



Local Development Framework: Sustainability Appraisal

Scoping Report

February 2007



Revision Schedule

Sustainability Appraisal Scoping Report

February 2007

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1 Introduction

1.1 Background

1.1.1 Scott Wilson was commissioned in 2006 by Stroud District Council to undertake the Sustainability Appraisal (SA) / Strategic Environmental Assessment (SEA) of the Local Development Framework (LDF).

1.2 Sustainability Appraisal and Strategic Environmental Assessment

1.2.1 SEA is required by European and by English law. It involves the systematic identification and evaluation of the environmental impacts of a strategic action (e.g. a plan or programme). In 2001, the EU legislated for SEA with the adoption of Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (the 'SEA Directive'). The aim of the SEA Directive is "to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes, with a view to promoting sustainable development".

1.2.2 The Directive was transposed into English legislation by the Environmental Assessment of Plans and Programmes Regulations 2004 (the 'SEA Regulations'), which came into force on 21st July 2004. The SEA Regulations apply (with some specific exceptions) to plans and programmes subject to preparation and / or adoption by a national, regional or local authority or those prepared by an authority for adoption through a legislative procedure by Parliament or Government and are required by legislative, regulatory or administrative provisions.

1.2.3 SA extends the concept of SEA to encompass economic and social concerns. The Planning and Compulsory Purchase Act 2004 (PCPA) requires Local Planning Authorities to undertake SA for each of their Local Development Documents (LDDs), including the Core Strategy. SA is, therefore, a statutory requirement for LDFs along with SEA.

1.2.4 The Government's approach is to incorporate the requirements of the SEA Directive into a wider SA process that considers economic and social, as well as environmental effects. To this end, in November 2005, the Government published guidance on undertaking SA of LDFs that incorporates the requirements of the SEA Directive ('the Guidance'). The combined SA / SEA process is referred to in this document as Sustainability Appraisal (SA).

1.2.5 The Guidance advocates a five-stage approach to undertaking SA (see Figure 1.1). Stage A involves gathering an evidence base and defining SA Objectives. The findings of this stage are documented in a Scoping Report. The appraisal is conducted at Stage B and outcome recorded in the Preferred Options SA Report during Stage C. Following statutory consultation (Stage D) the SA Report may require updating to reflect changes made in response to representations. Stage E concerns ongoing monitoring of significant effects.

1.2.6 Stakeholders and the public have a vital role to play both in developing planning policy for the District and in contributing to the SA / SEA. According to Planning Policy Statement 1: Delivering Sustainable Development "*effective community involvement is a key element of the Government's planning reforms. This is best achieved where there is early engagement of all the stakeholders in the process of plan making ... This helps to identify issues and problems at an*

early stage and allows dialogue and discussion of the options to take place before proposals are too far advanced."

1.2.7 Stroud District Council commenced public engagement on SA / SEA in 2006, determining data sources and discussing potential objectives at a series of meetings held in Stroud, Dursley and Stonehouse.

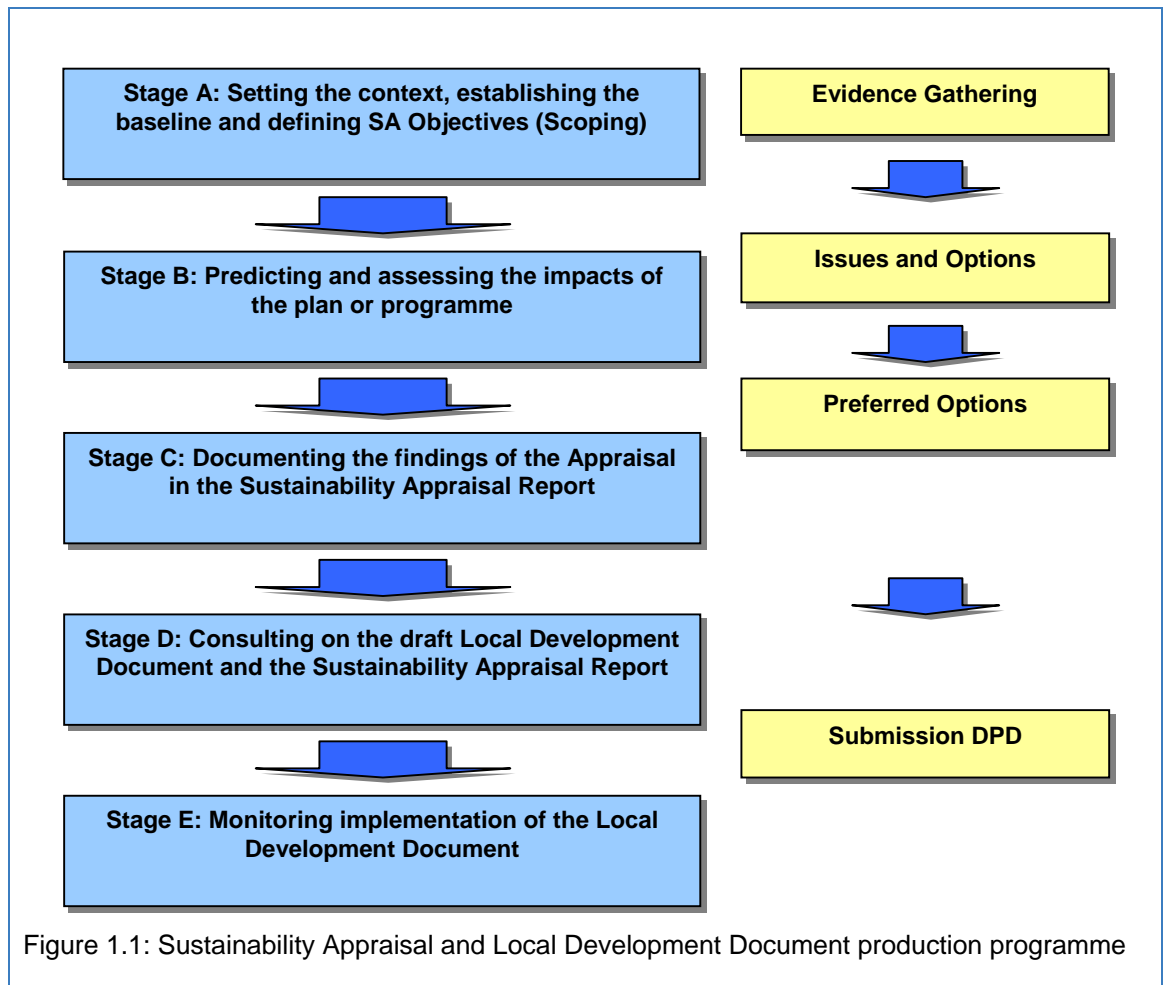


Figure 1.1: Sustainability Appraisal and Local Development Document production programme

1.3 Compliance with the SEA Regulations

1.3.1 The SEA Regulations set out the process that must be followed. In particular, the SEA Regulations require the preparation of an 'Environmental Report' on the implications of the plan or programme in question and consultation on the scope and level of detail of the assessment. This Scoping Report is intended to facilitate this statutory consultation.

1.4 Sustainability Appraisal Scoping Report

1.4.1 The SEA Regulations require the assessment of the likely significant environmental effects on issues such as:

- Air

-
- Water
 - Soil
 - Biodiversity (including flora and fauna)
 - Population
 - Human health
 - Climate
 - Material assets
 - Cultural heritage (including archaeology)
 - Landscape
 - And the interrelationship between the above factors
- 1.4.2 The Scoping Report is (and subsequent SA Reports will be) organised by topic, with a chapter for each of the above issues, other than material assets. The interrelationship between the topics will be discussed in the SA Reports.
- 1.4.3 The SA process extends the assessment process to include likely significant social and economic effects. In this Scoping Report and subsequent SA Reports the following additional topics will be discussed:
- Economy
 - Employment
 - Transport
 - Crime and Safety
 - Housing
 - Waste
- 1.4.4 In this Scoping Report each Chapter is structured as follows:
- Introduction
 - Relevant environmental protection objectives set at international / European Union or Member State level (environmental topics only)
 - Context Review - a review of related plans and programmes that have a bearing on the topic area
 - Baseline - the current baseline in Stroud, where data is available, for the topic area
 - Likely future conditions - probable conditions without the influence of the LDF (i.e. the 'future baseline')
 - Environmental and Sustainability Problems
 - Proposed SA Objectives

1.5 Relevance of the Scoping Report

1.5.1 This Scoping Report is intended to define the key environmental and sustainability problems for the whole of Stroud District. In particular it is relevant to the following LDDs:

- Core Strategy Development Plan Document (DPD)
- Cotswold Canals Area Action Plan (AAP)
- Employment DPD
- Affordable Housing Supplementary Planning Document (SPD)
- Planning Obligations SPD
- Cotswold Canals Design Framework SPD
- Stroud Industrial Heritage Conservation Area SPD

1.5.2 Information specific to the Cotswold Canals AAP, Cotswold Canals Design Framework SPD is presented in an appendix to this document.

1.5.3 Details of the production programme for these documents can be found in the Local Development Scheme on the Council website at the following address:

<http://www.stroud.gov.uk/docs/localplan/lds.asp?did=lds>

2 Population

2.1 Introduction

2.1.1 This chapter discusses the population of Stroud, its composition and distribution, now and in the future and the likely significant social, economic and environmental effects of the Core Strategy policies on the population of Stroud.

2.2 Context Review

2.2.1 Key messages from the context review include:

Key Messages from the Context Review	Evidence Source
The South West will continue to have a relatively higher proportion of elderly and very elderly	Draft South West RSS
The dispersed population in the South West is a challenge for the effective delivery of services	Draft South West RSS
The South West region is growing and an extra half a million people are expected by 2016	Draft South West RSS
Growth is to be concentrated in Strategically Significant Cities and Towns (SSCTs) - none of these are in Stroud, although two in particular (Gloucester and Cheltenham) are close by	Draft South West RSS
Hunt's Grove falls within the Gloucester Principal Urban Area as defined in the Gloucestershire Structure Plan - Third Alteration (unadopted) and is the focus for existing strategic allocations in the District	Stroud District Local Plan

2.3 Population Baseline

2.3.1 Although it has now been some years since the data was collected and it should be acknowledged that the picture could have changed in the meantime, the census of 2001 still represents the most complete snapshot of the District in terms of its population structure. In 2001 the total population of Stroud was somewhat more than one hundred thousand people. As Table 2.1 illustrates, the age distribution differed in certain respects from the national profile. In particular Stroud has a higher proportion of people in the younger and older age groups.

Table 2.1: Population Age Structure in Stroud (2001)

	Stroud	South West	England
Total Population	107,898	4,928,434	49,138,831
- Age 0-4	5.65%	5.48%	5.96%
- Age 5-15	14.45%	13.56%	14.19%
- Age 16-19	4.49%	4.72%	4.91%
- Age 20-44	30.89%	32.38%	35.31%

	Stroud	South West	England
- Age 45-64	26.91%	25.21%	23.75%
- Age 65+	17.62%	18.66%	15.89%

Source: National Statistics

2.3.2 Stroud had a significantly more homogenous population in 2001 than other parts of the UK, with more than 96% of the population describing themselves as white, British.

Table 2.2: Population and Ethnicity in Stroud (2001)

	Stroud		South West		England	
All People	107,898		4,928,434		49,138,831	
White: British	103,997	96.38%	4,701,602	95.4%	42,747,136	86.99%
White: Irish	708	0.66%	32,484	0.66%	624,115	1.27%
White: Other White	1,758	1.63%	81,230	1.65%	1,308,110	2.66%
Mixed: White and Black Caribbean	193	0.18%	13,343	0.27%	231,424	0.47%
Mixed: White and Black African	45	0.04%	3,917	0.08%	76,498	0.16%
Mixed: White and Asian	209	0.19%	11,198	0.23%	184,014	0.37%
Mixed: Other Mixed	138	0.13%	8,913	0.18%	151,437	0.31%
Asian or Asian British: Indian	124	0.11%	16,394	0.33%	1,028,546	2.09%
Asian or Asian British: Pakistani	28	0.03%	6,729	0.14%	706,539	1.44%
Asian or Asian British: Bangladeshi	115	0.11%	4,816	0.1%	275,394	0.56%
Asian or Asian British: Other Asian	57	0.05%	4,861	0.1%	237,810	0.48%
Black or Black British: Caribbean	118	0.11%	12,405	0.25%	561,246	1.14%
Black or Black British: African	39	0.04%	6,171	0.13%	475,938	0.97%
Black or Black British: Other Black	15	0.01%	2,344	0.05%	95,324	0.19%
Chinese or other ethnic group: Chinese	184	0.17%	12,722	0.26%	220,681	0.45%
Chinese or other ethnic group: Other ethnic group	170	0.16%	9,305	0.19%	214,619	0.44%

Source: National Statistics

2.4 Likely Future Conditions

- 2.4.1 Historically the population of the District has risen ahead of that of the rest of the country. According to National Statistics the mid-year estimates of total population for England rose by 5.9% between 1982 and 2002, whereas it rose by 12.6% during the same period in Stroud and 12.7% across the South West. It is likely that this trend will continue.
- 2.4.2 The Draft Regional Spatial Strategy (RSS) for the South West anticipates an increase of about half a million people in the South West Region by 2016. The District is likely to receive an approximately proportional increase in population if the 1982-2002 trends continue. This would represent an additional ten or eleven thousand people.
- 2.4.3 In common with the South West as a whole, Stroud is likely to continue to have a somewhat older population age profile than the rest of England.

