cultural and historical identity of Twickenham
- Creation of useable civic space
- Need to make use of empty properties and vacant shops
- Increase tourism with better and more legible signage, information points, activities, marketing, rugby experience/festival in the town centre
- Potential, particularly with the launch of the Promote London Council and Rugby World Cup, to identify Twickenham as a sports destination
- Maximise usage of York House and gardens
- Relocate farmers market to more accessible location
- Remove cars from the riverside
- Slowing down of the traffic and improving conditions for pedestrians, i.e. widen pavements, reduce road width, consider pedestrianised area and making Church Street car-free
- Non-drinking-focused evening economy (i.e. bowling, ice rink, cinema, arts centre etc)

3.3.5 The key threats are:

- The timing of planning applications may mean that applications are received and need to be decided before the AAP is finalised
- Lack of comprehensive approach to developing key sites – Royal Mail/ Station/ Heatham House
- Third party interests – ability to assemble sites through negotiation or use of CPO
- Securing investment in the town centre in order to improve the urban fabric whilst respecting the town’s built environment

- Competition from larger, nearby retail centres- Kingston anticipating significant growth which could draw further trade from centre, out of centre developments (including existing in Hounslow) increase in e-retailing
- Traffic congestion worsens
- Capacity of the wider road network
- Issues regarding high costs of floor rental and high business rates
- Colleges in general face an uncertain future, both in terms of expansion/redevelopment

4 IDENTIFYING SUSTAINABILITY ISSUES

4.1.1 The identification of sustainability issues and problems is an opportunity to define some of the key issues for the LDF and the AAP to address. There are many possible sustainability issues but not all will be significant for the borough. The issues recorded are those acknowledged as a priority for the borough.

4.2.1 The sustainability issues confronting the London Borough of Richmond upon Thames have been identified from the following sources:

- Issues identified in the review of PPPs (see Section 1 above)
- Analysis of baseline data and trends (see Section 3 above)
- Knowledge of officers working in the borough
- Preliminary consultation with key organisations such as the Environment Agency and Natural England

4.2.2 The key issues are divided into the three main aspects of sustainability (Social, Environment and Economic) and are set out in Table A3 below. It is recognised that many of the issues are cross-cutting and could have been placed under more than one of the headings. However, for ease of discussion, and to link in with the sustainability objectives (identified in the Sustainability Framework – Task A4), they have been placed under one section only.

4.2.3 Appendix 2 of this report provides brief background information for each sustainability issue and outlines considerations to be taken forward in preparing DPDs. It should be noted that the possible policy options put forward are an initial view only. Options will be developed as work on the LDF/Plan progresses and information from the evidence base becomes available. The information presented in Appendix 2 has been subject to consultation as part of the SA Scoping Report.

Table 2: List of sustainability aspects and key issues identified

Aspect	Sustainability Issue
Environment	Protection and enhancement of the natural and built environment, including green and open spaces
	Mitigating and adapting to climate change, including flood risk
	Pollution and air quality
	Waste reduction, waste treatment and increased recycling
Social	Varying levels of poverty and affluence across the borough
	Housing for all
	Access to essential facilities
	A safe place to live
	Accessible public transport
Economic	Skills mismatch & small employment base within the borough
	Traffic congestion and unreliable journey times
	Provide for education, training and local employment opportunities
	Town centre vitality & viability
	Provide for sustainable tourism

5 SUSTAINABILITY APPRAISAL FRAMEWORK

5.1 Introduction

- 5.1.1 In order to help assess the sustainability of the policies in the LDF, and to monitor its achievement in sustainability terms, sustainability objectives and indicators are developed in order to measure the operation of the LDF. The objectives are, where possible expressed in terms of targets, the achievement of which should be measurable using indicators selected. Note that the SA objectives are applied to all Local Development Documents (the LDF).
- 5.1.2 The Sustainability Appraisal (SA) objectives are based on the issues, which are affecting the borough, and Twickenham in particular, identified in the previous chapter and in the SA Scoping Report.

5.2 SA Objectives

- 5.2.1 The SA objectives for the Twickenham AAP, shown in the table below, are intended to compliment the LDF objectives, and are not designed to supersede or replace these. The SA objectives purely provide the framework for assessment. They are designed to provide a balance between the three objectives of sustainable development: the environment, the economy and society. The actual numbers of social, environmental and economic objectives are not the same because they reflect the key issues in the borough.
- 5.2.5 The SA objectives have been initially developed for the SA of the Core Strategy. They were subsequently reviewed for the Development Management Plan (DMP), and no changes were made to them. The SA objectives have however been altered and amended since the consultation on the SA Scoping Report held between February and April 2011. The internal compatibility of the SA objectives has been tested as part of the SA Scoping Report, and have been subsequently amended in the revised Scoping Report (May 2011).

Table 3: SA objectives for the Twickenham Area Action Plan

Table 3: SA objectives for the Twickenham Area Action Plan				
		Env	Econ	Soc
E N V I R O N M E N T A L	1) To promote sustainable waste management, including prevention, reducing waste and waste disposal, preparing for reuse, recycling and recovery before disposal.	✓		
	2) To make the most efficient use of land, remediate and reuse contaminated land and safeguard soil quantity and quality.	✓		
	3) Reduce air and noise pollution, including reducing emissions of greenhouse gases, and ensure air quality improves.	✓		
	4) Minimise congestion and pollution by reducing the need to travel, encourage alternatives to the car and making best use of existing transport infrastructure.	✓		✓
	5) To maintain groundwater and surface water quality, conserve water and reduce the risk of flooding.	✓		✓
	6) To promote sustainable energy use through reducing energy use by maximising energy efficiency, use of zero- and low carbon technologies and reduce carbon dioxide emissions through the increased use of renewable energy.	✓		
	7) Conserve and enhance biodiversity, avoiding irreversible losses, through responsible management of all wildlife sites and species, and through the enhancement of wildlife corridors.	✓		
	8) Promote high quality places, spaces and buildings and conserve and enhance the borough's landscape and townscape character and its heritage assets.	✓	✓	✓
	9) To make best use of previously developed land and existing buildings, encouraging sustainable construction practices.	✓		
S O C I A L	10) To provide new housing opportunities and sufficient affordable housing that meets local needs.		✓	✓
	11) To create and maintain safer and more secure communities.	✓	✓	✓
	12) To facilitate the improved health and well being of the population, including enabling people to stay independent and ensuring access to those health, education, environment, sport, leisure and recreation facilities and services that are required.		✓	✓
E C O N O M I C	13) To increase the vitality and viability of existing town centres, local centres and parades.		✓	✓
	14) To promote and encourage a buoyant and diverse economy that will provide sustainable economic growth.		✓	✓
	15) Provide appropriate commercial development and training opportunities to meet the needs of the local and sub-regional economy.		✓	✓

6 THE TWICKENHAM AREA ACTION PLAN

6.0.1 The Twickenham Area Action Plan (AAP) is an overall strategy to guide future change and development in the town centre in the period up to 2027. The Plan will build on Twickenham's many assets, respond to the requirements of businesses to create a more attractive destination and guide investment to the benefit of the town and its users.

6.1 Vision

6.1.1 Twickenham will be a high quality town centre serving local residents, workers and visitors – a destination of choice with a unique sense of place. The town will meet modern requirements and have a strong local economy whilst making the most of its distinctive heritage, open spaces and riverside.

6.1.2 The vision is based on the following key themes:

- Revitalising the High Street – improving the retail and food and beverage offer of the town centre, making the most of the presence of the rugby spectators.
- Enhancing the leisure, entertainment and cultural offer – improving the range and quality of attractions which will bring people into the town centre.
- Developing a vibrant evening economy- making the town centre a more attractive place at all times of the day and evening for people of all ages.
- Improving the public realm and reducing the impact of traffic – creating an attractive and safe place which people will enjoy visiting.
- Protecting, enhancing and making the most of the character of the centre's built and open environment, including two riversides.

6.2 Objectives

6.1.2 The objectives for the AAP are as follows:

- Stimulate economic development generally and particularly leisure and tourism, business services, creative and riverside industries
- Create a stronger retail centre with a more concentrated primary shopping area
- Look beyond retail to provide an extended range of activities to attract more people
- Make the most of the benefits and minimise any adverse impacts of rugby on the town
- Create well connected clusters of activity based on the key opportunity areas
- Reduce the impact of traffic, and improve parking and public transport arrangements including the use of the river and the pedestrian environment
- Enliven and make the most of both the Thames and the Crane riversides and reconnect them to the town centre and wider links up and down stream
- Bring forward vacant and derelict sites to achieve a high quality of development and mix of uses
- Enhance the character and distinctiveness of the town to create a unique destination with high quality public spaces
- Guide the design and development principles on key sites or areas by the production of design briefs in parallel with the Action Plan

6.3 Proposals and policies

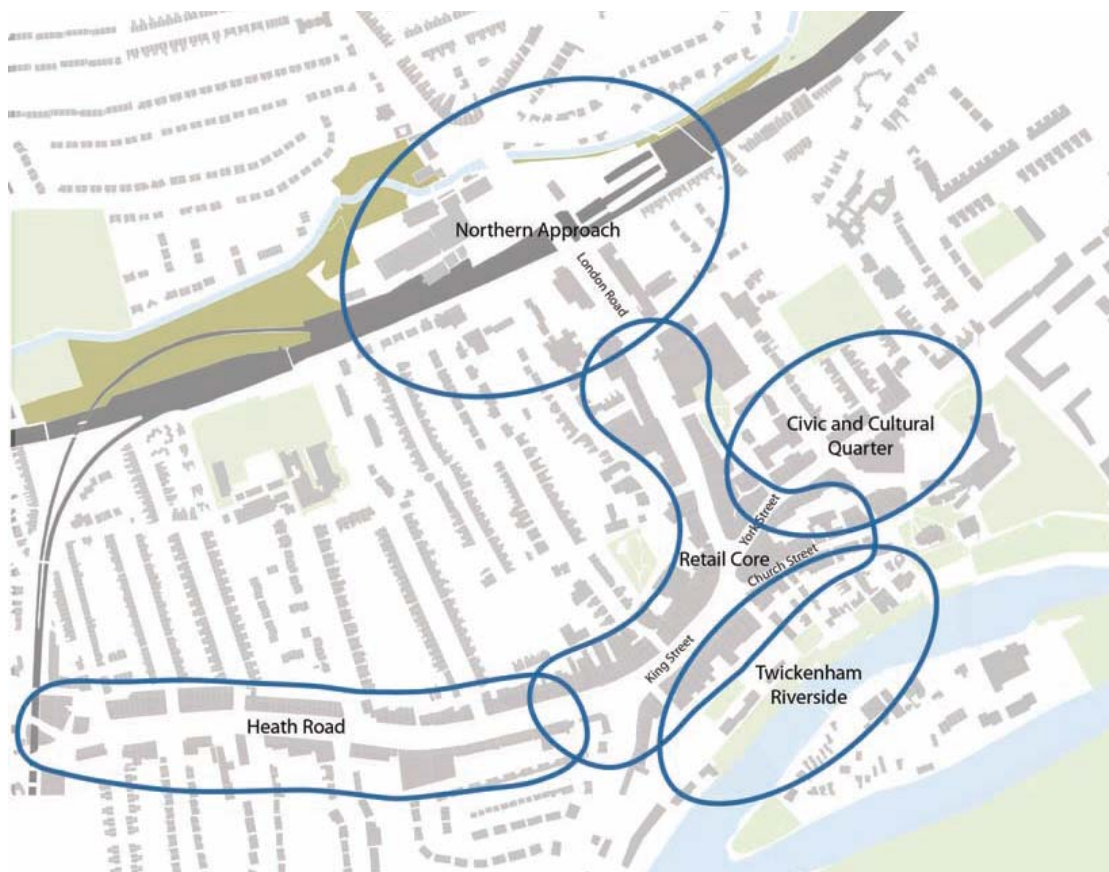
6.3.1 The proposals and policies contained within the Twickenham AAP are as follows:

- The spatial strategy
- The transport strategy
- Environmental improvements
- Land use policies
- Area specific proposals

The above elements of the Plan are explained in more detail in the following sub-sections; for detailed proposals and policies, please see the Pre-publication Twickenham AAP.