2.5 Environmental and Sustainability Problems

- 2.5.1 The principal population challenges facing the District are:
- Catering for population growth of perhaps ten thousand people by 2016 with its associated social, economic and environmental consequences
 - Meeting the needs of an increasingly aging population, such as for better health care provision and improved access to health facilities locally (see the following chapter for more information)

2.6 Proposed SA / SEA Objectives

- 2.6.1 Based on the problems identified, the following SA / SEA Objectives are proposed:
- To meet the challenge of a growing and aging population
 - To encourage social inclusion, equity, the promotion of equality and a respect for diversity

3 Health

3.1 Introduction

3.1.1 According to the World Health Organisation, health can be defined as a state of complete physical, mental and social well-being and not merely the absence of disease¹. This chapter discusses how the Core Strategy policies are likely to influence public health in Stroud.

3.1.2 Although the Council has responsibility for certain aspects of public health, for instance trading standards or local air quality management, health matters are not directly influenced through land-use planning and the Local Development Framework. However, planning has its statutory origins in public health and amenity issues. It continues to influence the key determinants of public health, among them housing, air quality, employment and education.

3.2 Environmental Protection Objectives

3.2.1 Renewed EU Sustainable Development Strategy (2006):

- Ensuring that by 2020 chemicals, including pesticides, are produced, handled and used in ways that do not pose significant threats to human health and the environment.

3.3 Context Review

3.3.1 Key messages from the context review include:

Key Messages from the Context Review	Evidence Source
The planning system should ensure that, wherever practicable, noise-sensitive developments are separated from major sources of noise (such as road, rail and air transport and certain types of industrial development). Where this is not possible local planning authorities should consider whether it is practicable to control or reduce noise levels, or to mitigate the impact of noise, through the use of conditions or planning obligations	PPG24
The South West will continue to have a relatively higher proportion of elderly and very elderly	Draft South West RSS
People currently have to travel many miles for an outpatient appointment. The PCT's vision is of local services.	Cotswold and Vale Primary Care Trust Annual Report
Help older people stay healthy and lead independent lives for longer	Community Strategy
Promote healthy lifestyles to prevent heart disease, skin cancer and obesity	Community Strategy
Improve advice and access to health services for all vulnerable groups especially young people	Community Strategy
Reduce fuel poverty	Community Strategy

¹ World Health Organisation, 1948, Preamble to the Constitution of the World Health Organisation

Key Messages from the Context Review	Evidence Source
Support the economic and social regeneration of the District via major events and capital schemes	Stroud Sport and Activity Forum Action Plan
Support and develop a coordinated approach to green spaces use throughout Stroud District	Stroud Sport and Activity Forum Action Plan
Support the development of a programme of physical and mental well-being health initiatives via multi agency approach	Stroud Sport and Activity Forum Action Plan
Promote physical activity amongst people who experience mental distress to enhance mental well-being	Stroud Sport and Activity Forum Action Plan
Support and enhance local community links to create lifelong learning opportunities	Stroud Sport and Activity Forum Action Plan

3.4 Baseline

3.4.1 Table 3.1 shows that in 2003 the average life expectancy among both males and females was almost two years longer than the national average.

Table 3.1: Life expectancy at birth in years (2003).

Area	Male	Female
England	76.6	80.1
South West	77.8	82.0
Stroud	78.3	82.0

Source: Office of National Statistics

3.4.2 General health appears relatively good, with about 71% of residents describing their health as 'good', compared with about 69% in the South West and England as a whole (Table 3.2). Work undertaken by the Council in developing the Community Strategy revealed that the District's high quality natural environment influences this perception of good health.

Table 3.2: Self-assessed health (2001)

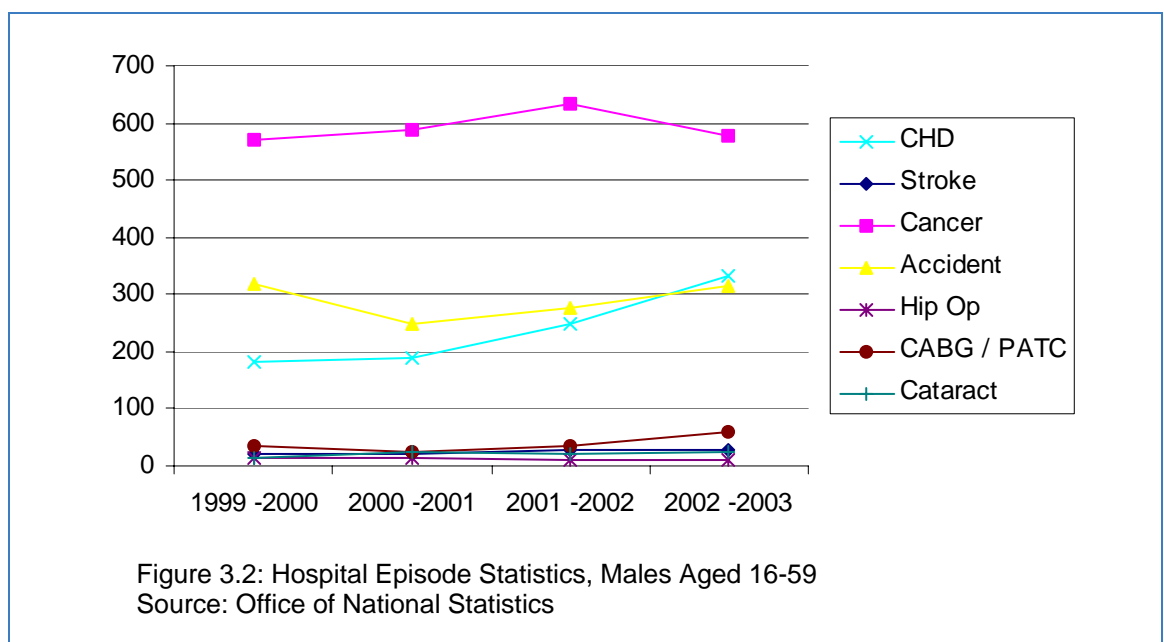
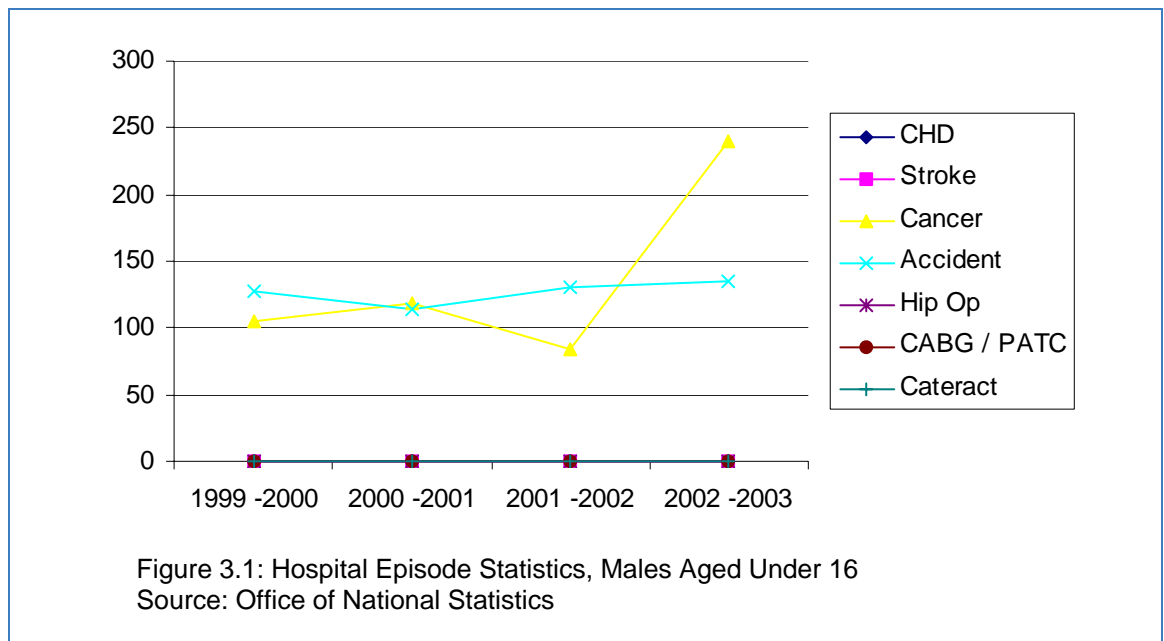
	Stroud	South West	England
All People	107,898	4,928,434	49,138,831
Good Health	76,607	3,393,549	33,787,361
Fairly Good Health	23,479	1,115,478	10,915,594
Not Good Health	7,812	419,407	4,435,876

Source: Office of National Statistics

3.4.3 Hospital Episode Statistics (HES) give a valuable indication of the prevalence of certain key diseases in the District. HES are a record of the number of periods when a patient was admitted

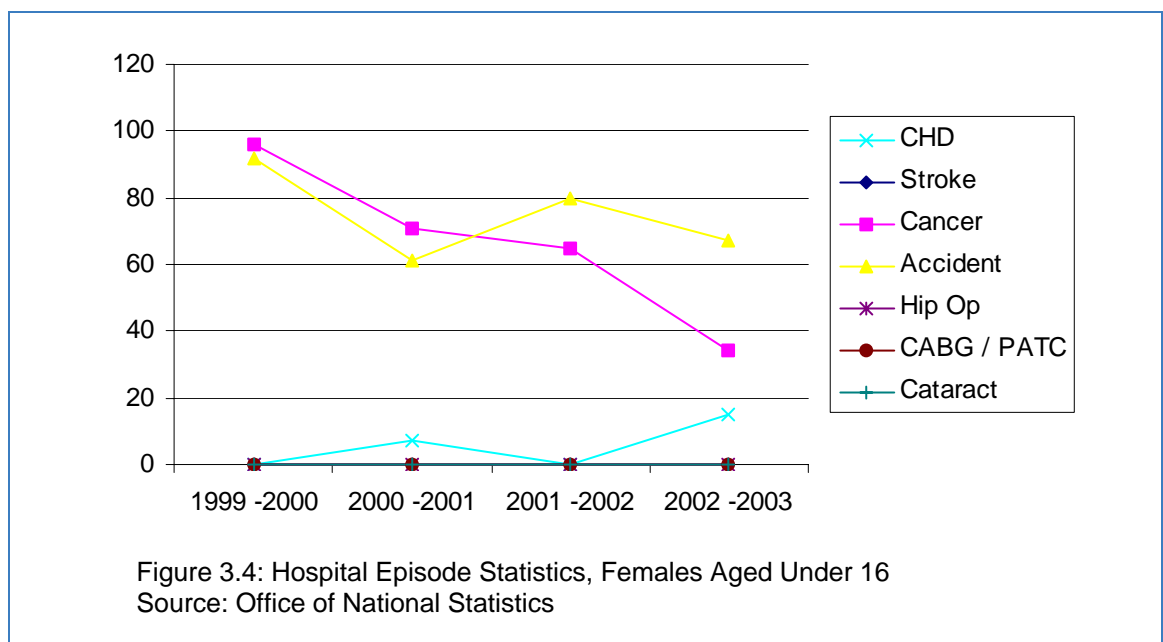
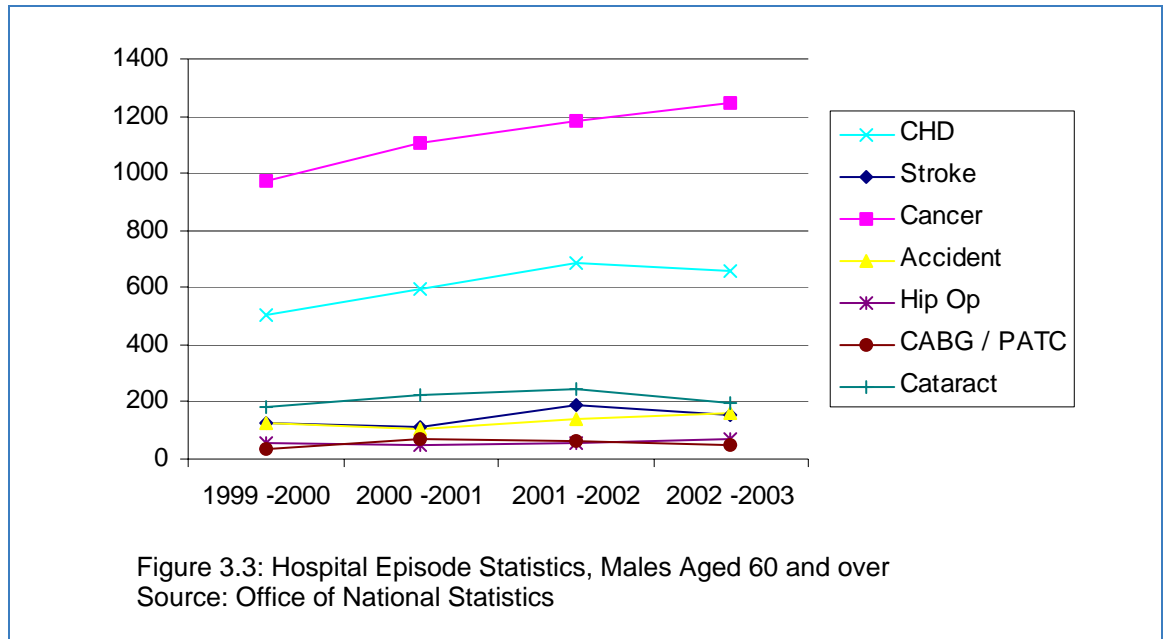
to hospital rather than the number of cases of a disease (in other words two or more episode could relate to the same patient). The statistics refer to treatment of patients resident in Stroud, rather than treatment in Stroud hospitals.