6.4 The Spatial Strategy

6.4.1 To better understand the potential for change, five key opportunity areas have been identified, which reflect the varied character and functions of the town centre. The spatial strategy is based on the five opportunity areas, which are inter-linked and contain complementary facilities and land uses. The aims for each area will be:



- **Northern Approach** – the creation of an attractive entrance into the town centre with a new station, enhanced public realm and comprehensive mixed use development of key opportunity sites
- **Retail Core** – the creation of a more concentrated primary shopping area focused on King Street, Church Street, York Street and London Road with enhancement of retail frontages, improvements to the shopping environment and extended range

- and quality of retail offer
- **Civic and Cultural Quarter** – the creation of a n extended Cultural Quarter focused on the increased use of York House as a cultural/ arts centre and new cultural and arts provision in Garfield Road
 - **Twickenham Riverside** – the creation of a new public park and public spaces on the site of the swimming pool and the Embankment and strengthening of the retail offer on Water Lane/ King Street
 - **Heath Road** – continued enhancement of the environment of Heath Road and reinforcing its role as a specialist retail and business area

6.5 The Transport Strategy

- 6.5.1 Addressing transport and movement through and into the town in a comprehensive and sustainable way is key to the revitalisation of the town centre. The transport strategy focuses in particular on improving the pedestrian environment in the retail core. It underlies the spatial strategy and supports the enhancement of the town centre through a phased programme of improvements and traffic management.
- 6.5.2 The transport strategy sets out general principles, public transport and interchange improvements, key aims for the pedestrian environment and cycling as well as parking and servicing principles.
- 6.5.3 One of the key aims of the transport strategy is to improve walking routes, which in turn will encourage local residents to make greater use of facilities within the town centre and so reduce their need to travel. This will support more sustainable travel patterns from existing residential and retail areas but also from any new development at identified sites in and around the town centre. The aims of the parking policy are to ensure sufficient parking is provided and if demand rises, seek to expand car parking in the town centre and/or develop a park and ride service.

6.6 Environmental Improvements

- 6.6.1 The aim of the environmental improvement principles is to protect and restore features of the existing built and natural environment, which have historical, architectural or amenity value. This includes upgrades to existing and creation of new public open spaces and civic spaces, ensuring that redevelopment and transport proposals incorporate environmental improvements wherever possible, and providing new/well designed and coordinating street furniture and signage. An important element of the environmental improvements is the lighting, which will be installed throughout the town.

6.7 The Land Use Policies

- 6.7.1 The focus of the AAP is to improve Twickenham as a retail centre but it also provides for a wider range of community, leisure and entertainment facilities, which would attract more people to the town centre and a higher level of expenditure and retailer representation. Policies from the adopted Core Strategy and Development Management Plan are applicable to Twickenham and for some land uses these will be sufficient. For other land uses, new policies, specific to Twickenham, will be needed. The specific policies to Twickenham are in relation to retail, employment and economic development.
- 6.7.2 The retail policy focuses on enhancing **retailing** in the town centre through supporting proposals which either enhance the specialist role of the Centre or provide for the expansion of existing units to meet modern needs. The retention and enhancement of

existing **employment** uses, and the creation of new employment opportunities is a key objective of the AAP; new employment floor space is proposed as part of mixed use development schemes. The policy on **economic development** sets out how the Council will work in partnership to expand the local economy. New **residential** development will be allowed as part of mixed use schemes. The AAP also promotes a balance of **leisure, community and cultural** uses to create a more inclusive town centre, which is attractive to all ages and sectors of the community. New developments will be expected to financially contribute towards the provision of **school places** and **health facilities**. New **public open spaces**, including new and enhanced linkages between open spaces, will be promoted in the town centre. The sustainability related policies set out in the Core Strategy and DMP also apply for Twickenham. All new development will be expected to contribute to **transport, parking and servicing** to meet the needs of the new users.

6.8 Area Specific Proposals

6.8.1 Proposals for specific sites within the town centre boundary have been set out. The summary of the proposals for these key sites is as follows:

- **Twickenham Station:** Redevelopment to create attractive and modern new station as part of a mixed use development, including commercial, limited retail and residential uses and a new public square; retention and use of link under the railway line.
- **Heatham House:** Should the existing youth centre be relocated to a suitable new facility, the existing centre will remain open until the new facility is available for occupation; acceptable alternative uses of Heatham House would be residential, employment or hotel use.
- **Former Sorting Office and open land south of River Crane:** Encourage redevelopment of this now empty site with an appropriate mix of uses, including community and leisure use, retention of space for sports/outdoor activities, employment, residential (including family housing), open space and a riverside walk by the River Crane.
- **Station Yard:** Redevelopment of site with a car park of 3 to 4 storeys to serve established needs of users of the town centre, including landscaping and environmental improvements.
- **Regal House:** Refurbished business space, use of part of it as possible cinema/leisure use, possible cultural/entertainment/food and beverage uses on lower floors to create active frontage to London Road.
- **York House, York House Gardens, Civic Centre and environs:** Optimum use of public building and grounds, providing range of appropriate uses; reuse of building to create a community/cultural hub with café/gallery/restaurant space, exhibition and performance space and retention of some civic use; increased use of the former road outside the Civic Centre for occasional events and possibly one off or regular markets.
- **Telephone Exchange Garfield Road:** In the event of the release of the site, redevelopment with an active frontage onto Garfield Road to include creative industries/indoor market/niche retail/cinema with residential above and to rear and fronting Arragon Road.
- **Police Station:** In the event of a satisfactory relocation of the police station uses, acceptable uses of the site would be for mixed use development, including retail uses or other active frontage uses on London Road and residential to rear (fronting Grosvenor Road), including the protection of this Building of Townscape Merit.
- **Twickenham riverside and approaches:**

- Maintain existing ground floor retail frontages and residential uses above on King Street and provide new specialist retail, leisure and community uses;
- Link existing service road to Water Lane and promote some active frontage to the service road;
- Create new open space on the former pool site and in the form of civic space beside Water Lane;
- Maintain embankment as working quay and provide mooring and landing facilities
- Removal of car parking and improvements to environment on the embankment;
- Improve Water Lane and Wharf Lane links from the town centre to the embankment as shared use spaces;
- Redevelopment along Water Lane to include mixed uses with active frontages at ground floor level and residential uses above

7 TESTING THE PROPOSALS AND POLICIES OF THE PLAN

7.1 Introduction and methodology

7.1.1 The SA procedure was to appraise each of the proposals and policies against the SA objectives and identify the effects over the short, medium and long term using the key shown in Table 6 below. The full findings of this SA are set out in Appendix 4 of this document.

Table 6: Key to the SA matrices

++	Very sustainable
+	Sustainable
?	Uncertain
-	Unsustainable
--	Very unsustainable
Neutral	Neutral

+/-/? In some instances, the option could have both positive and negative effects against a sustainability objective. The reasons for including both pluses and minuses in the appraisal are explained in the commentary. In other instances, where there is some uncertainty as to whether the effect will occur, a question mark may be added.

7.1.2 The assessment looks at key discernible effects, but there may be other impacts on the environment such as an increase in the need to travel, which will in all likelihood have a wide range of effects on the environment including on water quality because of contaminants and on biodiversity through land take. The system does not attempt to score or weight options, but to flag up significant impacts. The impact of proposals and policies identified as having significant adverse effects on a sustainability objective may, with appropriate mitigation, be modified to reduce its negative effects.

- 7.1.3 For this exercise short term is considered to be a 5 year period up to 2016; medium term is 2017 to 2022; long term is 2023 to 2028 and beyond.
- 7.1.4 The SA of the proposals and policies of the Twickenham AAP was conducted by a team of Council planning officers.
- 7.1.5 In some cases, knowledge of the potential impacts of a proposal/policy may be limited, particularly where cumulative effects are concerned and the appraisal therefore involves making a certain amount of subjective judgements of the likely sustainability impacts of proceeding with any proposal/policy over the short, medium and long term. The judgement is made by reference to what the sustainability objective is trying to achieve and the possible impact a proposed action may have.
- 7.1.6 In this stage of the Sustainability Appraisal (SA) the purpose is to identify what the sustainability issues may be of delivering the proposals and policies as set out in the draft Plan, looking for positive and potentially negative impacts. Where the potential for negative impacts are identified the SA makes recommendations on how these could be avoided or mitigated against.
- 7.1.7 The appraisal is based on the information available at this time (contained within the draft Plan) and it is evident that detailed aspects of proposals and/or policies, including their delivery, will be subject to further detailed plans; e.g. a detailed traffic scheme for Twickenham will be subject to modelling and discussion with TfL, and will be put forward for public consultation in 2012. Some sites may require detailed development/design briefs. The sustainability implications of any more detailed proposals, such as the transport scheme, will need to be appraised at the relevant stages of the development of these details.
- 7.1.8 The full detailed analysis and matrices of the SA for each proposal and policy can be found within Appendix 4. The following provides a summary of the potentially positive and likely negative impacts.

7.2 Summary of assessment of proposals and policies

- 7.2.1 There are positive as well as negative impacts from the plan proposals. Overall, any improvements to the pedestrian environment such as better pedestrian links, crossing and shared surfaces are considered to result in positive impacts, with minimal negative effects. There are re-occurring negative impacts within proposals that involve new development in relation to waste, biodiversity and potentially noise, water quality and flood risk, but it is considered that these impacts can be mitigated when considering detailed options for the redevelopment of sites, and through the production of design/site briefs.
- 7.2.2 Some transport measures proposed could have significant negative impacts for Twickenham and the wider area. There may be a potential increase in traffic and congestion, and some of the measures proposed do not focus on sustainable modes of transport and are therefore unlikely to lead to a modal shift away from car use.
- 7.2.3 In general, new and possible redevelopment will inevitably result in the consumption of additional natural resources. Design briefs and new development schemes will need to ensure that developments are energy and water efficient and low / zero carbon energy sources as well as decentralised energy are used wherever feasible.

- 7.2.4 Any measures proposed to attract more residents, workers and visitors into the town will need to be balanced with measures to counteract the increased use of resources and infrastructure within the town. Wider impacts on the borough and nearby district and local centres should also be fully considered.
- 7.2.5 A balanced approach will be required and all impacts and consequences need to be understood prior to implementing proposals. Any mitigation measures needed as a result of proposed actions need to be carefully considered to ensure the outcomes are the most sustainable.
- 7.2.6 The Plan is likely to have overall positive sustainability impacts, particularly in relation to social and economic objectives, but also some likely negative impacts on the environment (transport, pollution, biodiversity, and waste). The assessment shows significant positive impacts on the town centre, economy and commercial development opportunities as well as increased social benefits. However, there are likely to be some significant negative sustainability impacts as a result of some of the measures proposed under transport, such as the possible removal of some bus lanes and changes to cycle provision, depending on the details of the scheme. New developments may increase the need for travel and together with the proposed measures it is unlikely that this will lead to a modal shift away from car use. Though the strategy is to reduce the dominance of traffic in the town, which will result in positive impacts for pedestrians there could potentially be negative impacts on the environment, including more pollution (air & noise) and increases in traffic and congestion in the wider area.
- 7.2.7 Coupled with the proposed redevelopments, there could be even more potential for energy efficient buildings as well as sustainable energy use such as renewable technologies and decentralised energy networks.

8 MONITORING PROPOSALS

- 8.1.1 The success and effectiveness of the SA/SEA process will be monitored by the continued collection of baseline data according to identified indicators. These indicators and their relevant targets are set out in the Annual/Authority's Monitoring Report (AMR). The indicators monitor the significant effects of the Plan and identify remedial action required if the trends or targets are not met. If indicators are monitored over time, the resulting data can reveal trends in performance (i.e. whether something is getting better or worse). Indicator performance can also be gauged in relation to wider geographical areas (e.g. counties or regions) if comparable data is available. Indicator performance can also be assessed in relation to targets where these exist.
- 8.1.2 Indicator data will be very useful for identifying the sustainability problems in the borough to which the LDF may need to respond. The AMR required for the LDF contains annually updated information relating to a number of indicators, and will provide the basis for monitoring the Plan's effects. The proposals and policies in the Twickenham AAP will be reviewed in the light of the results of monitoring and any other significant changes in circumstances.
- 8.1.3 The monitoring framework of the LDF has been recently reviewed and updated in the light of changes to Government requirements for monitoring and the Single Data List, and resource implications, to provide a comprehensive programme to evaluate the significant environmental effects of the implementation of the Council's LDF (including Core Strategy and DMP).

8.1.4 The proposed SA monitoring framework is included in Appendix 3 of this SA Report.

9 NEXT STAGES

9.1.1 The next stages in the SA process are completed alongside the preparation of the Twickenham AAP and will consider any responses received to this SA Report. Following the consultation on the proposals and policies contained within the Pre-Publication of the Twickenham AAP, the Submission version of the draft Twickenham AAP will be prepared. The results of the consultation on the draft plan (Pre-Publication AAP) and this SA report will determine whether any further changes are required to the AAP.

9.1.2 Any subsequent changes will then be incorporated into the Submission version of the AAP, which will be again consulted on and accompanied by Sustainability Appraisal (Stage D2 of the SA process).

10 GLOSSARY

Affordable Housing

Housing subsidised in some way for people unable to rent or buy on the open housing market. PPS3 Housing defines affordable housing as follows: "Affordable housing includes social rented and intermediate housing, provided to specified eligible households whose needs are not met by the market. Affordable housing should:

- Meet the needs of eligible households including availability at a cost low enough for them to afford, determined with regard to local incomes and local house prices.
- Include provision for the home to remain at an affordable price for future eligible households or, if these restrictions are lifted, for the subsidy to be recycled for alternative affordable housing provision."

Authority's Monitoring Report (AMR)

Provides an annual evidence base upon which the implementation of the policies in the Local Development Framework and Unitary Development Plan can be assessed.

Baseline

A description of the present and future state of an area, in the absence of any plan, taking into account changes resulting from natural events and from other human activities.

Biodiversity

Literally the 'variety of life' - the number and mix of species of animals and plants in a given area, and the range of urban and rural habitats making up the ecosystem, including the links and interactions between all of these.

Biodiversity Action Plan

A plan that sets objectives and actions for the conservation of biodiversity in the UK, London and Richmond respectively, with measurable targets. The action plan also identifies priority species and habitats for conservation.

BREEAM

BREEAM (Building Research Establishment Environmental Assessment Method) is the leading and most widely used environmental assessment method for buildings within the UK. It sets the standard for best practice in sustainable design and has become the de facto measure used to describe a building's environmental performance. It assesses the performance of buildings in the following areas: management, energy use, health and well-being, pollution, transport, land use and ecology, waste, materials and water.

Brownfield Site (see Previously Developed Land)

Code for Sustainable Homes

The Code for Sustainable Homes is the national standard for the sustainable design and construction of new homes, which aims to reduce carbon emissions and create homes that are more sustainable. It became operational in England in April 2007 and a Code rating for new build homes became mandatory from 1 May 2008. The Code measures the sustainability of a new home against categories of sustainable design, rating the 'whole home' as a complete package. The Code uses a 1 to 6 star rating system to communicate the overall sustainability performance of a new home.

Combined Heat and Power (also see Decentralised Energy)

Combined Heat and Power (CHP) is the use of a single piece of plant to generate both heat and electricity. In conventional power generation large quantities of energy in the form of heat

are wasted. The waste heat from the CHP plant's engine is utilised for a heating application such as making hot water or space heating.

Consultation Body

In the context of SEA and SEA, a Consultation Body is an authority, which, because of its environmental responsibilities, is likely to be concerned by the effects of implementing plans and programmes and must be consulted under the SEA Directive. The Consultation Bodies in England are English Heritage, Natural England and the Environment Agency.

Core Strategy

The Core Strategy sets out the key elements of the planning framework for the area. It is comprised of a spatial vision and strategic objectives for the area; a spatial strategy; core policies; and a monitoring and implementation framework with clear objectives for achieving delivery. All other Development Plan Documents must be in conformity with the adopted Core Strategy.

Decentralised Energy (also see Combined Heat and Power)

A Decentralised Energy (DE) scheme provides heat and/or power from a central source at or near the point of consumption to more than one building, dwelling or customer. It includes high efficiency co-generation or Combined Heat and Power (CHP), on-site renewable energy systems and/or energy recycling systems. It is an alternative to providing individual national grid-connected systems to each dwelling. Schemes can vary in size from a few dwellings to city-wide networks, and reduce costs for tenants and cut carbon dioxide emissions.

Development

Defined and qualified by the Town and Country Planning Act 1990 (s.22) as the carrying out of building, engineering, mining or other operations in, on, over, or under land, or the making of any material change in the use of any building or other land.

Development Plan Documents (DPDs)

The Local Development Framework is partly comprised of Development Plan Documents, which in turn comprise the Core Strategy, Site Allocations, Proposals Map, Development Management DPD and sometimes Area Action Plans.

Environmental Assessment

Generically, a method or procedure for predicting the effects on the environment of a proposal, either for an individual project or a higher-level "strategy" (a policy, plan or programme), with the aim of taking account of these effects in decision-making. The term "Environmental Impact Assessment" (EIA) is used, as in European Directive 337/85/EEC, for assessments of projects. In the Strategic Environmental Assessment (SEA) Directive, an environmental assessment means "the preparation of an environmental report, the carrying out of consultations, the taking into account of the environmental report and the results of the consultations in decision-making and the provision of information on the decision", in accordance with the Directive's requirements.

Environmental Report

A document required by the SEA Directive as part of an environmental assessment, which identifies, describes and appraises the likely significant effects on the environment of implementing a plan or programme (see SA Report).

Historic Environment

All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible or buried, and deliberately planted or managed fauna.

Indicator

A measure of variables over time, often used to measure achievement of objectives.

- **Output Indicator:** An indicator that measures the direct output of the plan or programme. These indicators measure progress in achieving plan or programme objectives, targets and policies.
- **Significant Effects Indicator:** An indicator that measures the significant effects of the plan or programme.
- **Contextual indicator:** An indicator used in monitoring that measures changes in the context within which a plan or programme is being implemented.

Local Development Document (LDD)

There are two types of Local Development Document: Development Plan Documents and Supplementary Planning Documents.

Local Development Framework (LDF)

The LDF sets out, in the form of a 'portfolio' or 'folder', the documents which collectively deliver the spatial planning strategy for the local planning authority's area. The LDF will be comprised of Development Plan Documents, Supplementary Planning Documents, the Statement of Community Involvement, the Local Development Scheme and the Annual Monitoring Report.

Local Development Scheme (LDS)

The LDS sets out the local authority's programme for preparing the Local Development Framework.

National Planning Policy Framework

Will eventually replace PPGs and PPSs (see below). Currently draft.

Objective

An objective is a statement of what is intended, specifying the desired direction of change in trends.

Open Space

Any open land that is used by the public or local community for outdoor recreation, whether publicly or privately owned and whether use is by permission, as of right, or de facto. See the Town and Country Planning Act 1971 Section 290 or 1990 Section 336. Open space means any land laid out as a public garden, or used for the purpose of public recreation, or land which is a disused burial ground.

Planning Policy Guidance (PPG)

Statements of Government planning policy covering a range of issues. They are being replaced by Planning Policy Statements, which carry greater weight.

Planning Policy Statement (PPS)

Statements of national policy and principles on aspects of the town planning framework. They apply to England only. They are legally binding and may be treated as material considerations in the determination of planning applications. They were introduced under the provisions of the Planning and Compulsory Purchase Act 2004 and are gradually replacing PPGs.

Previously Developed Land

Previously-developed land is that which is or was occupied by a permanent structure, including the curtilage of the developed land and any associated fixed surface infrastructure.

Renewable Energy/Renewables

Energy generated from sources that are non-finite or can be replenished, e.g. solar power, wind energy, power generated from waste, biomass etc.

Responsible Authority

In the SEA Regulations, a Responsible Authority means an organisation, which prepares a plan or programme subject to the SEA Directive and is responsible for the SEA.

Scoping

The process of deciding the scope and level of detail of an SA, including the sustainability effects and options which need to be considered, the assessment methods to be used, and the structure and contents of the SA Report.

Strategic Environmental Assessment (SEA)

Required by European (European Directive 2001/42/EC) and UK law, SEA is a way of systematically identifying and evaluating the impacts that a plan is likely to have on the environment. The aim is to provide information in the form of an Environmental Report that can be used to enable decision makers to take account of the environment and minimise the risk of the plan causing significant environmental damage. Government guidance advises that where a plan requires both strategic environmental assessment and sustainability appraisal, that the former process should be integrated into the latter one.

Strategic Environmental Assessment (SEA) Directive

European Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment.

Strategic Environmental Assessment (SEA) Regulations

The Environmental Assessment of Plans and Programmes Regulations, 2004.

Strategic Flood Risk Assessment

Planning Policy Statement 25 (PPS25): Development & Flood Risk requires Local Planning Authorities to appraise the risk of flooding in their areas by undertaking a Strategic Flood Risk Assessment (SFRA), the aim of which is to avoid inappropriate development in areas at risk of flooding, and to direct development away from areas at highest risk. The SFRA is a report which includes a series of maps that define areas of flooding in the borough according to various levels of risk and from the River Thames, its tributaries and other sources. The Council's Level 1 SFRA was published in June 2008 and it has been used as important evidence base document for the Council's Core Strategy. In August 2010, the London Borough of Richmond upon Thames has completed the update to the 2008 SFRA. The Level 1 SFRA Update supersedes the previous June 2008 SFRA. This SFRA will be used to inform land allocations, to facilitate the application of the Sequential Test and in particular, advise Development Management, Emergency Planners and developers on flood risk matters.

Statement of Community Involvement (SCI)

The SCI is a document explaining to stakeholders and the community how and when they will be involved in the preparation of the Local Development Framework, and the steps that will be taken to facilitate this involvement.

Supplementary Planning Guidance/Documents (SPG/SPD)

SPGs and SPDs form part of the planning framework for the area. SPDs, which are part of the LDF, may cover a range of issues, both topic and site specific, which may expand policy or provide further detail to policies in a DPD.

Sustainability Appraisal

The Planning and Compulsory Purchase Act 2004 requires Local Development Documents to be prepared with a view to contributing to the achievement of sustainable development. Sustainability Appraisal is a systematic appraisal process. The purpose of Sustainability Appraisal is to appraise the social, environmental and economic effects of the strategies and policies in a Local Development Document from the outset of the preparation process. This will ensure that decisions are made that accord with sustainable development.

Sustainable Transport

Sustainable transport is used to describe all forms of transport which minimise emissions of carbon dioxide and pollutants. It can refer to public transport, car sharing, walking and cycling as well as technology such as electric and hybrid cars and biodiesel.

Unitary Development Plan (UDP)

UDPs have been previously produced by each London Borough, which integrated strategic and local planning responsibilities, through proposals and policies for the development and use of land in their areas. Gradually being superseded by Plans within the Local Development Framework. In London Borough of Richmond only policy CCE 22 and proposal sites remain as saved UDP policies.

APPENDIX 1 – Relevant policies, plans and programmes

Table A: List of relevant policies, plans, programmes, strategies and initiatives reviewed

Level: International
Directive 92/43/EC Conservation of Natural Habitats of Wild Fauna & Flora
Directive 2009/14/EC Birds Directive
The Convention on Biological Diversity. Rio de Janeiro 1992.
Directive 2000/60/EC Water Framework Directive
Directive 1996/62/EC Ambient Air Quality Directive
Directive 1999/30/EC Limit values for SO ₂ , NO _X , PM ₁₀ & lead
Directive 2002/49/EC Environmental Noise Directive
Kyoto Protocol on Climate Change 2005
Directive 99/31/EC Landfill Directive
Pan-European Biological and Landscape Diversity Strategy
European Sustainable Development Strategy
European Spatial Development Perspective
White Paper: European Transport Policy for 2010: time to decide EU COM (2001) 370
EU Sixth Environmental Action Programme
European Landscape Convention (2000)
Living Planet Report
Level: National
Climate Change Act 2008
UK Sustainable Development Strategy "Securing the Future" March 05
Conservation of Habitats and Species Regulations 2010
UK Biodiversity Action Plan
Working with the Grain of Nature: Biodiversity Strategy for England
The Future of Transport White Paper DfT 2004
Aviation White Paper – The Future of Air Transport
Wildlife & Countryside Act 1981 (as amended)
Sustainable Communities Plan ODPM 2003
Energy White Paper DTI. 2007
Climate Change: The UK Programme 2006
The Air Quality Strategy for England, Scotland, Wales & Northern Ireland. DEFRA 2007.
Air Pollution: Action in a Changing Climate (March 2010)
Strategy for Flood Risk Management EA 2003
Environment Agency: Policy and Practice for the Protection of Groundwater
An Environmental Vision – Environment Agency
Looking to the Future 2004-7 The National Trust 2004
Natural England Corporate Plan 2009-2012
Code for Sustainable Homes
The Historic Environment: A Force for Our Future 2001
Transport & the Historic Environment – English Heritage 2004
Strategic Plan – British Trust for Conservation Volunteers
The Water Act 2003
Stern Review on the Economics of Climate Change
Flood Risk Regulations 2009