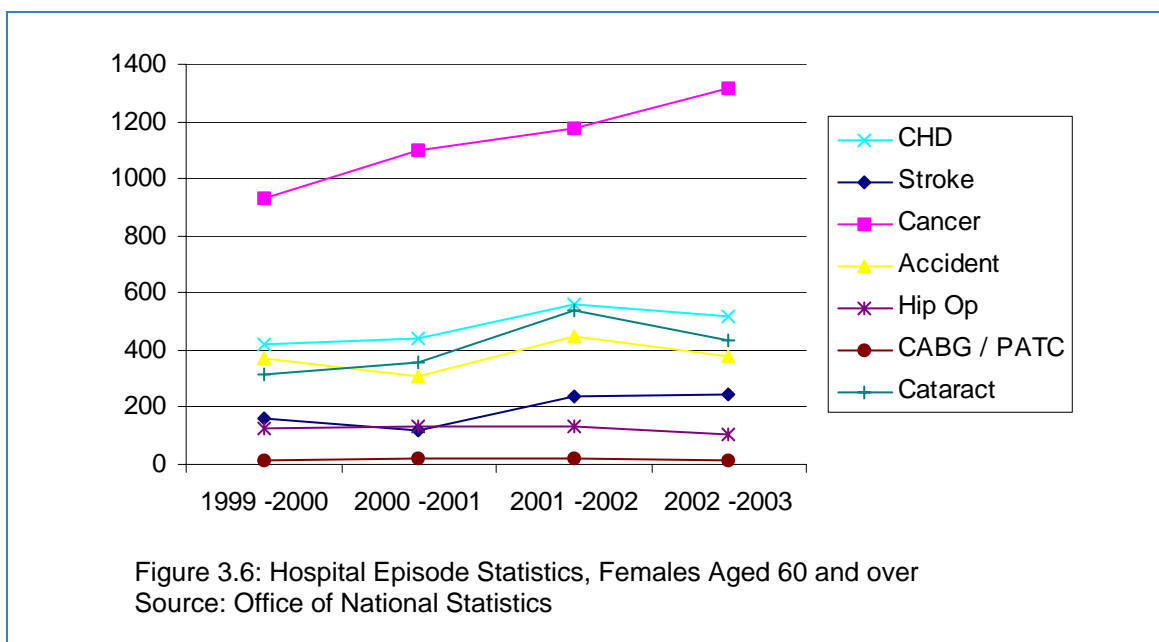
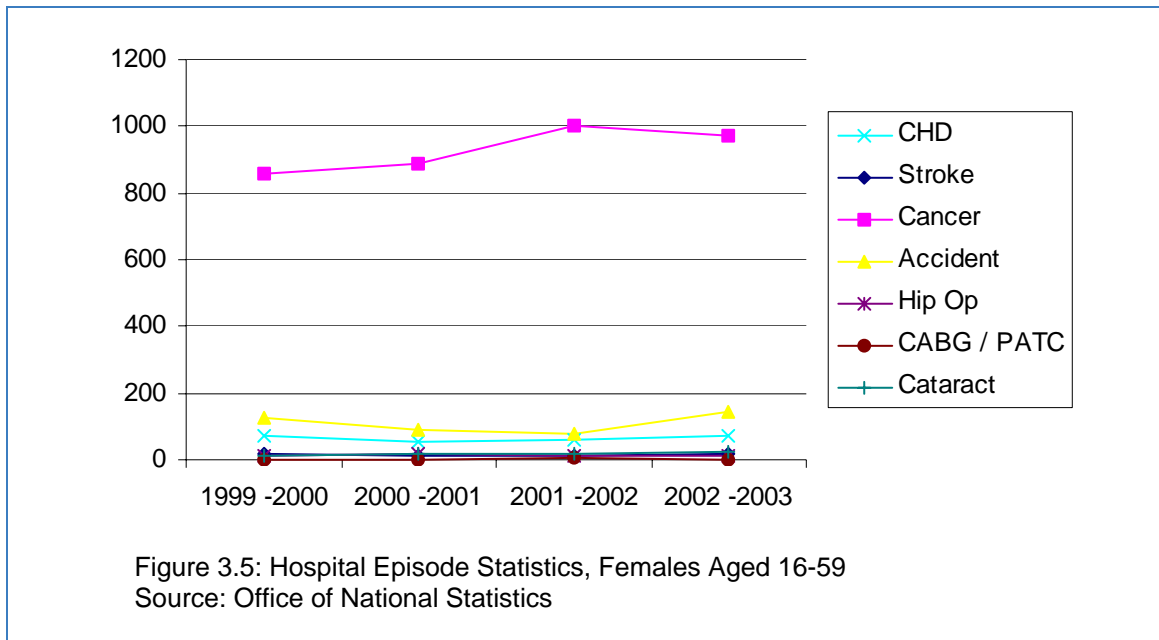
3.4.4 As well as treatment for stroke and cancer, the statistics record treatment for coronary heart disease (CHD), coronary artery bypass graft (CABG) or percutaneous transluminal coronary angioplasty (PTCA). Cataract and hip operations are also recorded, together with treatment for accidents.



3.4.5 The assessed trends should be treated with caution. Fluctuations in the data can occur for a number of reasons, organisational changes for instance, reviews of best practice within the

medical community, or the adoption of new coding schemes and data quality problems that are often year specific. These variations can lead to false assumptions about trends.





3.4.6 The statistics reveal apparently adverse trends in the numbers of people being treated for most of the conditions, particularly among the older age groups. However, it is possible that they actually reflect new forms of treatment, greater demands for treatment being made by an aging population or simply efficiency improvements resulting in a higher throughput of patients, not necessarily adverse trends at all.

3.4.7 One surprising statistic is that there were twenty-two incidences of coronary heart disease among females under 16 between 1999 and 2003.

3.5 Likely future conditions

3.5.1 It is clear both from the context review and from the baseline data that demands on health care in the District are set to increase. Whether the message from the Hospital Episode Statistics is encouraging or not, the trend in hospital admissions is rising substantially in most of the categories examined. People are living longer and, as the draft RSS makes clear, the South West has a higher proportion of older people than the other English regions.

3.6 Environmental and Sustainability Problems

3.6.1 It is unclear whether there is an increasing problem with key ailments such as cancer, stroke and heart disease, although this may well be the case. However, the following problems can be confidently identified:

- Demands for healthcare and associated services in the District are rising and may be expected to continue to rise
- There is a need to provide more locally accessible healthcare services
- Older people need increased assistance to lead independent lives for longer
- Access to health services for vulnerable groups, especially young people, should be improved
- An increased focus on healthy lifestyles is required

3.7 Proposed SA / SEA Objectives

3.7.1 Based on the problems identified, the following SA / SEA Objective is proposed:

- To maintain and improve the community's health with accessible healthcare for residents

4 Economy

4.1 Introduction

- 4.1.1 The performance of the economy has a fundamental bearing on the achievement of sustainable development. It has both beneficial and adverse impacts. On one hand there are negative aspects, such as generation of waste, or pollution from industry or traffic, while on the other hand the economy provides employment and generates wealth. A sustainable economy should be seen as a part of the wider social and natural environment and, as far as possible, not adversely affect these wider elements.

4.2 Context Review

- 4.2.1 Key messages from the context review include:

Key Messages from the Context Review	Evidence Source
Encourage new development in locations which minimise the length and number of trips, especially by motor vehicles	Planning Policy Guidance 4: Industrial, commercial development and small firms
Encourage new development in locations that can be served by more energy efficient modes of transport (this is particularly important in the case of offices, light industrial development, and campus style developments such as science and business parks likely to have large numbers of employees);	Planning Policy Guidance 4: Industrial, commercial development and small firms
Discourage new development where it would be likely to add unacceptably to congestion	Planning Policy Guidance 4: Industrial, commercial development and small firms
Locate development requiring access mainly to local roads away from trunk roads, to avoid unnecessary congestion on roads designed for longer distance movement	Planning Policy Guidance 4: Industrial, commercial development and small firms
Raise the quality of life and the environment in rural areas through the promotion of thriving, inclusive and sustainable rural communities; sustainable economic growth and diversification; and continued protection of the open countryside	Planning Policy Statement 7: Sustainable Development in Rural Areas
Focus most development in, or next to, existing towns and villages; prevent urban sprawl; discourage the development of 'greenfield' land; Promote a range of uses to maximise the potential benefits of the countryside fringing urban areas; and provide appropriate leisure opportunities to enable urban and rural dwellers to enjoy the wider countryside.	Planning Policy Statement 7: Sustainable Development in Rural Areas
Bristol is to be promoted as a major European city and this is likely to offer challenges and opportunities for the District	Draft South West RSS
Cheltenham / Gloucester to develop as important focal points for economic development	Draft South West RSS; Gloucestershire Structure Plan - Third Alteration (unadopted)
Rural parts of the region are to fulfil their economic potential with vibrant market towns at their core	Draft South West RSS

Key Messages from the Context Review	Evidence Source
Growth is to be supported by necessary infrastructure in step with development	Draft South West RSS
The tourism industry in Gloucestershire is heavily dependent on the high quality of the built and natural environment. South West Tourism has identified the Cotswolds as being a “Prime International Brand” in the leisure and tourism sector	The Gloucestershire Economic Strategy
Key economic sectors in Gloucestershire are: Advanced engineering, Biotechnology, Construction, Creative industries, Finance and business services, Distribution, Environmental technology, Leisure and Tourism, Food manufacturing & distribution, IT	The Gloucestershire Economic Strategy
Improve quality and effectiveness of tourism industry	Rural Economic Strategy for Gloucestershire; Stroud Valleys Employment Study
Retain a profitable manufacturing sector and support a diverse economy, particularly in service and distribution sectors	Rural Economic Strategy for Gloucestershire
Support villages, particularly isolated ones, that wish to become economically and socially active	Rural Economic Strategy for Gloucestershire
Improve physical and IT communications infrastructure	Rural Economic Strategy for Gloucestershire
Exploit the District's Unique Selling Points to attract new and compatible business	Community Strategy
Encourage the voluntary sector and social / community enterprises to contribute to the local economy	Community Strategy
Of the 158 new businesses created between 1998 and 2001 within the Stroud Valleys area, 70% employed four or less people. Small-scale start-up businesses are of growing importance to the economy.	Stroud Valleys Employment Study
Resources in terms of land and premises are particularly tight in the central and eastern part of the District. There is a need bring under-utilised employment land back into economic use, which at the same time can assist in tackling the current lack of ‘quality’ premises in the central and eastern areas.	Stroud Valleys Employment Study
Intervention is required to improve the overall quality of existing facilities that are not exploiting the key strength of the District, which is the overall quality of the environment.	Stroud Valleys Employment Study