Flood and Water Management Act 2010
Healthy Lives, Healthy People: Our Strategy for Public Health in England
Saving Carbon, Improving Health - The NHS Carbon Reduction Strategy for England
CL:AIRE Definition of Waste: Development Industry Code of Practice
Strategies to prevent unintentional injuries among the under-15s
The Plan for Growth, HM Treasury, BIS, March 2011
Planning for Growth, Greg Clark, March 2011
Level: National Planning Policy Guidance
PPS 1: Delivering Sustainable Development
Planning Policy Statement: Planning and Climate Change - Supplement to Planning Policy Statement 1
PPG 2: Green Belts
PPS 3: Housing
PPS 4: Planning for Sustainable Economic Growth
PPS 5: Planning for the Historic Environment
PPS 6: Planning for Town Centres
PPG 8: Telecommunications
PPS 9: Biodiversity and Geological Conservation
PPS 10: Planning for Sustainable Waste Management
PPS 12: Local Spatial Planning
PPG 13: Transport
PPG 14: Development on Unstable Land
PPS 16: Archaeology and Planning
PPG 17: Planning for Open Space, Sport and Recreation
PPG 18: Enforcing Planning Control
PPG 19: Outdoor Advertisement Control
PPS 22: Renewable Energy
PPS 23: Planning & Pollution Control
PPG 24: Planning & Noise
PPS 25: Development & Flood Risk + practice guide
Good Practice Guide on Planning for Tourism
Minerals Planning Guidance Note 1: General Considerations
Minerals Planning Guidance Note 7: Reclamation of Mineral Workings
Draft National Planning Policy Framework (NPPF) 2011
Level: Regional
A Sustainable Development Framework for London
The London Plan: Spatial Development Strategy for Greater London (2008)
The Mayor's Transport Strategy (May 2010)
The Mayor's Noise Strategy: Souder City (March 2004)
Cleaning the Air: The Mayor's Air Quality Strategy (Dec 2010)
The Mayor's Biodiversity Strategy: Connecting with London's Nature (July 02)
Cultural Metropolis: The Mayor's Cultural Strategy (Nov 2010)
Mayor's Economic Development Strategy for London (May 2010)
Green Light to Clean Power: The Mayor's Energy Strategy (Feb 2004)
London Biodiversity Action Plan
Sub Regional Development Framework for the South sub region (May 2006)
Environment Agency River Thames Alliance, Thames Waterways Plan
Environment Agency Thames Corridor Catchment Abstraction Management Strategy
Thames River Basin Management Plan (December 2009)
Thames Catchment Flood Management Plan (December 2009)

Environment Agency Thames Estuary 2100 Project (2009)
London Strategic Parks Project
Environment Agency Lower Thames Strategy (draft)
Draft London Climate Change Mitigation and Energy Strategy 2010
Draft Climate Change Adaptation Strategy 2010
TfL Transport Assessment Best Practice Guidance (April 2010)
TfL A New Way to Plan (March 2010)
TfL Managing Freight Effectively: Delivery and Servicing Plans
The Mayor's Equality Framework: Equal Life Chances for All
The London Catchment Abstraction Management Strategy (CAMS)
Level: Local - London Borough of Richmond upon Thames plans
LDF Core Strategy (2009)
Development Management Development Plan Document (2011)
Unitary Development Plan (2005)
Community Plan
Air Quality Action Plan
Biodiversity Action Plan (Richmond Biodiversity Partnership)
Education Development Plan and Richmond upon Thames Children and Young Person's Plan 2009-2013
Local Transport Strategy
Housing Strategy
Community Safety Strategy
Thames Landscape Strategy
Local Agenda 21 Strategy
Climate Change Strategy
Primary Care Trust Local Delivery Plan
Strategic Framework for Older People+
Open Space Strategy
Contaminated Land Strategy
SWELTRAC
Local Economic Assessment
The Thames Landscape Strategy: Hampton to Kew Document (1994)
Borough-wide Sustainable Urban Development Study (2008)
Twickenham Riverside Conservation Area Statement
Twickenham Green Conservation Area Statement
Twickenham Park Conservation Area Statement
Safeguarding Adults, Inter-Agency Policy and Procedures

APPENDIX 2 – Sustainability issues

Table B: Sustainability Issues in the London Borough of Richmond upon Thames

Environmental Issues	Description	Possible policy option	Data Source
Amount of household waste and recycling	Will need to increase recycling rates and provide facilities for dealing with waste locally.	Promote the sustainable use, reuse, recycling and disposal of resources	London Plan, GLA waste strategy DEFRA Municipal Waste Statistics
High pollution levels and poor air quality	The main source of pollution is the large volumes of road and air traffic. The whole borough is an Air Quality Management Area	Ensure development does not exacerbate the existing air quality issue and seek to implement measures to reduce predicted exceedences. Development should be located where it may reduce distances travelled.	Days of air pollution Annual mean levels of NO ₂ and particulates Local monitoring
Pressure for new development	The riparian landscape, historic environment, proximity to good transport links and facilities make Richmond upon Thames an attractive location. The borough is centred around the River Thames. 5 other major water courses run through the borough. (River Crane, Beverley Brook, Whitton Brook, Duke of Northumberland's River and Longford River) There is potential for the character of the landscape and townscape to be harmfully affected by change, e.g. through insensitive housing development. There are 72 conservation areas and 4,890 designated BTM s and 1,700	Protect and promote a high quality environment. Ensure that development needed for economic or social needs does not adversely affect the character of the borough. Development should be strictly restricted within 16 metres of the tidal sections of the River Thames, within 8 metres of non tidal main rivers and within 5 metres of all other watercourses (including ditches and drains). Protect the most important buildings and the character of the area.	Environment Agency Urban design monitoring

Environmental Issues	Description	Possible policy option	Data Source
	Listed Buildings.		
Conservation and enhancement of biodiversity	The borough contains some areas designated as being of international as well as local importance e.g. Richmond Park, the Wetlands Centre.	Ensure biodiversity is not adversely affected by development.	Condition of SSSIs
Increasing threat of flooding due to climate change	Climate change is a key issue facing the borough. Flooding both upstream (fluvial/non tidal) and downstream (tidal) of Teddington Weir, is serious during extreme events and may well worsen in years to come as a result of climate change. Limiting run off from new development is an extremely important issue that will need to be addressed.	Major development should be limited especially residential developments, which should be <i>strictly</i> limited in floodplain areas. In all areas of the borough consideration should be given to sustainable urban drainage systems (SUDS). Through the use of SUDS, runoff from new developments should be limited to that of equivalent Greenfield runoff rates. Implementation should be in line with the London Plan drainage hierarchy.	DCLG and DEFRA Environment Agency
Need to mitigate and adapt to the impacts and effects of climate change	The main source of carbon dioxide is from combustion of fossil fuels i.e. through electricity generation, or vehicle emissions. Buildings are the biggest cause of carbon dioxide emissions in the UK. Richmond has one of the highest carbon footprints in London per capita. Need to conserve natural resources e.g. through energy efficiency, & conservation of materials & water. Communities and buildings have to adapt to likely effects of climate change.	Seek a reduction in traffic congestion & encourage sustainable modes of transport in order to reduce pollution. Criteria must be established require renewable energy within development proposals. Development should meet the highest standards of energy efficiency, sustainable design and construction possible, and ensure that buildings are designed to cope with the likely predicted changes in climate.	PPS 1 and PPS 22 DECC data EU Directive on Energy Performance of Buildings, 2003. Code for Sustainable Homes BREEAM EU Directive on Landfill, 1999

Social Issues	Description	Possible policy option	Data Source
Varying levels of poverty & social exclusion	The borough is generally affluent with 24 super output areas (SOAs) included in the most prosperous 10% in England. However within the most affluent wards it is likely that there are pockets of local deprivation.	Address issues of social exclusion and accessibility for disadvantaged groups. Ensure that social and economic sustainability objectives are taken fully into consideration in key wards.	London Plan, Indices of Multiple Deprivation 2007, DCLG ONS Annual Population Survey
Need to provide adequate housing supply.	The provision of housing is one of the most important issues affecting the borough.	Ensure that housing provision helps to provide sufficient homes for all sections of the community. Possible need to reallocate land for housing. The location of additional housing is important as it should be situated on previously developed land where possible and accessible to employment, facilities and transport.	LBRuT monitoring Local Housing Needs Assessment (2006) Local Housing Availability Assessment (2008)
Affordable housing price/earnings affordability ratio	House prices in the area are higher on average (£556,691) compared to the National Average (£164,773). This makes it difficult for people to afford to buy homes. There is also a shortage of affordable (rented / part-owned) homes in the district. There is a growing proportion of single person households causing a drop in average household size. The Council's housing service indicates that provision of family accommodation for social rent is the main priority.	Policies to continue to provide for meeting affordable housing need. The location of affordable housing also has implications (see above).	PPS3 & London Plan, Land Registry, Joseph Rowntree Foundation Research, ONS Annual Survey of Hours and Earnings LBRuT Housing Needs Survey, Census figures

Social Issues	Description	Possible policy option	Data Source
A safe place to live	<p>Fear of crime and antisocial behaviour (which is disproportionate to actual level of crime), possibly leads to negative effects upon health of residents.</p> <p>Disorder especially related to crowds and weekend visitors to the borough's town centres is a concern.</p> <p>Possible negative effects upon economic well-being e.g. in town centres.</p> <p>Decrease in community cohesion.</p>	<p>Use of design to reduce crime, vandalism, graffiti and fear of crime.</p> <p>Ensure a balanced town centre retail and evening economy. Potentially introduce areas of special control.</p>	Crimes recorded per 1,000 population Metropolitan Police Authority

Social Issues	Description	Possible policy option	Data Source
<p>Access to essential facilities and services</p>	<p>Generally the <u>health</u> of the borough is good with a high life expectancy.</p> <p>76.3%, 17.8% and 5.9% of borough residents reported their health to be respectively good, fairly good and not good.</p> <p>However the population is aging and this will require additional services and facilities to support its well-being.</p> <p><u>Education</u> –Results from the borough’s schools are generally above the England average. Due to increasing demand (often from outside the borough) many schools are operating at capacity.</p> <p>The population of Richmond upon Thames is generally well educated, with a well qualified workforce. There are problems due to lack of childcare facilities/after school clubs etc.</p> <p>Leisure – access to a range of accessible and inclusive activities can enhance the quality of life of residents and visitors.</p> <p>Access to local shopping</p> <p>The River Thames is a popular and important natural attraction for locals and tourists alike. The Thames path should be safeguarded.</p>	<p>Ensure that enough health care facilities are provided as part of new development and that there is comprehensive transport to health centres and facilities throughout the borough.</p> <p>Increasing health service provision to meet requirements for older age groups</p> <p>New housing and publicly accessible buildings and workplaces should be accessible for mobility impaired and disabled.</p> <p>Need to ensure that sufficient educational facilities and choice is provided and are accessible to potential users.</p> <p>There are areas in the borough with a need for more primary school places.</p> <p>Childcare provision can be encouraged as part of new development</p> <p>Need to ensure there is sufficient provision of accessible leisure facilities as part of new housing development and that proposals are located in areas, which meet a requirement for local needs and do not harm amenity of residents.</p> <p>Protection of local shopping facilities and filling gaps where identified</p> <p>Develop greater public access to waterways within AAP area.</p>	<p>Census 2001 ONS Projections show a significant increase in the 85+ population over the next 12 years.</p> <p>NHS Richmond</p> <p>DWP Benefit Claimants</p> <p>DfES performance tables</p> <p>Education Provision in the Borough (2007)</p> <p>Education Development Plan and Richmond upon Thames Children and Young Person’s Plan 2009-2013</p> <p>Labour Force Survey</p> <p>ONS Annual Population Survey</p> <p>Sport, Open Space and Recreation Needs Assessment</p> <p>LDF Town Centre & Retail Research</p> <p>LBRuT monitoring</p> <p>LBRuT monitoring</p>
		45	

Economic Issues	Description	Possible policy option	Data Source
Business start up & closures	Large numbers of small businesses & entrepreneurship.	Provide for the needs of local businesses on appropriate sites.	OND Business Demography ABI data Local Economic Assessment (2010)
Skills Shortages	<p>There are very low unemployment levels in the borough (with only 1.9% of the population claiming Job Seekers allowance at April 2005). Some low paid posts have become unattractive and hard to fill.</p> <p>Small proportion of the local population classified long term unemployed</p> <p>The high house prices have lead to a shortage of low paid and key workers living in the area.</p>	Ensure affordable housing targets are met including the provision of sufficient rented and shared ownership accommodation for lower paid workers.	<p>Unemployment rate for the borough from GLA claimant rates</p> <p>2011 Business All in One</p> <p>ONS Claimant Count data</p> <p>DWP Benefits Claimants</p>
Promotion of economic growth	Possible mismatch between land & property available for business development and demand.	Ensure employment land availability	Monitoring of consents Employment Land Study (2009)
Improve the resilience of business & the economy	<p>Insufficient diversity of economic sectors represented in the area</p> <p>Number of empty non-domestic properties</p>	Encourage the retention and provision of a range of small business units to meet the needs of local business	<p>IDBR/ABI</p> <p>LBRuT Town Centre Land Use Surveys</p> <p>Council Tax & Revenues</p>
Traffic congestion and unreliable journey times	High levels of car ownership and dependency	Locate major trip generating activities in town centres and areas of high public transport accessibility (in order to increase opportunities for alternative means of travel). Reduction of congestion and encouragement of travel choice and car clubs.	<p>Employment floorspace in main centres</p> <p>LBRuT monitoring</p>