4.3 Baseline

- 4.3.1 Table 4.1 shows that Stroud has a substantially higher proportion of vacant commercial and industrial property than either the South West or Great Britain. This could mean that demand for property is low and the Stroud economy is less buoyant than elsewhere, or it could mean that commercial and industrial property is in the wrong place or of the wrong type to meet demand.
- 4.3.2 The trend over the last few years has been unfavourable, with a peak in vacancies during 2002 / 03. For comparison, the figure for Great Britain has increased by 2% over the same period, while in the South West commercial and industrial vacancies have remain stable at about 6%. Therefore Figure 4.1 shows that there may be significant scope for redevelopment of these

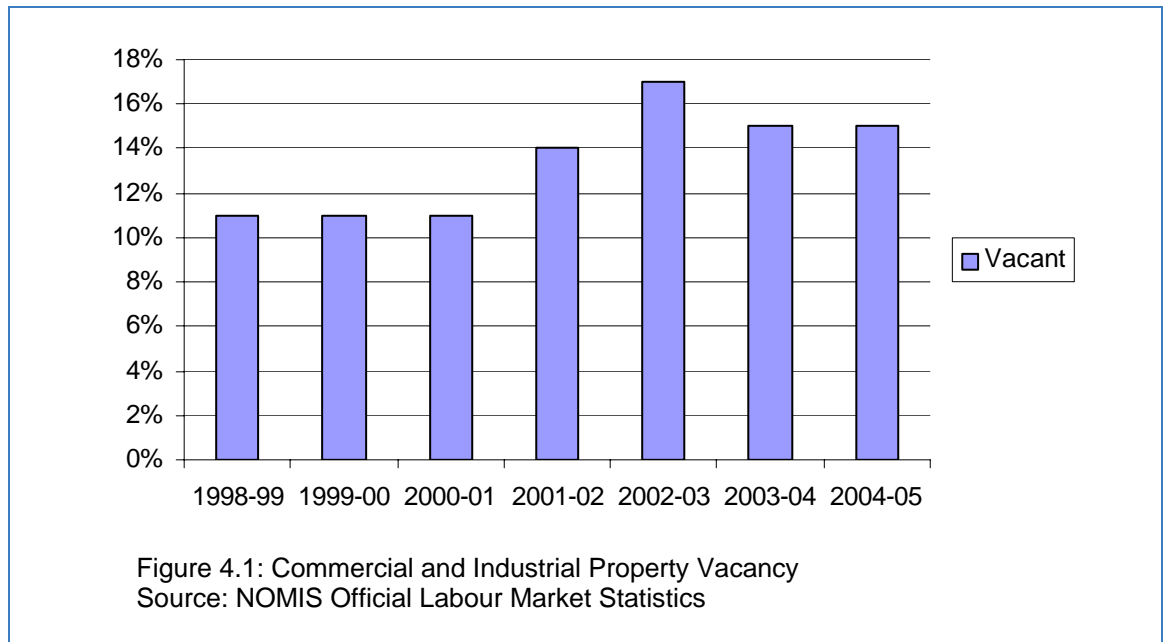
vacant properties in the District. Such opportunities will, however, depend on a number of factors including location and current condition.

Table 4.1: Commercial and Industrial Property Vacancy Statistics (2004 / 05)

	Stroud	South West	Great Britain
Vacant Property Estimates	15%	6%	9%

Source: NOMIS Official Labour Market Statistics

4.3.3 The Stroud Employment Study states "a number of the allocated employment sites along the corridor appear to be under utilised and be vacant/derelict and that there is a potential opportunity to deliver comprehensive redevelopment through the provision of alternative uses". It stresses "the importance of not only investigating in detail the current demand for commercial property within the Stroud Valleys area but also to comprehensively review the future development opportunities that are potentially available within the key employment land identified".



4.3.4 While there appears to be an increasing number of vacant properties, this does not appear to mean a corresponding decrease in the number of businesses in the District. The stock of VAT registered business has been growing steadily over the last decade (Figure 4.2) while the difference between the number of businesses registering for VAT and those de-registering is healthier than the South West and Great Britain (Table 4.2).

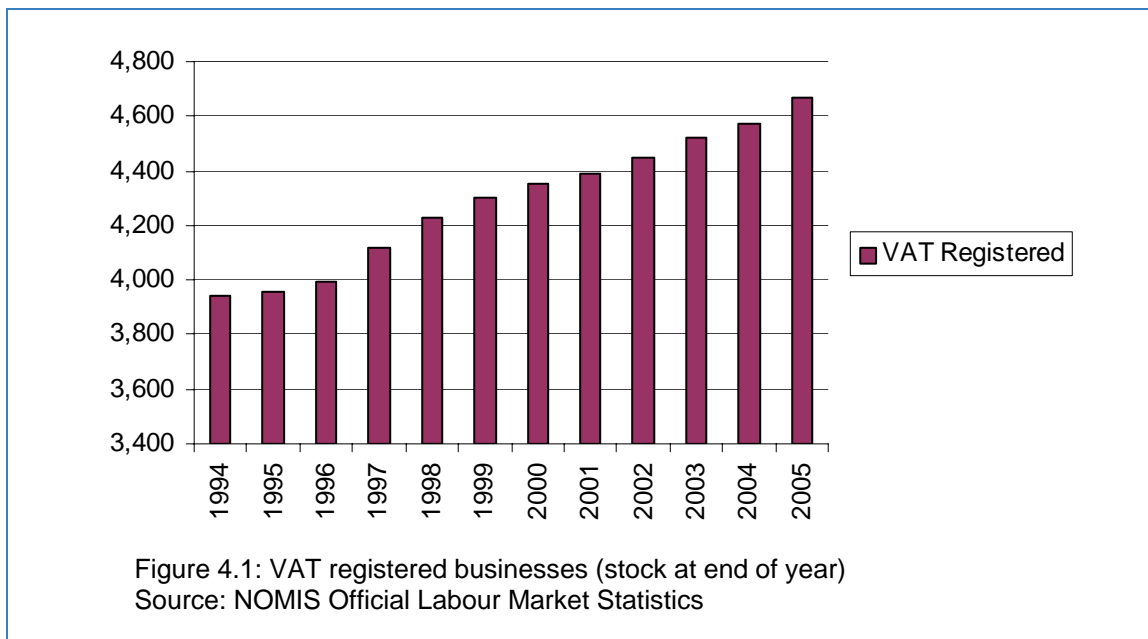


Table 4.2: VAT registered businesses (2005)

	Stroud		South West	Great Britain
Registrations	400	8.6%	8.6%	9.7%
De-registrations	300	6.4%	7.3%	8.3%
Stock (at end of year)	4,670	-	-	-

Source: NOMIS Official Labour Market Statistics

4.3.5 Taken together, the data indicate a restructuring of the economy in Stroud, with some older business vacating premises that are no longer suitable while newer businesses have been springing up to replace them. That the economy in Stroud is fundamentally sound is supported by the increase in employment in the District from 32,970 jobs in 1994 to 42,400 jobs in 2005 (Source: NOMIS), albeit that many of these jobs are part time.

4.4 Likely future conditions

4.4.1 The success of the District's economy is tied to that of the UK economy as a whole. For this reason predictions are particularly difficult to make. However, the economy seems set to continue to grow, other factors being equal.

4.4.2 The trend in VAT registrations has been favourable for a decade or more and this trend seems likely to continue. If taken as a proxy for the overall health of the economy, this indicator suggests that Stroud is experiencing a favourable economic trend.

4.5 Environmental and Sustainability Problems

4.5.1 The following environmental and sustainability issues have been identified:

- Economic development in the District needs to be located where it will minimise the length and number of trips, especially by motor vehicles, and will recognise the constraints of the highway network
- Some towns and villages in the District have little local employment and there is a need to assist them with appropriate, small-scale development, as identified in parish and town council action plans
- The District needs to capitalise further on what makes it unique and continue to promote the tourism industry
- A large portion of the commercial and industrial land in the District is currently vacant

4.6 Proposed SA / SEA Objectives

4.6.1 Based on the problems identified, the following SA / SEA Objective is proposed:

- To support a strong, diverse, vibrant and sustainable local economy to foster balanced economic growth

5 Employment

5.1 Introduction

- 5.1.1 This chapter deals specifically with employment rather than wider economic factors. Clearly any expansion or contraction of the economy is likely to have an effect on employment in the District and this is the overall context in which this chapter should be read.
- 5.1.2 Ensuring that housing and employment development is matched locally helps to reduce the distance that people have to travel to work and reduces the environmental impact associated with commuting.

5.2 Context Review

- 5.2.1 Key messages from the context review include:

Key Messages from the Context Review	Evidence Source
The South West region has high employment rates but relatively low productivity and marked contrasts within the region	Draft South West RSS
Future development of Stroud should be employment-led through an increase in the provision of jobs to create more balanced, sustainable communities	Draft South West RSS
Need for job creation in, and support for, the key employment sectors (IT, financial services and tourism)	The Gloucestershire Economic Strategy
Need to enhance productivity in key sectors	The Gloucestershire Economic Strategy
Skills shortages and problems in recruiting for certain business sectors	The Gloucestershire Economic Strategy
Develop a skilled and adaptable workforce to meet the future needs of the county	Rural Economic Strategy for Gloucestershire
Enable those on low incomes to earn more through higher value work	Rural Economic Strategy for Gloucestershire
Increase the use of the skills of the older members of the rural community	Rural Economic Strategy for Gloucestershire
Build capacity of communities to establish a local skills base	Rural Economic Strategy for Gloucestershire
There is a key divide between the major employment generating uses in the west focused at Stroudwater Business Park, which contrasts starkly to key employment sites in the east such as the Chalford Industrial Estate which provides accommodation for local companies seeking cheap and accessible accommodation.	Stroud Valleys Employment Study
The sites in the east are key employment centres for rural areas	Stroud Valleys Employment Study
Where high quality premises can be provided such as at the Stroud Enterprise Centre and Brimscombe Port, the demand for space is significant	Stroud Valleys Employment Study
There is strong demand for small-scale employment space in both the industrial and office sectors. The existence of a number of large vacant premises reflect their unsuitability in meeting the requirements of local demand, which clearly exists, but it does not match the nature of supply offered by the large vacant units.	Stroud Valleys Employment Study

5.3 Baseline

5.3.1 The employment by sector breakdown of Stroud residents in 2001 shows that in most respects the District has a similar profile to England as a whole. Stroud has proportionally more people working in agriculture and other rural trades and significantly more people working in manufacturing - around 20% compared to the average of 15% in England.

Table 5.1: Workforce by employment sector (percentage of total) (2001)

	Stroud		South West		England	
All people aged 16-74 in employment	52,389		2,286,108		22,441,498	
Agriculture; hunting; forestry	1,310	2.5%	56,932	2.49%	326,117	1.45%
Fishing	17	0.03%	1,812	0.08%	5,396	0.02%
Mining & quarrying	140	0.27%	7,573	0.33%	55,481	0.25%
Manufacturing	10,254	19.57%	318,894	13.95%	3,328,437	14.83%
Electricity; gas and water supply	951	1.82%	17,604	0.77%	159,619	0.71%
Construction	3,811	7.27%	165,428	7.24%	1,515,996	6.76%
Wholesale & retail trade; repair of motor vehicles	7,982	15.24%	391,820	17.14%	3,782,043	16.85%
Hotels and catering	2,044	3.9%	128,037	5.6%	1,061,617	4.73%
Transport storage and communication	2,656	5.07%	141,506	6.19%	1,590,031	7.09%
Financial intermediation	1,945	3.71%	97,367	4.26%	1,078,082	4.8%
Real estate; renting and business activities	6,422	12.26%	261,225	11.43%	2,964,468	13.21%
Public administration and defence	2,373	4.53%	161,011	7.04%	1,270,755	5.66%
Education	4,361	8.32%	172,768	7.56%	1,736,497	7.74%
Health and social work	5,728	10.93%	252,112	11.03%	2,400,698	10.7%
Other	2,395	4.57%	112,019	4.9%	1,166,261	5.2%

Source: National Statistics

5.3.2 Income data given in Tables 5.2 and 5.3 reveal several interesting features. Overall, while Stroud residents are slightly better paid than the national average, one clear problem is that the disparity between male and female earnings is wider than elsewhere. Another is that female earnings are also significantly lower than the average in Great Britain as a whole.