Economic Issues	Description	Possible policy option	Data Source
		Promote walking, cycling and public transport as alternatives to car travel for short journeys	Public Transport use from TfL
Adequate supply of hotels to support sustainable tourism.	Tourism could be a greater economic force in the area given the number and quality of historic sites, houses, and gardens etc. Need to capitalise on the 2012 Olympic legacy and 2015 Rugby World Cup	Support tourist and overnight visitor accommodation development in appropriate locations	LBRuT monitoring

APPENDIX 3 – Proposed Sustainability Appraisal Monitoring Framework

Table C: Proposed Sustainability Appraisal Monitoring Framework

SA Objective	Monitoring indicator	Monitored by	Timeframe	Comments
1) To promote sustainable waste management, including prevention, reducing waste and waste disposal, preparing for reuse, recycling and recovery before disposal.	Capacity of new waste management facilities by type	www.capitalwastefacts.com and any Reporting by (LBRuT) Street Scene performance	3 year programme	Data will be reported elsewhere (WLWP) and therefore need to be reported only every 3 years.
	Quantity of household waste arising, and managed, by management type	Reporting by (LBRuT) Street Scene performance	3 year programme	Data will be reported elsewhere (WLWP) and therefore need to be reported only every 3 years.
	Quantity of household waste reused, recycled and composted	Reporting by (LBRuT) Street Scene performance	Annually	
	Quantity of municipal waste land filled	Reporting by (LBRuT) Street Scene performance	3 year programme	Data will be reported elsewhere (WLWP) and therefore need to be reported only every 3 years.
2) To make the most efficient use of land, remediate and reuse contaminated land and safeguard soil quantity and quality.	Number of contaminated land sites, remediated or investigated with no further requirement for remediation	(LBRuT) Special Projects team	3 year programme	

SA Objective	Monitoring indicator	Monitored by	Timeframe	Comments
3) Reduce air and noise pollution, including reducing emissions of greenhouse gases, and ensure air quality improves.	Number of days p.a. when air pollution is moderate or high for PM10*	(LBRuT) Special Projects team LBRuT	3 year programme	*Daily mean particles (PM10) not to exceed 50 micrograms per cubic metre, more than 35 times a year, at any measuring site
	Percentage of regulated CO ₂ emissions saved below Building Regulations 2010 target level through all low carbon measures (for developments subject to Sustainable Construction Checklist – SCC).	LBRuT monitoring*	Annually through monitoring of Sustainable Construction Checklist	* Monitoring system of Sustainable Construction Checklist is under development
	Number of new developments (subject to SCC) that incorporate measures to reduce noise.	LBRuT monitoring*	Annually through monitoring of Sustainable Construction Checklist	* Monitoring system of Sustainable Construction Checklist is under development
4) Minimise congestion and pollution by reducing the need to travel, encourage alternatives to the car and making best use of existing transport infrastructure.	Percentage of completed non residential development complying with maximum parking standards set out in the LDF.	LBRuT monitoring	Annually	
	No of households registered with a car club	LBRuT monitoring	3 year programme	
	Percentage of trips by main mode: walking and cycling	LBRuT monitoring	3 year programme	
	Level of parking occupancy in town and local centre car parks.	LBRuT monitoring	Annually	

SA Objective	Monitoring indicator	Monitored by	Timeframe	Comments
5) To maintain groundwater and surface water quality, conserve water and reduce the risk of flooding.	Planning permissions granted contrary to Environment Agency advice on flooding and water quality grounds.	Environment Agency and LBRuT	Annually	
	Proportion of residential developments subject to the Sustainable Construction Checklist with a maximum water consumption target of 105 litres/person/day.	LBRuT monitoring*	Reported on 3-yearly basis through monitoring of Sustainable Construction Checklist	* Monitoring system of Sustainable Construction Checklist is under development
	Number of new developments subject to the Sustainable Construction Checklist that have incorporated sustainable drainage in their development; by type of sustainable drainage technique	LBRuT monitoring*	Reported on 3-yearly basis through monitoring of Sustainable Construction Checklist	* Monitoring system of Sustainable Construction Checklist is under development
	Change in area of permeable surfacing (net gains and net losses in sqm) as a result of new developments subject to the Sustainable Construction Checklist.	<i>LBRuT monitoring*</i>	Reported on 3-yearly basis through monitoring of Sustainable Construction Checklist	* Monitoring system of Sustainable Construction Checklist is under development

SA Objective	Monitoring indicator	Monitored by	Timeframe	Comments
6) To promote sustainable energy use through reducing energy use by maximising energy efficiency, use of zero- and low carbon technologies and reduce carbon dioxide emissions through the increased use of renewable energy.	Number of new developments subject to the Sustainable Construction Checklist that have incorporated energy efficient design with a specific heat demand of less than equal to 15kWh/sqm	LBRuT monitoring*	Reported on 3-yearly basis through monitoring of Sustainable Construction Checklist	* Monitoring system of Sustainable Construction Checklist is under development
	Energy trends data at LA level	<i>DECC data</i>	Annually	
7) Conserve and enhance biodiversity, avoiding irreversible losses, through responsible management of all wildlife sites and species, and through the enhancement of wildlife corridors.	Loss of or inappropriate development on designated SSSIs, and Other Sites of Nature Importance.	LBRuT monitoring	annually	
	River water bodies classified under the Water Framework Directive to achieve good ecological status	Environment Agency monitoring	3 year programme	
	No of developments subject to the SCC which improve on-site biodiversity by incorporating new features and/or habitats, by type of features.	LBRuT monitoring*	Reported on 3-yearly basis through monitoring of Sustainable Construction Checklist	* Monitoring system of Sustainable Construction Checklist is under development
	No of developments subject to the SCC incorporating green roofs, by type	LBRuT monitoring*	Annually through monitoring of Sustainable Construction Checklist	* Monitoring system of Sustainable Construction Checklist is under development

SA Objective	Monitoring indicator	Monitored by	Timeframe	Comments
	Area of borough deficient in access to Sites of Nature Importance (hectares) (includes SSSIs and Other Sites of Nature Importance)	LBRuT monitoring	3 year programme	
8) Promote high quality places, spaces and buildings and conserve and enhance the borough's landscape and townscape character and its heritage assets.	Number of Listed Buildings or Buildings of Townscape Merit demolished	LBRuT monitoring	annual	
	Number of buildings on/added/removed from the English Heritage "At Risk" Register p.a.	LBRuT monitoring	3 year programme	
	Loss/inappropriate development on designated open spaces e.g MOL, River Thames, Green Belt, OOLTI and public open space	LBRuT monitoring	annual	
	The level of satisfaction with the design and layout of new housing schemes	LBRuT monitoring	3 year programme	
9) To make best use of previously developed land and existing buildings, encouraging sustainable construction practices.	Percentage of new homes built to Lifetimes Homes standards (see also 11 below)	LBRuT monitoring	3 year programme	
	Proportion of new residential developments that meet Code for Sustainable Homes Level 3	LBRuT monitoring*	Annually through monitoring of Sustainable Construction Checklist	* Monitoring system of Sustainable Construction Checklist is under development

SA Objective	Monitoring indicator	Monitored by	Timeframe	Comments
	Proportion of new non residential buildings over 100sqm to meet the relevant BREEAM "excellent" standard.	LBRuT monitoring*	Annually through monitoring of Sustainable Construction Checklist	* Monitoring system of Sustainable Construction Checklist is under development
	Proportion of residential conversions that can be assessed under EcoHomes (or any subsequent new applicable standard) that meet the "excellent" rating.	LBRuT monitoring*	Annually through monitoring of Sustainable Construction Checklist	* Monitoring system of Sustainable Construction Checklist is under development
10) To provide new housing opportunities and sufficient affordable housing that meets local needs.	Net additional dwellings for reporting year, over previous, years and in future	LBRuT monitoring	Annually	
	Percentage of all new housing completions which is affordable housing	LBRuT monitoring	Annually	
	Completions by dwelling size	LBRuT monitoring	3 year programme	
11) To create and maintain safer and more secure communities.	Percentage of new homes built to wheelchair standards on developments	LBRuT monitoring	3 year programme	
	Percentage of new homes built to Lifetimes Homes standards (also see 9 above)	LBRuT monitoring	3 year programme	

SA Objective	Monitoring indicator	Monitored by	Timeframe	Comments
	Number of recorded crimes pa. Retain position in top 3 for lowest crime figures in Met Police area.	Metropolitan Police Service figures	Annually	
	Progress on Public Transport improvements in 5 areas of relative disadvantage	LBRuT monitoring	3 year programme	
12) To facilitate the improved health and well being of the population, including enabling people to stay independent and ensuring access to those health, education, environment, sport, leisure and recreation facilities and services that are required.	Amount of completed floorspace in clinic/health centre use	LBRuT monitoring	3 year programme	
	Number of planning Obligations achieved and money raised for community uses by type (health, sport, education, etc).	LBRuT monitoring	Annually	
	Improving public health profile. Ranking in the top 3 within the SHA for the range of indicators used in the Local Health Profiles.	Department of Health	Annually	

SA Objective	Monitoring indicator	Monitored by	Timeframe	Comments
13) To increase the vitality and viability of existing town centres, local centres and parades.	Percentage of completed floorspace (new development & net additional floorspace) for town centre uses (A2, B1a and D2) within town centre boundaries/mixed use areas. For A1, % of completed floorspace within, adjacent to or well-related to designated frontages.	LBRuT monitoring	Annually	
	Vacancy rates within designated shopping frontages for Richmond, the district and smaller centres.	LBRuT monitoring	Annually	
	Proportion of retail A1 uses in key shopping frontages	LBRuT monitoring	3 year programme	
14) To promote and encourage a buoyant and diverse economy that will provide sustainable economic growth.	Amount and type of completed employment floorspace developed by employment type.	LBRuT monitoring	Annually	
	Employment land for which planning permission has been granted by UCO for the monitoring year (ha)	LBRuT monitoring	Annually	
15) Provide appropriate commercial development and	Amount of employment floorspace lost to completed non-employment uses (identifying use classes)	LBRuT monitoring	Annually	

SA Objective	Monitoring indicator	Monitored by	Timeframe	Comments
training opportunities to meet the needs of the local and sub-regional economy.	Completed small business units under 250sqm	LBRuT monitoring	3 year programme	
	No of workers in the borough (employees in employment)	LBRuT monitoring	3 year programme	
	Number of unemployed (claimant count) and estimated rate(GLA estimates)	LBRuT monitoring	3 year programme	

APPENDIX 4 – Sustainability Appraisal matrices of proposals and policies

The Spatial Strategy

The spatial strategy: Seeks to reinforce the distinctiveness of the five character areas which make up the town centre. The Northern approach around the station will be improved. Broaden the range and quality of the retail offer, with the core retail zone focusing around the junction of King Street, York Street and London Road, including the specialist retail area on Church Street, which could be extended into Water Lane. The food, beverage and convenience retail will be focused between London Road and York Street, and household goods and DIY on Heath Road.							
SA objectives	Geographic scale		Assessment / Length of effect			Cumulative	Commentary/explanation, uncertainties, proposed mitigation
	Twickenham	Wider	short term	medium term	long term		
1. Waste	-	-	--	-	-	?	Negative impacts due to more development, but mitigation measures possible
2. Land & soil	+	+		+	++		Promotes efficient use of land
3. Air & noise pollution	+	-	+/-	+/-	+/-	-	Positive impacts within town centre because of reduction of through traffic; however, traffic may be displaced to surrounding roads; additional impacts on air & noise pollution
4. Travel	+	+/-	+/-	+/-	?	+/?	Positive impacts on Twickenham because of improvements to the station and pedestrian environment and better use of existing transport infrastructure; there could be some negative impacts due to displacement of traffic, depending on the details of the scheme, but overall an improved pedestrian environment and public transport service
5. Water	?			?	?	?	Uncertainty - could potentially lead to increase in flood risk (riverside sites), and affect surface water quality, but depends on details of design and mitigation