Table 5.2: Median income - gross weekly pay of Stroud residents (2006)

	Stroud	South West	Great Britain
Gross weekly pay			
Full time workers	£455.20	£423.50	£449.60
- Male	£492.90	£471.20	£490.50
- Female	£366.10	£358.80	£387.60
Hourly pay			
Full time workers	£11.11	£10.53	£11.26
- Male	£12.10	£11.35	£11.91
- Female	£8.47	£9.39	£10.28

Source: Annual survey of hours and earnings - workplace analysis (2006)

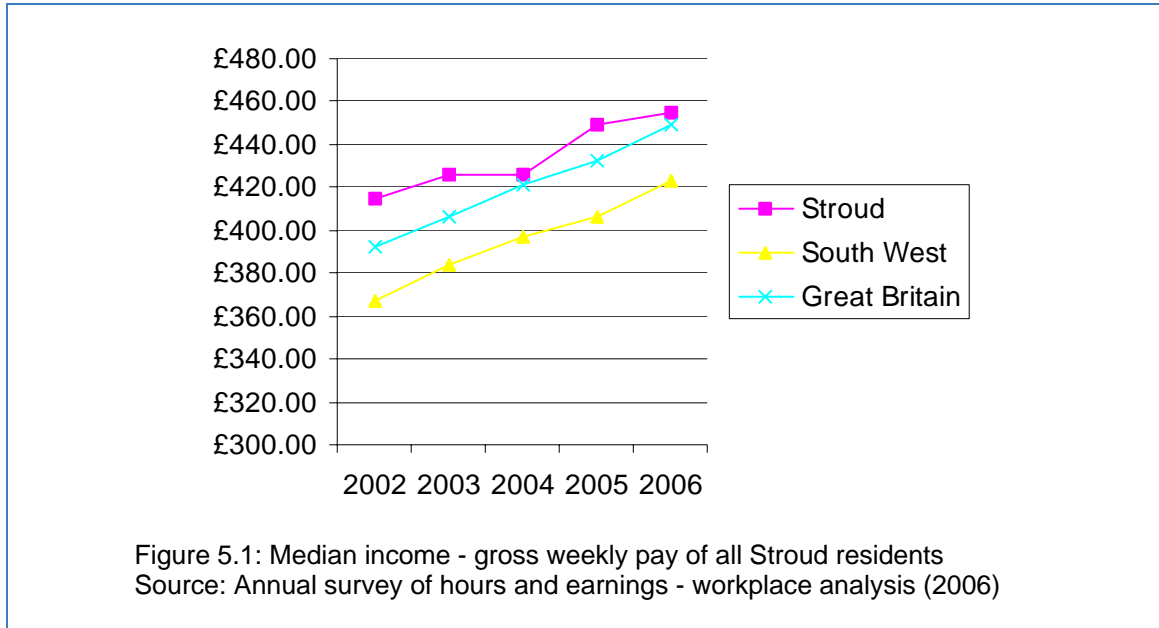
- 5.3.3 A comparison between Tables 5.2 and 5.3 indicates that although Stroud residents are well-paid, people whose workplace is located in the District are comparatively poorly remunerated. This demonstrates that the best-paid residents of Stroud work outside the District and suggests that Stroud would benefit from inward investment from higher paying employers.

Table 5.3: Median income - gross weekly pay of Stroud workers (2006)

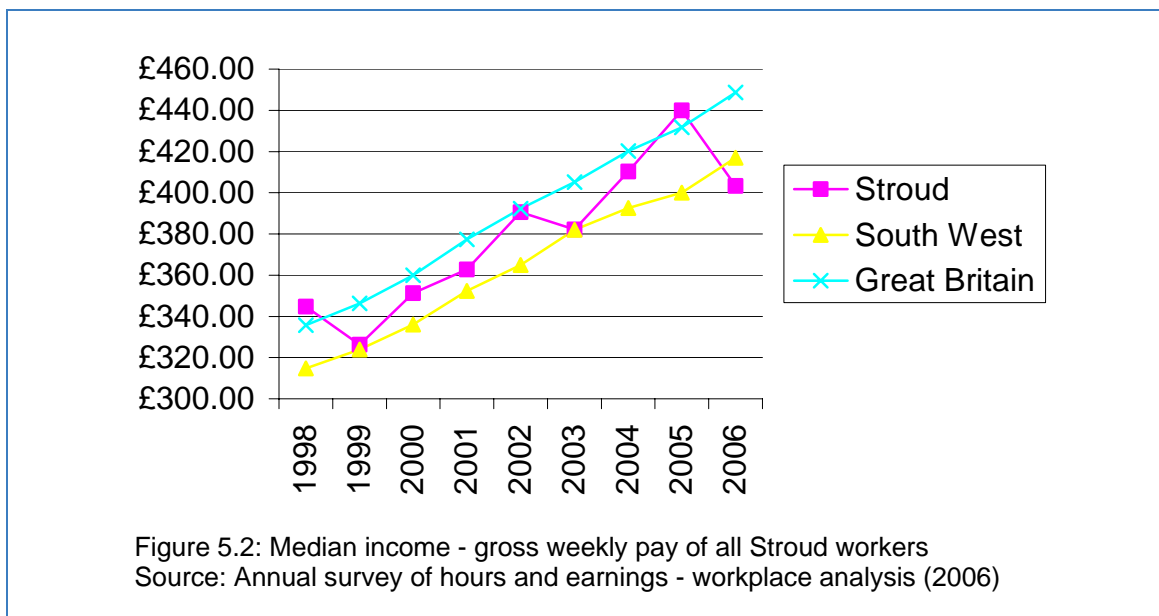
	Stroud	South West	Great Britain
Gross weekly pay			
Full time workers	£403.30	£417.00	£448.60
- Male	£444.60	£460.00	£489.40
- Female	£347.90	£358.30	£387.10
Hourly pay			
Full time workers	£10.21	£10.38	£11.24
- Male	£10.66	£11.11	£11.88
- Female	£8.26	£9.37	£10.26

Source: Annual survey of hours and earnings - workplace analysis (2006)

- 5.3.4 Looking at the recent trends in earnings it appears that the District has under-performed relative to the rest of the Country. Figure 5.1 shows that while resident's earnings have risen steadily, the increase has been a modest £40 per week compared £55 in the South West and almost £60 in the whole of Great Britain.



5.3.5 The data for people who work in Stroud are more mixed. The comparative trend is far less favourable to the District taken over the longer period for which this data is available. Figure 5.2 suggests that the District has been overtaken both by the South West and Great Britain in terms of gross weekly pay over the last decade².



5.3.6 Residents of Stroud District are relatively well educated with significantly more people holding NVQ3 or above and NVQ4 or above qualifications than elsewhere in the South West or Great Britain. This accords with the comparatively high earnings identified among Stroud workers identified in Table 5.2 above.

² A note of caution should be sounded with respect to this finding because the data appear to show a sudden dip in the average in 2006

Table 5.6: Qualifications

	Stroud		South West	Great Britain
NVQ4 and above	20,300	31.8%	26.5%	26.5%
NVQ3 and above	33,800	52.6%	46.0%	44.4%
NVQ2 and above	42,300	65.9%	66.2%	62.9%
NVQ1 and above	53,200	82.7%	82.0%	77.2%
Other Qualifications	3,200	5.0%	7.9%	8.4%
No Qualifications	7,700	12%	9.9%	14.3%

Source: NOMIS Annual Population Survey (2005)

5.3.7 The key to the above table is as follows:

- Level 4 / 5: First degree, Higher degree, NVQ levels 4 and 5, HNC, HND, Qualified Teacher status, Qualified Medical Doctor, Qualified Dentist, Qualified Nurse, Midwife, Health Visitor
- Level 3: 2 or more passes at 'A' level, 4 or more passes at AS level, Higher School certificate, NVQ level 3, Advanced GNVQ
- Level 2: 5 or more passes at 'O' level, CSE (grade 1), GCSEs (grades A-C), School Certificate, 1 or more passes at 'A' level, AS level, NVQ level 2, Intermediate GNVQ
- Level 1: 1 or more passes at 'O' level, CSE, GCSE any grades, NVQ level 1, Foundation GNVQ
- No Qualifications: No academic, vocational or professional qualifications

5.4 Likely future conditions

5.4.1 Drawing on the trends identified in Figures 5.1 and 5.2, it is likely that wages paid to residents will continue to outstrip wages paid to workers in the District for the foreseeable future, reflecting the fact that higher paid jobs are located outside the District. Nevertheless, the trend in wages appears likely to continue for both residents and workers.

5.4.2 The industrial sector is likely to remain of key importance for employment in the District. This sector, supplemented by new, perhaps small-scale, start-up business is likely to provide the major focus for local employment. Agriculture, while more significant in Stroud than in many other parts of the country, provides only relatively limited employment in the District.

5.5 Environmental and Sustainability Problems

5.5.1 The following issues have been identified:

- Relatively low pay among female workers (resident and non-resident)
- Jobs in the District are relatively poorly paid
- Although earnings from jobs in the District are increasing, they are declining relative to the

rest of the country

- People have to travel for the highest paid jobs
- Productivity in Gloucestershire (and therefore Stroud) needs to be increased
- Growth in Stroud needs to be led by employment in order to address the imbalance between the value of jobs in the District and jobs further afield

5.6 Proposed SA / SEA Objectives

5.6.1 Based on the problems identified, the following SA / SEA Objective is proposed:

- To maintain and enhance employment opportunities within the District

6 Transport and Accessibility

6.1 Introduction

- 6.1.1 Sustainable transport is key to the wider sustainable development agenda. An efficient transport network is a pre-requisite of a successful, modern economy. A safe and accessible transport network helps fulfil societal objectives, while a low-pollution transport network is essential to safeguard the environment and climate. Reconciling these, often conflicting, requirements is at the heart of the planning process.
- 6.1.2 Accessibility, both to services and employment, is a particularly difficult issue in a rural district such as Stroud, where the dispersed population makes public transport less viable than in urban areas. In villages not well-served by public transport the car is often the only realistic means of access to the main town and city centres.

6.2 Context Review

- 6.2.1 Key messages from the context review include:

Key Messages from the Context Review	Evidence Source
Development plans should contain clear, comprehensive and inclusive access policies - in terms of both location and external physical access. Such policies should aim to break down unnecessary barriers and exclusions in a manner that benefits the entire community.	Planning Policy Statement 1: Delivering Sustainable Development
Local authorities should seek to ensure that strategies in the development plan and the local transport plan are complementary: consideration of development plan allocations and local transport priorities and investment should be closely linked	Planning Policy Guidance 13: Transport
Local authorities should seek to make maximum use of the most accessible sites, such as those in town centres and others which are, or will be, close to major transport interchanges	Planning Policy Guidance 13: Transport
The transport infrastructure in the South West is often inadequate, and traffic congestion has increased	Draft South West RSS
The South West must link the provision of homes, jobs and services based on role and function so that cities, towns and villages and groups of places have the potential to become more self contained and the need to travel is reduced	Draft South West RSS
A step change in public transport is required, with steps to manage demand for travel, and the provision of public transport 'hubs' and access to them	Draft South West RSS
Stroud's high accessibility to major transport routes, particularly the strategic road network, has generated an unsustainable form and overall level of out-commuting to the larger urban areas of Gloucester, Cheltenham and Bristol.	Draft South West RSS; Stroud Valleys Employment Study
Appropriate waterways, and their associated water transport infrastructure should be protected from development which would interfere with their transport and leisure function, and their use developed and enhanced where appropriate.	Gloucestershire Structure Plan - Third Alteration (unadopted)

Key Messages from the Context Review	Evidence Source
Maintenance priorities: Address the maintenance backlog Make best use of the network Improve the network to meet the needs of all users	Gloucestershire Local Transport Plan: 2006-2011
Quality of Life priorities: Reduce the impacts of transport on communities and the environment Provide a transport system that supports regeneration and sustainable growth	Gloucestershire Local Transport Plan: 2006-2011
Safety priorities: Reduce all road casualties and especially killed and seriously injured Improve Community Safety	Gloucestershire Local Transport Plan: 2006-2011
Accessibility priorities: Enable high quality access to services by all forms of transport Provide financially sustainable access to services for those without cars, particularly in rural areas Meet the needs of people with disabilities	Gloucestershire Local Transport Plan: 2006-2011
Congestion priorities: Make best use of existing infrastructure Provide new and improve existing infrastructure Facilitate use of alternatives to the car	Gloucestershire Local Transport Plan: 2006-2011
Poor bus and rail links in Stroud mean that large numbers of commuters travel to work by car	Gloucestershire Local Transport Plan: 2006-2011

6.3 Baseline

6.3.1 Car ownership levels in Stroud are relatively high, reflecting the rural nature of the District. A third of all households have two cars or vans, compared with the UK average of less than a quarter of all households.