6. Energy	+/?		+	+/?	+/?	?	Potential for sustainable energy use and decentralised energy; major developments such as the station site will provide opportunities for CHP/DE
7. Biodiversity				?	?	?	Uncertainty; depends on whether new schemes will provide new/enhanced habitats
8. Landscape & townscape	+		+	+	++	+	Positive in terms of reconnecting town centre with the riverside, enhancement of the riverside, protection of heritage assets, creation of new public spaces
9. Best use of land & sustainable construction	+			+	+	+	Intensification and therefore more efficient use of land, concentration of uses and better use of land
10. Housing	+	+		+	+	+	Some housing opportunities
11. Safer & cohesive communities	+			+	+	+	Improving pedestrian and cycling connectivity, new walkways, improved linkages to open areas and improved public realm
12. Health & well-being	+		+	+			More concentrated services with improved access and connectivity, improved community facilities, enhanced pedestrian environment
13. Town centres	+	+	+	++	++	++	Creation of specialist retail zone and high quality mixed use development, including public realm improvements
14. Economy	+	+	+	++	++	++	Opportunities for economic growth and diverse economy
15. Commercial development opportunities	+	+	+	++	++	++	Opportunities for commercial development
Summary of assessment: <i>(likely sustainability impact of the option)</i>							
Overall many positive impacts expected in relation to revitalising the town centre, local economy and commercial development opportunities as well as improvements to the townscape and provision of housing. However, could be some uncertain negative impacts on the environment, particularly in relation to transport, pollution, biodiversity and waste.							
Comments on assessment: <i>(additional comments on individual objectives and cumulative effects)</i>							

This spatial strategy may have significant positive impacts on the town centre, economy and commercial development opportunities as well as more housing opportunities and further townscape improvements, including facilitating an improved health and wellbeing of the population. Coupled with the proposed redevelopments, there could be potential for energy efficient buildings as well as sustainable energy use such as renewable technologies and decentralised energy networks. The impacts on biodiversity, water quality and flood risk are somewhat uncertain, and this will in many cases depend on the specific proposed details of redevelopment schemes. There could be some negative impacts as a result of some of the measures proposed under transport, leading to increased traffic and congestion around Twickenham and wider area. The additional improvements to the pedestrian environment could have positive impacts. Note that there are no actual proposal sites in the Heath Road western approach area of the town and therefore existing Core Strategy and DMP policies apply.

Possible Mitigation: *(measures to mitigate likely negative effects and enhance positive effects)*

Detailed traffic modelling will be carried out prior to any measures being introduced to ensure there are no negative impacts on the areas outside of the town centre. Any measures implemented as part of this strategy should also focus on reducing adverse impacts on air quality (particularly carbon dioxide emissions) and noise pollution, which will assist with improving the environment and consequently the revitalisation of Twickenham. Increase in waste due to new developments should be mitigated wherever possible, such as through the application of the waste hierarchy and site waste management plans. Protecting and enhancing biodiversity and creating new habitats should be included in this strategy, particularly for any riverside sites and the embankment, and any potential negative impacts on biodiversity from implementing this strategy should be mitigated.

The Transport Strategy

The transport strategy: Address transport and movement in a comprehensive and sustainable way, with the focus on the creation of an improved pedestrian environment in the retail core and improved links to it. The transport strategy for the AAP consists of a phased programme of improvements and traffic management.

SA objectives	Geographic scale		Assessment / Length of effect			Cumulative	Commentary/explanation, uncertainties, proposed mitigation
	Twickenham	Wider	short term	medium term	long term		
1. Waste							Neutral
2. Land & soil							Neutral

3. Air & noise pollution	+	-	+/-	+/-	+/-	-	Positive impacts within town centre because of reduction of through traffic; however, traffic may be displaced to surrounding roads potentially leading to additional impacts on air & noise pollution depending on the details of the scheme
4. Travel	+	+/-	+	+	?	+/?	Reducing dominance of traffic in favour of the pedestrian environment; provision of safe and convenient access for cyclists; improvements to interchange between all modes of travel; ensure bus travel through and to the centre is convenient; some uncertain or potentially negative impacts due to displacement of traffic
5. Water							Neutral
6. Energy							Neutral
7. Biodiversity							Neutral
8. Landscape & townscape	+		+				Environmental improvements; creation of an attractive area, removing of clutter and redundant street furniture
9. Best use of land & sustainable construction							Neutral
10. Housing							Neutral
11. Safer & cohesive communities	+		+			+	Improved pedestrian environment, safe and convenient access to and through the centre for cyclists, wider footways
12. Health & well-being	+		+			+	Pedestrian friendly, footway widening, overall positive on access to services
13. Town centres	+		+	+	+	+	Overall positive impacts; may enhance footfall, levels of passing trade through provision of car parking and better pedestrian environment
14. Economy	+		+	+	+	+	Environmental improvements may encourage investors into town centres

15. Commercial development opportunities							Neutral
<p>Summary of assessment: <i>(likely sustainability impact of the option)</i></p> <p>Overall many positive impacts, particularly in relation to the environment, character and townscape, which in turn should increase the vitality of the town centre and facilitate an improved health and wellbeing of the population.</p>							
<p>Comments on assessment: <i>(additional comments on individual objectives and cumulative effects)</i></p> <p>The strategy is likely to have many positive impacts by reducing dominance of traffic in favour of the pedestrian environment and the provision of safe and convenient access for cyclists. It seeks to improve the interchange between all modes of travel and ensure bus travel through and to the centre is convenient. There could potentially be some negative impacts as a result of some of the measures proposed, leading to increased traffic and congestion around Twickenham and the wider area. The proposed strategy allows personal choice and the option of using a car to access the town centre.</p>							
<p>Possible Mitigation: <i>(measures to mitigate likely negative effects and enhance positive effects)</i></p> <p>Detailed traffic modelling will be carried out prior to any measures being introduced to ensure there are no negative impacts on the areas outside of the town centre. Any measures implemented as part of this strategy should also focus on reducing adverse impacts on air quality (particularly carbon dioxide emissions) and noise pollution.</p>							

Environmental improvements

<p>Environmental improvements: Protect and restore features of the existing built and natural environment which have historical, architectural or amenity value. This includes upgrades to existing and creation of new public open and civic spaces, ensuring that redevelopment and transport proposals incorporate environmental improvements wherever possible, and providing new/well designed and coordinating street furniture and signage. Improved lighting will be installed throughout the town.</p>							
SA objectives	Geographic scale		Assessment / Length of effect				Commentary/explanation, uncertainties, proposed mitigation
	Twickenham	Wider	short	medium	long	Cumulative	

	ham		term	term	term		
1. Waste							Neutral
2. Land & soil							Neutral
3. Air & noise pollution							Neutral
4. Travel							Neutral
5. Water							Neutral
6. Energy					?	?	Use of recycled and natural materials, smart lighting technologies
7. Biodiversity	-/?		-/?	-/?		-	Potential for some negative impacts on biodiversity due to lighting and riverside access, subject to detailed design.
8. Landscape & townscape	++		++	++	+	+	Positive enhancements to built environment
9. Best use of land & sustainable construction							Neutral
10. Housing							Neutral
11. Safer & cohesive communities	+		+	+		+	Safer environment due to lighting, better links between spaces,
12. Health & well-being	+		+	+		+	Removing street clutter, better signage, access for disabled people, creation of public access to more open areas
13. Town centres	+		+	+	+	+	Enhanced built environment and therefore a likely increased footfall
14. Economy					+		A safe and attractive environment should boost the economy
15. Commercial development opportunities					+		Potential to attract investors to the enhanced town centre

Summary of assessment: <i>(likely sustainability impact of the option)</i>
Overall very positive impacts and new development and measures to improve the environment should positively enhance the town centre.
Comments on assessment: <i>(additional comments on individual objectives and cumulative effects)</i>
More development and lighting, especially along the riversides, could cause disturbance to biodiversity, but this will depend on the detailed design.
Possible Mitigation: <i>(measures to mitigate likely negative effects and enhance positive effects)</i>
Ensure that riverside walkways and links, in particular any proposed lighting, as well as the lighting of trees, should not impact on biodiversity and that the opportunity is taken to improve biodiversity where possible. New materials should be sustainably sourced and have low embodied energy. Ensure that lighting technology is as energy efficient as possible and focus on the replacement of existing less-efficient/old-style lighting.

Land use policies

Retail							
SA objectives	Geographic scale		Assessment / Length of effect			Cumulative	Commentary/explanation, uncertainties, proposed mitigation
	Twickenham	Wider	short term	medium term	long term		
1. Waste							Neutral
2. Land & soil							Neutral
3. Air & noise pollution							Neutral
4. Travel							Neutral
5. Water							Neutral
6. Energy							Neutral

7. Biodiversity							Neutral
8. Landscape & townscape							Neutral
9. Best use of land & sustainable construction			+				Potential for permanent and temporary markets
10. Housing							Neutral
11. Safer & cohesive communities							Neutral
12. Health & well-being							Neutral
13. Town centres			+	+	+		Enhanced and consolidated retail centre
14. Economy			+				Potential for permanent and temporary markets
15. Commercial development opportunities							Neutral
Summary of assessment: <i>(likely sustainability impact of the option)</i>							
Overall no significant positive or negative impacts, apart from some positive impacts on the vitality of the town centre.							
Comments on assessment: <i>(additional comments on individual objectives and cumulative effects)</i>							
N/A							
Possible Mitigation: <i>(measures to mitigate likely negative effects and enhance positive effects)</i>							
N/A							

Employment use							
SA objectives	Geographic scale		Assessment / Length of effect			Cumulative	Commentary/explanation, uncertainties, proposed mitigation
	Twickenham	Wider	short term	medium term	long term		
1. Waste							Neutral
2. Land & soil					+		Potential decontamination
3. Air & noise pollution					+		Potentially less industrial uses in the long-term because they will become B1
4. Travel							Neutral
5. Water							Neutral
6. Energy							Neutral
7. Biodiversity							Neutral
8. Landscape & townscape							Neutral
9. Best use of land & sustainable construction	+		+	+	+		Intensification of uses on existing sites
10. Housing					+		Potential for some increased housing opportunities due to new mixed use schemes
11. Safer & cohesive communities	+	+	+	+		+	Retention and provision of jobs near to where people live has the potential for more cohesive communities
12. Health & well-being	+	+	+	+		+	Retention and provision of jobs and services allows people to stay independent
13. Town centres	+	+	+	+	+	+	Ensures retention of jobs and services within the town centres
14. Economy	+	+	+	+	+	+	Provides a diverse economy, including specialist retail
15. Commercial development	+	+	+	+	+	+	Opportunities for new commercial development

opportunities							
Summary of assessment: <i>(likely sustainability impact of the option)</i>							
Very positive impacts.							
Comments on assessment: <i>(additional comments on individual objectives and cumulative effects)</i>							
N/A							
Possible Mitigation: <i>(measures to mitigate likely negative effects and enhance positive effects)</i>							
Ensure construction is as sustainable as possible.							

Economic development							
SA objectives	Geographic scale		Assessment / Length of effect			Cumulative	Commentary/explanation, uncertainties, proposed mitigation
	Twickenham	Wider	short term	medium term	long term		
1. Waste				-	-	-	Generation of significant extra amounts of waste due to expansion of local economy
2. Land & soil							Neutral
3. Air & noise pollution							Neutral
4. Travel	-	-	-	-	-	-	Extra generation of trips and travel into the town centre
5. Water							Neutral
6. Energy							Neutral
7. Biodiversity							Neutral
8. Landscape & townscape	+				+		Potential for improvement of town character
9. Best use of	+			+	+		Potential street markets, dual use

land & sustainable construction							
10. Housing							Neutral
11. Safer & cohesive communities	+	+	+	+		+	Initiatives should increase numbers of jobs and various events have the potential for more cohesive communities
12. Health & well-being	+	+	+	+		+	Retention and provision of jobs and services allows people to stay independent
13. Town centres	+	+	+	+	+	+	Ensures retention of jobs and services within the town centres
14. Economy	+	+	+	+	+	+	Provides a diverse economy, including specialist retail
15. Commercial development opportunities	+	+	+	+	+	+	Opportunities for new commercial development
Summary of assessment: <i>(likely sustainability impact of the option)</i>							
Overall very positive impacts, particularly on the local economy.							
Comments on assessment: <i>(additional comments on individual objectives and cumulative effects)</i>							
More residents, new businesses and visitors could potentially have negative impacts in relation to waste and travel, subject to detailed design.							
Possible Mitigation: <i>(measures to mitigate likely negative effects and enhance positive effects)</i>							
Impacts and consequences of measures that attract more residents, workers and visitors into the town, which is considered to be necessary for revitalising the town centre, will need to be balanced with measures to counteract the increased use of resources, infrastructure and Council services.							

Residential uses: Rely on Core Strategy and Development Management Plan

Summary of assessment: *(likely sustainability impact of the option)*

It is not necessary to assess the likely sustainability impact of relying on existing policies, as the Core Strategy and Development Management Plan were previously subject to full Sustainability Appraisal and their SA reports can be found on the Council's public website.