Table 6.1: Vehicle ownership (2001)

Vehicles ownership	Stroud		South West		England & Wales	
All Households	44,617		2,085,984		20,451,427	
Households with no cars or vans	7,241	16.23%	421,517	20.21%	5,488,386	26.84%
Households with one car or van	18,001	40.35%	963,145	46.17%	8,935,718	43.69%
Households with two cars or vans	14,809	33.19%	554,149	26.57%	4,818,581	23.56%
Households with three cars or vans	3,410	7.64%	111,469	5.34%	924,289	4.52%
Households with four or more cars or vans	1,156	2.59%	35,704	1.71%	284,453	1.39%
All cars or vans in the area	62,987		2,565,747		22,607,629	

Source: National Statistics

- 6.3.2 Nearly half of the people in the District travel to work by car or van, which is a far higher percentage than elsewhere in the South West or England and Wales where the proportion is more like a third.
- 6.3.3 Public transport is notably poorly used in the District, where just over 2% travel to work by train or bus. In the South West as a whole this figure is around 4%, while in nearly 10% of people in England and Wales use public transport to get to work. Clearly this is a result of the relatively good bus and rail links to the bigger towns and cities.

Table 6.2: Method of travel to work (2001)

Method of Travel to Work	Stroud	South West	England & Wales
All People	76,792	3,534,458	35,532,091
Works mainly at or from home	6,312	251,408	2,055,224
Underground, metro, light rail or tram	51	1,916	709,386
Train	413	21,171	950,023
Bus, minibus or coach	1,262	115,568	1,685,361
Taxi or minicab	54	6,867	116,503
Driving a car or van	34,449	1,343,333	12,324,166
Passenger in a car or van	3,258	143,882	1,370,685
Motorcycle, scooter or moped	650	34,516	249,456
Bicycle	1,048	76,430	634,588
On foot	4,720	278,298	2,241,901
Other	172	12,719	104,205
Not currently working	24,403	1,248,350	13,090,593

Source: National Statistics

6.4 Likely future conditions

- 6.4.1 The census data quoted above represent a snapshot of the situation in 2001 and conclusions concerning future trends cannot be drawn from them. However, car ownership in the UK as a whole is rising and it is likely that this is also the case in Stroud. Given the anticipated growth of population in the District it seems likely that the numbers of people using the roads will rise significantly in future.
- 6.4.2 While the Cotswold Canals could, once restored, be used as a sustainable means of transport for certain classes of goods, their potential to attract new visitors to the District may well add to the amount of traffic on Stroud's highways. Provision for sustainable access to the canals should be a high priority (as required by PPS1) if net benefit in this respect is to be gained from the restoration.

6.5 Environmental and Sustainability Problems

6.5.1 The following problems have been identified:

- There is an unsustainable level of out-commuting, particularly by car, from the District to the larger urban areas of Gloucester, Cheltenham and Bristol
- Bus and rail services in Stroud need to be improved to encourage people to use these modes of transport in preference to the car
- Accessibility in more isolated locations remains an issue
- The restoration of the Cotswold Canals may represent an opportunity for sustainable transport of goods but one not likely to be significant for the foreseeable future
- Access to the restored canals must be carefully managed if additional demands are not to be placed on the road network

6.6 Proposed SA / SEA Objectives

6.6.1 Based on the problems identified, the following SA / SEA Objective is proposed:

- To promote traffic reduction and encourage more sustainable alternative forms of transport

7 Crime and Safety

7.1 Introduction

7.1.1 Safe, healthy and vibrant neighbourhoods are fundamental to the economic, social and environmental well-being of the community. This chapter investigates the current and likely future situation in terms of crime and public safety in the District.

7.2 Context Review

7.2.1 The following are the key messages from the context review published in the Scoping Report:

Key Messages from the Context Review	Evidence Source
Local planning authorities should consider the scale of night-time leisure developments they wish to encourage in town centres and their likely impact, including the cumulative impact on the character and function of the centre, anti-social behaviour, crime and the amenities of nearby residents	Planning Policy Statement 6: Planning for Town Centres
The Partnership has been directed by the Government to contribute to a reduction of 15% by 2008 in the British Crime Survey 2003/4 results nationally, using the following target crimes as a benchmark: <ol style="list-style-type: none"> 1. Theft of a vehicle 2. Theft from a vehicle 3. Vehicle interference 4. Domestic burglary 5. Theft or unauthorised taking of a cycle 6. Theft from a person 7. Criminal damage 8. Common assault 9. Wounding 10. Robbery 	Stroud Area Crime & Disorder Partnership Strategy: 2005-2008
Reduce the incidence of public disorder, in relation to criminal damage, including arson and graffiti and also anti-social behaviour including unruly behaviour, anti-social use of motor vehicles, fly posting and fly tipping	Stroud Area Crime & Disorder Partnership Strategy: 2005-2008
To reduce 'the fear of crime' as determined by public consultation	Stroud Area Crime & Disorder Partnership Strategy: 2005-2008
To reduce fatal and serious casualties by at least 50% by 2010. Reducing casualties from the 1994-98 average of 360 per year, to less than 180 per year by the end of 2010.	Gloucestershire Road Safety Plan
To reduce fatal and serious child casualties by at least 50% by 2010. Reducing child casualties from the 1994-98 average of 35 per year, to less than 17 per year by the end of 2010.	Gloucestershire Road Safety Plan

Key Messages from the Context Review	Evidence Source
Key areas of concern: Child Safety Speed Reduction Drink, Drugs and Drowsiness Elderly people Vulnerable Modes of Transport (e.g. pedestrians, cyclists, motorcyclists & horse riders) High Risk Behaviour	Gloucestershire Road Safety Plan
A major part of crime and disorder reduction is achieved through considering and addressing the causes, including social issues of poverty, poor education attainment and training opportunities unemployment and drug / alcohol misuse. Striving towards community cohesion, (helping people become active citizens and improving personal responsibility in the community) also impacts on improving community safety	Gloucestershire Corporate Community Safety Policy and Implementation Strategy
Tackle issues of disorder, including disturbances in the street, graffiti, other types of criminal damage and anti-social behaviour, including the anti-social use of motor vehicles	Community Strategy
Tackle crime, in particular burglary, car crime and violent crime	Community Strategy
Focus in particular on youth crime, racial crime and drugs / alcohol	Stroud Area Crime & Disorder Partnership Strategy: 2005-2008; Community Strategy

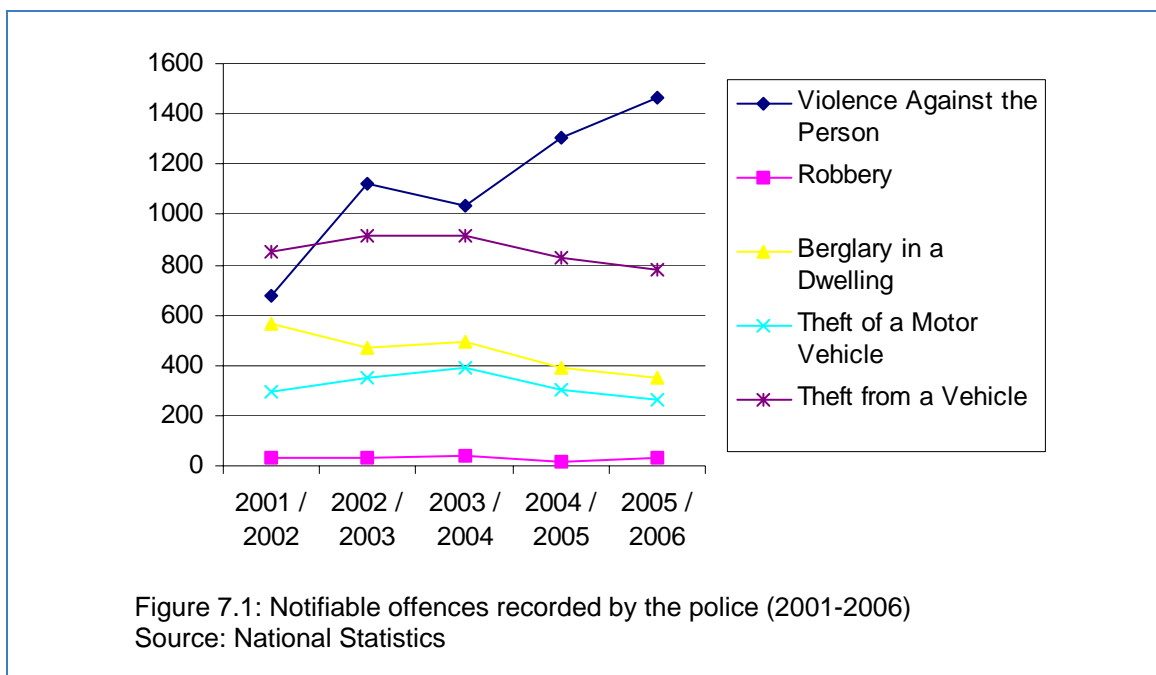
7.3 Baseline

7.3.1 Stroud is a relatively low crime area. In general the rate of offending in the District is lower than the South West or England averages. One exception is in violence against the person, where the rate for Stroud is substantially higher than the average for the South West (although still lower than the rate for the whole of England).

Table 7.1: Notifiable offences recorded by the police (2006)

Offence	Stroud		South West		England	
	Count	%	Count	%	Count	%
Total Population	107,898		4,928,434		49,138,831	
Violence Against the Person	1,463	1.4%	85,715	0.4%	992,094	2.0%
Robbery	34	-	3,634	-	94,897	0.1%
Burglary in a Dwelling	349	0.3%	19,118	0.4%	290,542	0.6%
Theft of a Motor Vehicle	262	0.3%	13,574	0.3%	201,920	0.4%
Theft from a Vehicle	778	0.7%	38,869	0.9%	476,704	1.0%

Source: National Statistics



7.3.2 As shown in Figure 7.1, the trend over the last few years for three of the five notifiable offences (burglary and car crime) is favourable. Robbery rates in the District have fluctuated around a very low level. Violence against the person has increased dramatically since 2001/02 but most of this increase came in 2002/03 when the introduction of the National Crime Recording Standard (NCRS) resulted in some increase in levels of recorded crime. Nevertheless, this indicator has continued to move in an unfavourable direction since 2002/03.

Table 7.2: Road Traffic Accidents (2003)

Accident	Stroud	South West	England
All casualties	52	2,901	32,296
All Car Occupants Killed or Seriously Injured	26	1,412	14,631
All those using Two Wheeled Motor Vehicles Killed or Seriously Injured	13	705	6,948
All Pedal Cyclists Killed or Seriously Injured	Not Available	175	2,202
All Pedestrians Killed or Seriously Injured	7	472	6,884
All Child Casualties	4	205	3,476
All Child Pedestrian Casualties	Not Available	82	2,026
All Elderly Casualties	5	170	1,751
All Elderly Pedestrian Casualties	0	39	739

Source: National Statistics

7.3.3 Road Traffic Accident rates in Stroud are low, with total casualties of some 52 people killed or seriously injured in 2003. Most of these were travelling in cars or motorcycles.

7.4 Likely future conditions

7.4.1 The Stroud Crime and Disorder Partnership has a target to reduce crime by 15% by 2008 compared with 2003/04 in ten categories of crime: theft of a vehicle; theft from a vehicle; vehicle interference; domestic burglary; theft or unauthorised taking of a cycle; theft from a person; criminal damage; common assault; wounding; and robbery.

7.4.2 The trends revealed in Figure 7.1 suggest that the targets will be achieved for car crime and burglary. The fluctuations in robbery statistics make it difficult to judge how well the District will perform against this metric. Common assault and wounding targets would appear to be unlikely to be achieved on the evidence of the violence against the person indicator.

7.5 Environmental and Sustainability Problems

7.5.1 The following issues have been identified:

- Violent crime in the District is rising and is occurring at a higher rate than the rest of the South West
- Disorder, including disturbances in the street, graffiti, other types of criminal damage and anti-social behaviour need to be further reduced
- Public fear of crime is a clear community perception but does not appear to be justified by the actual incidence of crime

7.6 Proposed SA / SEA Objectives

7.6.1 Based on the problems identified, the following SA / SEA Objective is proposed:

- To reduce crime and anti-social behaviour and the fear of crime

8 Housing

8.1 Introduction

- 8.1.1 The housing market has not been responding sufficiently to housing demand. Many areas in Southern England have suffered from high demand and low supply, while a lack of affordable housing has made it difficult for first time buyers to get on the property ladder.
- 8.1.2 Adequate planning is required to ensure that such market failings are addressed and that the mix of dwellings is sufficient to meet the current and future needs of local residents including families, single people, the elderly and multi-person households. The changing composition of the District's population is discussed in Chapter 2: Population.
- 8.1.3 Ensuring that housing and employment development is matched locally is essential to meet the government's sustainability objectives. The aim is to reduce the distance that people have to travel to work and thus the environmental impact associated with commuting. These issues are also explored in Chapter 6: Transport and Accessibility.

8.2 Context Review

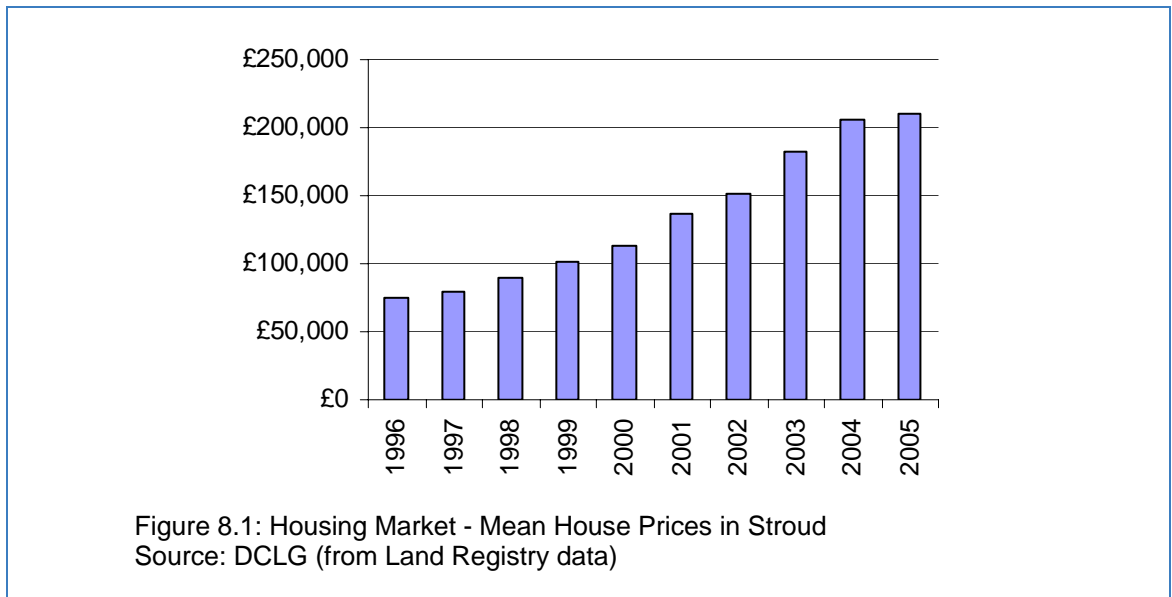
- 8.2.1 The key messages from the context review are shown in the table below:

Key Messages from the Context Review	Evidence Source
Planning policies should promote high quality inclusive design in the layout of new developments and individual buildings in terms of function and impact, not just for the short term but over the lifetime of the development. Design which fails to take the opportunities available for improving the character and quality of an area should not be accepted	PPS1: Delivering Sustainable Development
The focus for significant development should be market towns or local service centres. The priority for development is Brownfield land. Housing development should be based on thorough landscape and ecological survey and appraisal.	PPS 3: Housing
The region suffers from <ul style="list-style-type: none"> • High housing demand and under-delivery of new homes; • Severe difficulties for first time buyers; • High levels of second and holiday homes; • A shortage of affordable housing; • High levels of homelessness; • Poor quality homes 	South West Regional Housing Strategy 2005-2016
There is a significant problem with housing affordability resulting from high demand and relatively low wages	Draft South West RSS
Strategic releases of housing in Stroud should only be provided when it can be demonstrated that an increasing rate of employment has brought employment and housing more closely into balance	Draft South West RSS

Key Messages from the Context Review	Evidence Source
<p>In rural areas, major previously-developed sites will only be suitable for redevelopment where:</p> <ul style="list-style-type: none"> • They can create or contribute to existing mixed-use, self-contained communities; • They will not generate significant additional journeys by private motor vehicles; • They are, or can be made, accessible to local employment, schools, shopping, leisure and other facilities; and • They enhance and are not intrusive to the environment, including local biodiversity. 	<p>Gloucestershire Structure Plan - Third Alteration (unadopted)</p>
<p>The District is allocated a target of 6,750 dwellings between 2001 - 2016</p>	<p>Gloucestershire Structure Plan - Third Alteration (unadopted)</p>
<p>The new sites provided for travellers should be small enough to minimise the impact on the surrounding locality and amenities. Action will be taken against unauthorised sites where these constitute a nuisance or create a hazard to road safety or to public health.</p>	<p>Gloucestershire Traveller Policy</p>
<p>Hunt's Grove falls within the Gloucester Principal Urban Area as defined in the Gloucestershire Structure Plan - Third Alteration (unadopted) and therefore should be the focus for strategic allocations in the District. The Stroud urban area should be the next priority for development.</p>	<p>Stroud District Local Plan</p>
<p>When surveyed in 2004, 64% of residents gave a high priority to spending on affordable housing and 35% rated it their top priority</p>	<p>Stroud Housing Strategy: 2005-2009</p>
<p>Shortfall of 330 affordable homes identified in 2004, increasing to 400 in 2005</p>	<p>Stroud Housing Strategy: 2005-2009</p>
<p>A target of 30% of new household units on appropriate developments should be affordable.</p>	<p>Stroud District Council IPS Affordable Housing Provision in Association with New Residential Development</p>
<p>The level of demand for affordable housing has increased, primarily due to the reduced affordability of entry-level homes, and the relationship between house prices and incomes.</p>	<p>Stroud Housing Need Assessment 2005 Update</p>
<p>Focus on affordability, accessibility, maintenance (including improvements to energy efficiency)</p>	<p>Community Strategy</p>

8.3 Baseline

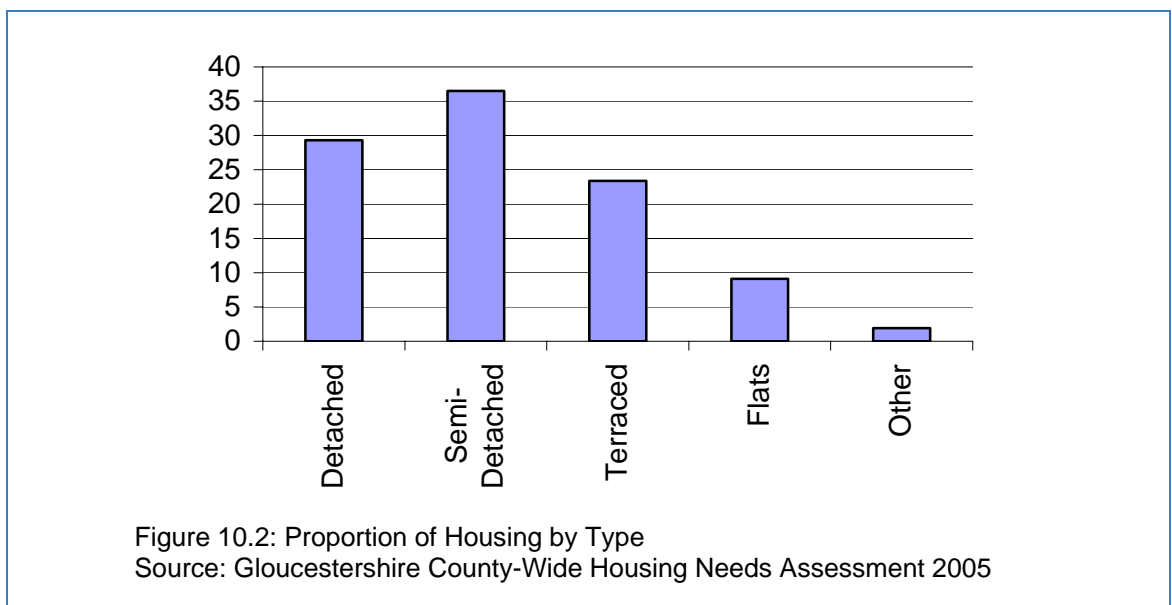
8.3.1 House prices in Stroud have risen over the last ten years as demonstrated by the average prices shown in Figure 8.1. This is the local reflection of a wider regional and national trend in rising prices.



8.3.2 The average entry-level property is £154,181 meaning that a net monthly income of £2,213 would be required to afford an entry level home³. Consequently relatively low-paid but essential workers, such as nurses, can find it extremely difficult to find somewhere to live. The average local income in the District is £19,222 per annum, or about £1,600 per month.

8.3.3 The Net level of affordable housing need in the District in 2005 was 267. This represents the demand for affordable housing and is calculated by examining the shortfall between the supply and demand for affordable housing. Affordable housing is non-market housing, provided to those whose needs are not met by the market.

8.3.4 The proportion of housing by type in the District is as follows;



³ The Housing Needs of Stroud District, 2006

8.3.5 Homelessness in Stroud District is relatively high at 8% (Homelessness acceptances as a % of the total households on the housing register) compared to 7.4% on the South West and 7.8% in England⁴. Acceptances are households found to be eligible for assistance; unintentionally homeless and falling within a priority need group.

8.3.6 The Structural Plan target for annual housing completions in Gloucestershire is 2,500. Annual completions achieved are as follows:

Table 10.1: Gloucestershire Annual Completions

1998	1999	2001	2002	2003	2004
2451	2137	1912	1756	2132	2259

Source: Gloucestershire Housing Monitor – Housing Land Availability Study 2005

8.4 Likely future conditions

8.4.1 Given the trend for rising house prices it looks likely that the average house price in the District will continue to rise. Consequently problems with affordability are likely to continue.

8.5 Environmental and Sustainability Problems

8.5.1 The following issues have been identified:

- Severe difficulties in respect of affordability for first time buyers. This is likely to continue due to high housing demand and rising prices.
- Continuing shortfall in the provision of affordable housing.
- Housing and employment provision are not adequately matched and consequently people are required to commute long distances to work.
- Future housing development should focus on the Stroud urban area, however there remains a need for affordable housing in many rural settlements.

8.6 Proposed SA / SEA Objectives

8.6.1 Based on the identified problems, the following SA / SEA Objective is proposed:

- To provide affordable and decent housing to meet local needs

⁴ National Statistics April 2004-March 2005

9 Cultural Heritage

9.1 Introduction

9.1.1 The UNESCO World Heritage Convention (1972) defines the scope of “cultural heritage” as follows:

- Monuments: architectural works, works of monumental sculpture and painting, elements or structures of an archaeological nature, inscriptions, cave dwellings and combinations of features, which are of outstanding universal value from the point of view of history, art or science;
- Groups of buildings: groups of separate or connected buildings which, because of their architecture, their homogeneity or their place in the landscape, are of outstanding universal value from the point of view of history, art or science;
- Sites: works of man or the combined works of nature and man, and areas including archaeological sites, which are of outstanding universal value from the historical, aesthetic, ethnological or anthropological point of view.

9.1.2 Preserving the cultural and historic environment benefits communities in more than one way:

- It provides an essential educational resource for the understanding of the past and its legacy;
- It contributes to the national and local economy as it promotes tourism and provides jobs;
- It provides people with a sense of belonging to a unique and special place – a sense of identity.