Possible Mitigation: *(measures to mitigate likely negative effects and enhance positive effects)*

N/A

Leisure, community and cultural uses: Rely on Core Strategy and Development Management Plan

Summary of assessment: *(likely sustainability impact of the option)*

It is not necessary to assess the likely sustainability impact of relying on existing policies as the Core Strategy and Development Management Plan were subject to full Sustainability Appraisal and their SA reports can be found on the Council's public website.

Possible Mitigation: *(measures to mitigate likely negative effects and enhance positive effects)*

N/A

Open areas: Rely on Core Strategy and Development Management Plan

Summary of assessment: *(likely sustainability impact of the option)*

It is not necessary to assess the likely sustainability impact of relying on existing policies as the Core Strategy and Development Management Plan were subject to full Sustainability Appraisal and their SA reports can be found on the Council's public website.

Possible Mitigation: *(measures to mitigate likely negative effects and enhance positive effects)*

N/A

Sustainability: Rely on Core Strategy and Development Management Plan

Summary of assessment: *(likely sustainability impact of the option)*

It is not necessary to assess the likely sustainability impact of relying on existing policies. The Core Strategy and Development Management Plan were subject to full Sustainability Appraisal and their SA reports can be found on the Council's public website.

Possible Mitigation: *(measures to mitigate likely negative effects and enhance positive effects)*

N/A

Transport, parking and servicing: Rely on Core Strategy and Development Management Plan**Summary of assessment:** *(likely sustainability impact of the option)*

It is not necessary to assess the likely sustainability impact of relying on existing policies. The Core Strategy and Development Management Plan were subject to full Sustainability Appraisal and their SA reports can be found on the Council's public website.

Possible Mitigation: *(measures to mitigate likely negative effects and enhance positive effects)*

N/A

Area specific proposals

Twickenham Station: Redevelopment to create attractive and modern new station as part of a mixed use development, including commercial, limited retail and residential uses and a new public square; retention and use of link under the railway line.							
SA objectives	Geographic scale		Assessment / Length of effect			Cumulative	Commentary/explanation, uncertainties, proposed mitigation
	Twickenham	Wider	short term	medium term	long term		
1. Waste	-		-				Mitigation through application of waste hierarchy and recycling Commercial, Demolition and Excavation waste
2. Land & soil	++		+	+		+	Makes more efficient use of land, potential for site remediation and reuse of contaminated land
3. Air & noise pollution							Neutral
4. Travel	++	+	+	+	+	+	Makes best use of transport infrastructure and encouraging travel without the use of car
5. Water	+		+				Site remediation might be beneficial to surface and groundwater quality; potential for less site runoff
6. Energy	++		+	+		+	More energy efficient buildings, great potential for CHP / renewable technologies and particularly decentralised energy networks
7. Biodiversity	+	+	+				Potential for improvements along the river Crane
8. Landscape & townscape	++		++	++		+	Revitalised approaches to Twickenham town centre, great improvements to local character
9. Best use of land & sustainable construction	+		+	+		+	Better use of land; sustainably constructed buildings
10. Housing	+	+	+	+			Provision of new homes
11. Safer &	+		+	+			Safer access and more pleasant environment; more

cohesive communities							secure station facilities
12. Health & well-being	+		+	+			Better access for all to public transport infrastructure
13. Town centres	++		++	++			Considered to be a gateway to the town; benefits to vitality and viability and town centre
14. Economy	+		+	+			Commercial, retail uses add to more diverse economy
15. Commercial development opportunities	++		++	++		+	Very big opportunity for commercial development to meet local and sub-regional needs
Summary of assessment: <i>(likely sustainability impact of the option)</i>							
This option is considered to be overall very positive.							
Comments on assessment: <i>(additional comments on individual objectives and cumulative effects)</i>							
<p>Redeveloping the station will have many positive impacts. There could be very significant affirmative impacts on the town centre's viability and vitality as it will act as a new "gateway" to the town centre. This proposal provides for residential, commercial and limited retail uses, thus significantly adding to the local economy and revitalisation of the town centre. It is also considered that this proposal provides a major opportunity for commercial development to meet local and even sub-regional needs. There may be the potential to remediate and reuse contaminated land and thus make more efficient use of the land. Providing an adequate and well designed station will encourage sustainable modes of transport and encourage a modal shift away from car use. Better access arrangements will also contribute to the health and well-being of the users of this site. As the current station is in urgent need of upgrade and repair, there may be many positive impacts as a result of redeveloping this site in relation to surface and groundwater quality, energy efficient design and sustainably constructed buildings, the use of sustainable energy sources, in particular decentralised energy, as well as positive impacts on biodiversity due to potential for improvements along the River Crane. This proposal may lead to significant improvements in the townscape and local character, and be more welcoming to residents, workers and visitors.</p>							
Possible Mitigation: <i>(measures to mitigate likely negative effects and enhance positive effects)</i>							
<p>More activity and development on this site will inevitably generate more waste but this can be mitigated through appropriate mitigation measures, such as the application of the waste hierarchy, reuse of demolition waste and through a site waste management plan.</p>							

Heatham House: Should the existing youth centre be relocated to a suitable new facility, the existing centre will remain open until the new facility is available for occupation; acceptable alternative uses of Heatham House would be residential, employment or hotel use.							
SA objectives	Geographic scale		Assessment / Length of effect			Cumulative	Commentary/explanation, uncertainties, proposed mitigation
	Twickenham	Wider	short term	medium term	long term		
1. Waste	-		-				Mitigation through application of waste hierarchy and recycling Commercial, Demolition and Excavation waste
2. Land & soil	+		+	+			More efficient use of land
3. Air & noise pollution							Neutral
4. Travel	-/?		-/?			?	Depends on the detailed proposals in order to minimise significant impacts
5. Water	?		?				There should be no increase in footprint of building/hard-standing on site
6. Energy	+/?				+/?		Potential to incorporate energy efficiency and renewable / low carbon technologies
7. Biodiversity	?					?	There should be no enlargement of footprint or intensification of use on site and the existing habitats should be maintained and protected
8. Landscape & townscape	?						Maintain the character of the listed building (Heatham House), setting, open land and riverside
9. Best use of land & sustainable construction	+			+	+	+	Potentially could make better use of building and land
10. Housing	+			+		+	Potential for housing opportunities
11. Safer & cohesive communities	+				+		Community benefits in providing a suitable alternative new facility should one become available

12. Health & well-being	+	+		+	+		Facilities for young people have social benefits
13. Town centres							Neutral
14. Economy	+				+		Minor positive impacts due to potential hotel and leisure use
15. Commercial development opportunities	+		+				Opportunities for commercial development
<p>Summary of assessment: <i>(likely sustainability impact of the option)</i></p> <p>This proposal is unlikely to lead to any significant impacts, and it has potential for positive community and social benefits.</p> <p>Comments on assessment: <i>(additional comments on individual objectives and cumulative effects)</i></p> <p>Re-providing the existing youth facility in a suitable and acceptable location could outweigh the loss of the existing facility. Converting the existing property to hotel/leisure or residential use can be considered overall as positive, particularly as it potentially makes better use of existing land/building, with the potential for housing and/or commercial development.</p> <p>Possible Mitigation: <i>(measures to mitigate likely negative effects and enhance positive effects)</i></p> <p>Uncertain impacts on travel and biodiversity can be mitigated through encouraging sustainable travel (nearby train station and bus stops) and ensuring that any new proposals enhance the biodiversity along the riverside and takes fully into account any potential flood risks from the River Crane. More activity and development on this site is likely to generate more waste but this can be mitigated (i.e. application of waste hierarchy etc.)</p>							

<p>Former Sorting Office and Open Land South of River Crane: Encourage redevelopment of this now empty site with an appropriate mix of uses, including community and leisure use, retention of space for sports/outdoor activities, employment, residential (including family housing), open space and a riverside walk by the River Crane.</p>				
SA objectives	Geographic scale	Assessment / Length of effect		Commentary/explanation, uncertainties, proposed mitigation

	Twickenham	Wider	short term	medium term	long term	Cumulative	
1. Waste	-		-				Mitigation through application of waste hierarchy and recycling Commercial, Demolition and Excavation waste
2. Land & soil	++	+	+			+	Makes more efficient use of land, potential for remediation if site is contaminated
3. Air & noise pollution							Neutral
4. Travel	-/?	?	?	?	?	-/?	Potential new uses may lead to more traffic but this could be mitigated; e.g. travel plan
5. Water	+		+	+	+	+	Potential to improve surface water quality by incorporating SuDS, potential to reduce flood risk
6. Energy	+			+	+	+	Potential for renewable and decentralised energy, including DE network; more energy efficient buildings
7. Biodiversity	?		?	?	?	?	Uncertainties; future design briefs could focus on creating new habitats; will depend on future design of scheme
8. Landscape & townscape	+		+	+			New scheme will be improvement to existing derelict site and open up currently inaccessible open land further West
9. Best use of land & sustainable construction	++		++	++			Any scheme will conform with Sustainable Construction Checklist, therefore better than existing building; makes much better use of land
10. Housing	+	+	+	+		+	New housing opportunities, particularly for families
11. Safer & cohesive communities							Neutral
12. Health & well-being	+		+			+	Will provide access to a range of facilities and open land
13. Town centres	+		+	+	+	+	Will contribute to improving vitality and viability of Twickenham

14. Economy	+		+				Potential for more diverse economy
15. Commercial development opportunities	+		+	+			Important development opportunity
Summary of assessment: <i>(likely sustainability impact of the option)</i>							
This option is considered to be overall positive, with possible negative impacts on waste and uncertainties in relation to transport and biodiversity.							
Comments on assessment: <i>(additional comments on individual objectives and cumulative effects)</i>							
<p>Redeveloping this vacant and derelict site will have many positive impacts, particularly on the townscape, the vitality and viability of town centres and it will provide opportunities for commercial development and housing. It also provides the opportunity of reusing potentially contaminated land. The proposed mixed use can be considered overall as very positive, particularly as it makes better and more efficient use of land, with the potential for renewable/decentralised energy and improving surface water quality by incorporating SuDS on the site, thus potentially reducing any risks of surface water flooding. The impacts on travel and biodiversity will depend on the detailed design of the scheme, but any negative impacts should be fully mitigated.</p>							
Possible Mitigation: <i>(measures to mitigate likely negative effects and enhance positive effects)</i>							
<p>Uncertain and negative impacts on travel and biodiversity can be mitigated through encouraging sustainable travel (nearby train station and bus stops; travel plan), and ensuring that any redevelopment scheme enhances the biodiversity along the riverside and takes fully into account any potential flood risks from the River Crane. More activity and development on this site will inevitably generate more waste but this can be mitigated through the application of waste hierarchy, reuse of demolition waste and through a site waste management plan.</p>							

Station Yard: Redevelopment of site with a car park of 3 to 4 storeys to serve established needs of users of the town centre, including landscaping and environmental improvements.							
SA objectives	Geographic scale		Assessment / Length of effect			Cumulative	Commentary/explanation, uncertainties, proposed mitigation
	Twicken-	Wider	short	medium	long		

	ham		term	term	term		
1. Waste	-		-				Mitigation through application of waste hierarchy and recycling Commercial, Demolition and Excavation waste
2. Land & soil	+		+				Makes more efficient use of land
3. Air & noise pollution	-		-				Potential impacts from visiting vehicles, but also environmental improvements
4. Travel	-		-			-	The provision of more car parking spaces may encourage more car usage
5. Water							Neutral
6. Energy	?			?	?	-	Plan should consider the potential for provision of CHP/Decentralised Energy Network
7. Biodiversity	?		?				Could involve the planting of new trees and general landscape improvements. Subject to details of the design
8. Landscape & townscape	+		+/?				Would need careful design to mitigate impacts on townscape character, e.g. green roofs/walls may mitigate visual impact of a multi-storey car park
9. Best use of land & sustainable construction	+/?		+/?				A better use of the site though maybe not the most efficient use of this land
10. Housing							Neutral
11. Safer & cohesive communities							Neutral
12. Health & well-being							Neutral
13. Town centres	+		+				Extra car parking might stimulate the local economy
14. Economy							Neutral
15. Commercial development	+		+				Commercial development opportunity (commercial car park), may serve needs of users of the town centre

opportunities							
Summary of assessment: <i>(likely sustainability impact of the option)</i>							
Overall, the development of this site to a multi-storey car park could have positive sustainability outcomes but also some negative impacts, which would need to be mitigated.							
Comments on assessment: <i>(additional comments on individual objectives and cumulative effects)</i>							
Cumulative impacts of redeveloping the site to a multi-storey car park should also be considered. Benefits of providing extra car parking need to be balanced with potential harmful impacts on sustainable travel, townscape character and the environment. The impacts on townscape will depend on the detailed design of the scheme. May potentially reduce amount of on street car parking, and could also act to screen the residential area to the South from the railway line.. The plan should consider the potential for provision of CHP/Decentralised Energy Network on the site to serve/be linked up with nearby key development sites (Sorting Office, Twickenham Station, Regal House and nearby offices etc.)							
Possible Mitigation: <i>(measures to mitigate likely negative effects and enhance positive effects)</i>							
Long-stay car parking needs to be discouraged to prevent the sole use of this car park by commuters using the nearby railway station to travel into central London and not benefitting the centre or by those travelling to Twickenham by car to work instead of using public transport, rather than by users who would bring more benefit to the town in terms of visiting shops or services. The multi-storey car park would need to be carefully designed to mitigate impacts on townscape character and residential amenity.							

Regal House: Refurbished business space, use of part of it as possible cinema/leisure use, possible cultural/entertainment/food and beverage uses on lower floors to create active frontage to London Road.							
SA objectives	Geographic scale		Assessment / Length of effect				Commentary/explanation, uncertainties, proposed mitigation
	Twickenham	Wider	short term	medium term	long term	Cumulative	
1. Waste							Neutral
2. Land & soil							Neutral
3. Air & noise pollution							Neutral

4. Travel							Neutral
5. Water							Neutral
6. Energy							Neutral
7. Biodiversity							Neutral
8. Landscape & townscape	+		+	+			Active frontage should enhance the townscape; public realm improvements on London Road
9. Best use of land & sustainable construction	+		+				Considered to make better use of land/existing buildings
10. Housing							Neutral
11. Safer & cohesive communities	+/?		+/?				Potentially safer environment due to active frontage
12. Health & well-being	+		+				Improving access to leisure and recreation facilities
13. Town centres	+		+			+	Active frontage has positive impacts on vitality and viability of the town centre
14. Economy	+		+				Diversification of local economy
15. Commercial development opportunities	+		+				Commercial development opportunity on lower floors of Regal House to create extra facilities

Summary of assessment: *(likely sustainability impact of the option)*

Overall considered to have positive sustainability impacts.

Comments on assessment: *(additional comments on individual objectives and cumulative effects)*

The more extensive use of this building may contribute to the vitality and viability of the town centre and provide some opportunity for commercial development, thereby resulting in a more diverse economy. It is thought that this proposal makes more efficient and better use of the existing building. This proposal would also result in an active frontage onto London Road, which might contribute to a safer environment and is expected to have positive benefits on the health and well-being of the population of Twickenham by providing more leisure and recreation facilities. No significant negative impacts have been identified.

Possible Mitigation: *(measures to mitigate likely negative effects and enhance positive effects)*

N/A

York House, York House Gardens, Civic Centre and environs: Optimum use of public building and grounds, providing range of appropriate uses; reuse of building to create a community/cultural hub with café/gallery/restaurant space, exhibition and performance space and retention of some civic use; increased use of the former road outside the Civic Centre for occasional events and possibly one off or regular markets.

SA objectives	Geographic scale		Assessment / Length of effect			Cumulative	Commentary/explanation, uncertainties, proposed mitigation
	Twickenham	Wider	short term	medium term	long term		
1. Waste							Neutral
2. Land & soil							Neutral
3. Air & noise pollution	-		-				Possibly negative impacts on noise
4. Travel	-		-				Could generate more travel
5. Water							Neutral
6. Energy							Neutral
7. Biodiversity							Neutral
8. Landscape & townscape	+		+				Environmental improvements to Champions Wharf
9. Best use of land & sustainable construction	+		+				Better use of existing resources, including dual use
10. Housing							Neutral
11. Safer &	+		+			+	Community/cultural hub may contribute to community

cohesive communities							cohesion
12. Health & well-being	+		+			+	Improved access will facilitate enjoyment of the gardens
13. Town centres	+		+				Events might add to town centre vitality
14. Economy	+		+				Additional café/restaurant might contribute to local economy
15. Commercial development opportunities							Neutral
Summary of assessment: <i>(likely sustainability impact of the option)</i>							
Overall likely positive sustainability impact, with minor negative impacts.							
Comments on assessment: <i>(additional comments on individual objectives and cumulative effects)</i>							
<p>Extended use of York House as community/cultural hub with café/gallery/restaurant space as well as exhibition and performance space and improved access to gardens is likely to have many positive impacts. The variety of uses will add to a more locally diverse economy and the increased opportunities for public use may result in a more cohesive community. The new uses and events are expected to contribute to the local economy and the events might add to the town centre’s vitality. A more welcoming entrance to York House Gardens will have positive impacts on health and well-being. However, the new uses may also have some minor negative impacts as they may result in more car travel. There may also be some minor negative impacts on noise due to the new uses.</p>							
Possible Mitigation: <i>(measures to mitigate likely negative effects and enhance positive effects)</i>							
Ensure sustainable modes of transport are encouraged, particularly for events, and manage any noise impacts.							

Telephone Exchange Garfield Road: In the event of the release of the site, redevelopment with an active frontage onto Garfield Road to include creative industries/indoor market/niche retail/cinema with residential above and to rear and fronting Arragon Road.

SA objectives	Geographic scale		Assessment / Length of effect			Cumulative	Commentary/explanation, uncertainties, proposed mitigation
	Twickenham	Wider	short term	medium term	long term		
1. Waste	-		-				Mitigation through application of waste hierarchy and recycling Commercial, Demolition and Excavation waste
2. Land & soil	+		+				More efficient use of land
3. Air & noise pollution							Neutral
4. Travel	-		-			-	Could generate more travel
5. Water							Neutral
6. Energy							Neutral
7. Biodiversity							Neutral
8. Landscape & townscape	++		++	+			Creating an active frontage to Garfield Road will greatly improved the townscape
9. Best use of land & sustainable construction	+		+				Positive impacts as it makes use of existing buildings
10. Housing	+		+	+			Potential for residential above and to rear / fronting Arragon Road
11. Safer & cohesive communities	+		+				Active frontage might contribute to a safer environment and improved atmosphere in Garfield Road
12. Health & well-being	+		+				Enables people to access different opportunities and services
13. Town centres	+		+				Positive impacts on town centre vitality
14. Economy	+		+	+		+	Promoting creative industries, market and niche retail
15. Commercial development opportunities	+		+				Provides commercial development opportunities to meet local needs

Summary of assessment: *(likely sustainability impact of the option)*

Overall considered to have positive sustainability impacts, with possible minor negative impacts on travel.

Comments on assessment: *(additional comments on individual objectives and cumulative effects)*

The redevelopment of this site may contribute to the vitality and viability of the town centre and provide some opportunity for commercial development, resulting in a more diverse economy. It is thought that this proposal makes more efficient and better use of the land and existing building. It would also result in an active frontage onto Garfield Road, which might contribute to a safer environment and it should also improve the townscape and the general atmosphere of Garfield Road. There could be potential negative impacts on waste and new uses on this site could generate the need for travel.

Possible Mitigation: *(measures to mitigate likely negative effects and enhance positive effects)*

More activity and development on this site will inevitably generate more waste but this can be mitigated through the application of waste hierarchy, reuse of demolition waste and through a site waste management plan. Negative impacts on travel can be mitigated by the implementation of travel plans and encouragement to use sustainable modes of transport (i.e. close proximity to bus stop and railway station).

Police Station: In the event of a satisfactory relocation of the police station uses, acceptable uses of the site would be for mixed use development, including retail uses or other active frontage uses on London Road and residential to rear (fronting Grosvenor Road), including the protection of this Building of Townscape Merit.

SA objectives	Geographic scale		Assessment / Length of effect			Cumulative	Commentary/explanation, uncertainties, proposed mitigation
	Twickenham	Wider	short term	medium term	long term		
1. Waste	-		-				Mitigation through application of waste hierarchy and recycling Commercial, Demolition and Excavation waste
2. Land & soil	+		+				Could be more efficient use of land as currently large car parking area on site
3. Air & noise pollution							Neutral

4. Travel							Neutral; considered to be no net overall increase in vehicle movements
5. Water							Neutral
6. Energy	+		+	+			Potential for more energy efficiency, renewables, decentralised energy compared to existing building
7. Biodiversity							Neutral; currently all developed land, unlikely to be of value to biodiversity
8. Landscape & townscape	+		+				Preservation of the BTM and encouragement of active frontage should improve the townscape
9. Best use of land & sustainable construction	+		+	+			More efficient use of land; new buildings to conform with Sustainable Construction Checklist
10. Housing	+		+			+	Opportunities for new homes
11. Safer & cohesive communities	-/?						Could possible be a perception that the town is less secure if police are no longer present
12. Health & well-being							Neutral
13. Town centres	++		+				Improvement to active frontage on London Road; more retail uses
14. Economy	+		+				Potential contribution to more diverse economy due to retail offer
15. Commercial development opportunities	+		+				Opportunity for commercial development
Summary of assessment: <i>(likely sustainability impact of the option)</i>							
Overall considered to have positive sustainability impacts, with possible minor negative impacts on waste.							
Comments on assessment: <i>(additional comments on individual objectives and cumulative effects)</i>							
Redevelopment may contribute to the vitality and viability of the town centre and provide some opportunity for commercial development, thus							

resulting in a more diverse economy. It would also provide more housing and result in an active frontage on London Road, which should also improve the townscape. There may be the potential that removing the police station from the centre could result in a perceived less secure environment.

Possible Mitigation: *(measures to mitigate likely negative effects and enhance positive effects)*

More activity and development on this site will inevitably generate more waste but this can be mitigated through the application of waste hierarchy, reuse of demolition waste and through a site waste management plan.

Twickenham riverside (Former Pool Site) and south of King Street, including approaches

- Maintain existing ground floor retail frontages and residential uses above on King Street and provide new specialist retail, leisure and community uses;
- Link existing service road to Water Lane and promote some active frontage to the service road;
- Create new open space on the former pool site and in the form of civic space beside Water Lane;
- Maintain embankment as working quay and provide mooring and landing facilities
- Removal of car parking and improvements to environment on the embankment;
- Improve Water Lane and Wharf Lane links from the town centre to the embankment as shared use spaces;
- Redevelopment along Water Lane to include retail, leisure and residential uses.

SA objectives	Geographic scale		Assessment / Length of effect			Cumulative	Commentary/explanation, uncertainties, proposed mitigation
	Twickenham	Wider	short term	medium term	long term		
1. Waste	-		-				Mitigation through application of waste hierarchy and recycling Commercial, Demolition and Excavation waste
2. Land & soil	+		+				More efficient use of land
3. Air & noise pollution							Neutral
4. Travel	-/?		-/?				Might generate more travel
5. Water							Neutral
6. Energy	+		+			+	More energy efficient buildings, with potential for low carbon / renewable technologies

7. Biodiversity	?		?				Improvements to riverside are not aimed at biodiversity; open spaces may have potential to incorporate biodiversity features.
8. Landscape & townscape	+		+	+			Replacement buildings and relocation of car parking from embankment will contribute to townscape and riverside improvements
9. Best use of land & sustainable construction	+		+	?/+	?	?	Better use of previously developed land but may not be the most efficient use of this area
10. Housing	+		+			-	some provision of new homes on east side
11. Safer & cohesive communities	+		+				Public realm and community space will contribute to cohesive communities
12. Health & well-being	+		+			+	Allows access to leisure and community facilities, including children's play; more civic space
13. Town centres	+		+	+		+	Provision of retail or mixed uses and cafes would add to vitality and viability
14. Economy	+		+				May add to more diverse economy
15. Commercial development opportunities	+		+				Commercial development opportunities; refurbishment of King Street frontage

Summary of assessment: *(likely sustainability impact of the option)*

Overall, the likely sustainability impact of this option is considered to be positive.

Comments on assessment: *(additional comments on individual objectives and cumulative effects)*

This proposal has some positive impacts, such as the creation of public open space, children's play space and more attractive buildings. This is likely to be of benefit to the townscape and the health and well-being of the population. The provision of specialist retail, mixed uses, cafes and leisure will add to the local economic diversity and should stimulate the vitality and viability of the town centre. This proposal also incorporates the opportunity for creating new homes, which would be considered positive, but there may be a missed opportunity for providing a significant number of new homes. There could be some negative travel impacts as this proposal may generate more trips; other negative impacts could be

in terms of waste.

Possible Mitigation: *(measures to mitigate likely negative effects and enhance positive effects)*

Any negative impacts on waste can be mitigated by applying the waste hierarchy in any redevelopment schemes, and mitigation measures for potential noise issues should also be considered. Uncertain and negative impacts on travel can be mitigated through encouraging sustainable travel