9.1.3 This is particularly true of Stroud where tourism is an important component of the economy. The restoration of the Cotswold Canals represents a key opportunity to capitalise on the District's cultural heritage, while the Stroud Industrial Heritage Conservation Area preserves the built heritage elements that have shaped the character of the town. The Council is addressing these two important assets by producing three key documents:

- The Cotswold Canals AAP
- Cotswold Canals Design Framework SPD
- Stroud Industrial Heritage Conservation Area SPD

9.2 Environmental Protection Objectives

9.2.1 World Heritage Convention (1972):

- Calls for the identification, protection, conservation, presentation and transmission to future generations of the cultural and natural heritage sites

9.2.2 Ancient Monuments and Archaeological Areas Act (1979):

- Provides for nationally important archaeological sites to be statutorily protected as “scheduled ancient monuments” (now Scheduled Monuments)

9.2.3 Planning (Listed Buildings and Conservation Areas) Act (1990):

- Provides specific protection for buildings and areas of special architectural or historic interest

9.3 Context Review

9.3.1 The following are the key messages from the context review:

Key Messages from the Context Review	Evidence Source
A high level of protection should be given to most valued townscapes	Planning Policy Statement 1: Delivering Sustainable Development
New uses may often be the key to a building's or area's preservation	Planning Policy Guidance 15: Planning and the historic environment
Grades I and II* listings identify the outstanding architectural or historic interest of a small proportion (about 6%) of all Listed Buildings. These buildings are of particularly great importance to the nation's built heritage and their significance is generally beyond dispute.	Planning Policy Guidance 15: Planning and the historic environment
Archaeological remains should be seen as a finite and non-renewable resource, in many cases highly fragile and vulnerable to damage and destruction. Appropriate management is therefore essential to ensure that they survive in good condition. In particular, care must be taken to ensure that archaeological remains are not needlessly or thoughtlessly destroyed.	Planning Policy Guidance 16: Archaeology and planning
If physical preservation in situ is not feasible, an archaeological excavation for the purposes of 'preservation by record', may be an acceptable alternative, but from the archaeological point of view this should be regarded as a second best option.	Planning Policy Guidance 16: Archaeology and planning
The environment is under pressure exemplified by loss of and damage to natural and historic assets	Draft South West RSS
The South West should seek to bring historic buildings back into viable economic use	Draft South West RSS
Restoration of the Stroudwater, Thames and Severn Canal, and the Herefordshire and Gloucestershire Canal, as navigable waterways will be encouraged and their routes protected where compatible with other policies.	Gloucestershire Structure Plan - Third Alteration (unadopted)
Support full development of existing historic resources, principally the Severn-Thames Canal and under-utilised	Rural Economic Strategy for Gloucestershire
The historic fabric of buildings, archaeological features and the wider historic landscape in the canals corridor will be preserved and enhanced	Stroudwater Navigation and Thames & Severn Canals Restoration Position Statement

9.4 Baseline

9.4.1 There are almost five thousand Listed Buildings in the District. Of these, 48 are the highest Grade I and 298 Grade II* Listed Buildings. Five of these important buildings are on the 'at risk' register; these are documented in Table 9.1 below.

Table 9.1: Grade I and Grade II* Listed Buildings 'at risk'

Building	Grade	Condition	Comments
Main Building at Stanley Mills, Ryeford, Kings Stanley	Grade I	Fair	Woollen Mill. 1813. Ancillary building (grade II) is in poor condition and part occupied. Roof repaired with English Heritage grant.
St Mary's House, London Road, Chalford	Grade II*	Poor	Former mill owners house and weavers cottages, late C16 and late C17
Former Saxon Church to west of Priory House, Leonard Stanley	Grade II*	Poor	Former Saxon and Medieval chapel within core of former priory of St Leonard. Later converted to agricultural use including dovecotes and forge. Threshing floor in situ. Currently used for vehicle/equipment storage but surplus to agricultural requirements.
Brownhill Court, Wick Street, Painswick	Grade II*	Very Bad	Early to mid C18 country house converted into flats, which are now vacant. The house has been the subject of a closing order and it is now in a dangerous condition.
Railway Goods Shed, Station Road, Stroud	Grade II*	Good	Railway goods shed built 1845. Shell repaired by local preservation trust with English Heritage grant aid and leased to Stroud Building Preservation Trust. Listed Building Consent and Planning Permission has recently been approved.

Source: English Heritage

9.4.2 Stroud has fourteen Parks and Gardens of Special Historic Interest, listed in Table 9.2.

Table 9.2: Historic Parks and Gardens

Park or Garden	Grade	Park or Garden	Grade
Frampton Court	I	The Mount House	II
Stancombe Park	I	Gatcombe Park	II
Berkeley Castle	II*	Owlpen House	II
Lypiatt Park	II*	St Mary's	II
Miserden Park	II*	Nether Lypiatt Manor	II
Painswick House	II*	Woodchester Park	II
Alderley Grange	II	Bradley Court	II

Source: Quoted in Stroud District Local Plan (English Heritage)

9.4.3 There are forty-two Conservation Areas in Stroud designated by the Council for their "special architectural or historic interest, the character or appearance of which it is desirable to preserve or enhance". These are listed in Table 9.3.

Table 9.3: Conservation Areas

Conservation Area	Conservation Area
Alderley	Nailsworth (and extensions)
Amberley	Nymphsfield
Arlingham	Painswick (and extension)
Berkeley	Pitchcombe
Bisley	Randwick
Box	Saul
Bussage and Brownhill	Sharpness Old Dock
Chalford Hill	Sheepscombe
Chalford Vale	South Woodchester
Dunkirk and Watledge, Nailsworth	St Mary's and Belvedere, Chalford
Dursley	Stanley Mills, Kings Stanley
Eastcombe	Stinchcombe
Ebley Mills, Cainscross	Stratford Park
Frampton-on-Severn	Stroud - Central (and extension)
France Lynch	Stroud Industrial Heritage - Eastington extension - Dudbridge extension - Fromebridge Mill extension - Daneway extension - Toadsmoor extension
Gyde House, Painswick	Stroud - Station
Kingswood	Stroud - The Shambles
Lodgemore and Fromehall	Stroud - Top of the Town
Longford Mills, Nailsworth	Uley
Minchinhampton	Woodmancote
Miserden	Wotton-under-Edge

Source: Stroud District Local Plan

Stroud Industrial Heritage Conservation Area (SIHCA)

9.4.4 The Stroud Valleys were one of the country's earliest cloth-making areas, with a history that can be traced back to at least the 14th century. Today, textile manufacture has virtually disappeared in the locality but a rich built heritage of former mills, associated buildings and the transport

infrastructure (canals, roads and railways) remains. The relationship between built and natural features along the valley bottoms creates a unique and often surprisingly picturesque character, of great variety and contrast.

9.4.5 The SIHCA was originally designated to acknowledge and protect the influences that industry has had in forming the built environment, however, it is not exclusively made up of industrial buildings. Historically, domestic buildings and small residential enclaves have always been closely intermingled with the industrial environment throughout the Stroud Valleys.

9.4.6 It should be borne in mind that while many buildings may lack an obviously 'industrial' appearance, they may still have played an integral role in the industrial past of the area: for instance mill workers' cottages, or buildings and structures that relate to the evolving transport infrastructure are essential elements of the overall built heritage.

Cotswold Canals

9.4.7 The Cotswold Canals are the Stroudwater Canal and the Thames & Severn Canal. The canals corridor possesses a largely informal character. The two canals tend to bypass urban centres and the tradition of building predominantly on the towpath side ensures that the canals retain a rural or semi-rural feel, even as they pass adjacent industrial complexes.

9.4.8 Short stretches of brick or stone edging to the towpath at certain points give clues to the historic function of the canal. These are the sites of the wharfs used as 'docks' for the loading and unloading of goods to the mills. Many of the original canal structures, particularly along the Stroudwater, are built from mellow, multi-tonal red brick. When the canals were being built in the 18th century, these bricks were made locally on a relatively small scale.

9.5 Likely future conditions

9.5.1 Stroud has many Conservation Areas, which suggests that much of the District's distinctive built heritage will continue to be protected from inappropriate development or smaller-scale refurbishment in future. Individual buildings outside the Conservation Areas may fare well in future, too, as indicated by the overall good condition of Stroud's most important Listed Buildings.

9.6 Environmental and Sustainability Problems

9.6.1 The following key issues have been identified:

- There is a need to find appropriate uses for threatened built heritage assets as this will greatly assist in their preservation

9.7 Proposed SA / SEA Objectives

9.7.1 Based on the problems identified, the following SA / SEA Objective is proposed:

- To reinforce local distinctiveness, local environmental quality and amenity through the conservation and enhancement of the built and cultural heritage

10 Climate

10.1 Introduction

- 10.1.1 Throughout the lifetime of the planet the Earth's climate has varied in response to natural cycles and events. However, in recent decades evidence has accumulated to demonstrate that an unprecedented rise in global temperatures has occurred over the last century or so. Scientific consensus attributes this change to emissions of greenhouse gases, primarily carbon dioxide from combustion of fossil fuels for energy generation or transport.
- 10.1.2 Other greenhouse gases present in the atmosphere include methane from fossil fuels and landfill waste, nitrous oxide from fertilisers and industrial processes, chlorofluorocarbons and hydrochlorofluorocarbons from coolants and sulphur hexafluoride from dielectric fluid. These are found in far smaller quantities than carbon dioxide but have greater 'global warming potential.
- 10.1.3 The increase in global temperature is likely to continue unless greenhouse gas emissions are reduced. The impacts of climate change are expected to be warmer, wetter winters and hotter, drier summers. Sea levels are expected to rise and, together with an increase in rainfall, lead to more frequent flooding of rivers and the coastline. Extreme weather events such as storms or heat waves are likely to be more frequent.
- 10.1.4 These impacts are likely to have a number of indirect effects. These would include changes in the availability and quality of water resources, damage to native habitats and migration or extinction of native plants and animals. Infrastructure and buildings could be damaged more frequently by storms. There may be impacts on the economy, agriculture especially could be forced to adapt with new crops replacing traditional varieties. Unfamiliar diseases might become commonplace in a warmer climate, and patterns of mortality would change with, for instance, fewer premature deaths in winter from cold but probably more deaths from higher temperatures in the summer.

10.2 Environmental Protection Objectives

- 10.2.1 Renewed EU Sustainable Development Strategy (2006):
- Kyoto Protocol commitments of the EU-15 and most EU-25 to targets for reducing greenhouse gas emissions by 2008 – 2012, whereby the EU-15 target is for an 8% reduction in emissions compared to 1990 levels. Aiming for a global surface average temperature not to rise by more than 2°C compared to the pre-industrial level.
 - By 2010 12% of energy consumption, on average, and 21% of electricity consumption, as a common but differentiated target, should be met by renewable sources, considering raising their share to 15% by 2015.
 - By 2010 5,75% of transport fuel should consist of biofuels, as an indicative target, (Directive 2003/30/EC), considering raising their proportion to 8% by 2015.
 - Reaching an overall saving of 9% of final energy consumption over 9 years until 2017 as indicated by the Energy End-use Efficiency and Energy Services Directive.

10.2.2 There is a UK domestic goal to move towards a 20 per cent reduction in emissions of carbon dioxide by 2010. The UK has also announced its intention to put itself on a path towards a reduction in carbon dioxide emissions of 60 per cent by about 2050.

10.3 Context Review

10.3.1 The key messages from the context review are given below:

Key Messages from the Context Review	Evidence Source
Local planning authorities should ensure that the causes and potential impacts of climate change are addressed through policies that reduce energy use, reduce emissions, promote the development of renewable energy resources, and take climate change impacts into account in the location and design of development.	Planning Policy Statement 1: Delivering Sustainable Development
Local planning authorities should promote and encourage the development of renewable energy resources. Small-scale projects can provide a valuable contribution to the overall output of renewable energy.	Planning Policy Statement 22: Renewable Energy
Climate change is expected to increase flood risk so that some existing development may not be sustainable in the long-term	Planning Policy Statement 25: Development and Flood Risk
Climate change is a serious global issue already affecting the South West	Draft South West RSS
The South West must move towards locally produced, replaceable natural resources, more efficient usage of energy, better waste re-use/recycling, and more efficient use of scarce natural resources such as minerals	Draft South West RSS
All major new development should be carbon neutral	Draft South West RSS
Renewable energy schemes will be encouraged in order for Gloucestershire to meet its sub-regional target for electricity generated from renewable sources of 40 – 50 MW by 2010.	Gloucestershire Structure Plan - Third Alteration (unadopted)
A key strategic action for Gloucestershire should be to support pilot projects to understand the economics of biomass and bio-fuels	Rural Economic Strategy for Gloucestershire
Aspiration to see the installation of on average 1.5 MW of renewable energy generating capacity per annum up until 2020 (Total: 22mW – approximately one third of domestic requirements)	Stroud District Council Draft Environment Strategy

10.4 Baseline

10.4.1 A recent report commissioned by the Department for Environment, Food and Rural Affairs⁵ estimates that 1,191,000 tonnes of carbon dioxide were emitted from the Borough in 2004. The basis of the emissions estimates is the local gas, electricity and road transport fuel consumption estimates issued by Department for Trade and Industry. These sources account for around 80% of UK emissions. The remaining 20% are derived from the National Atmospheric Emissions Inventory estimates.

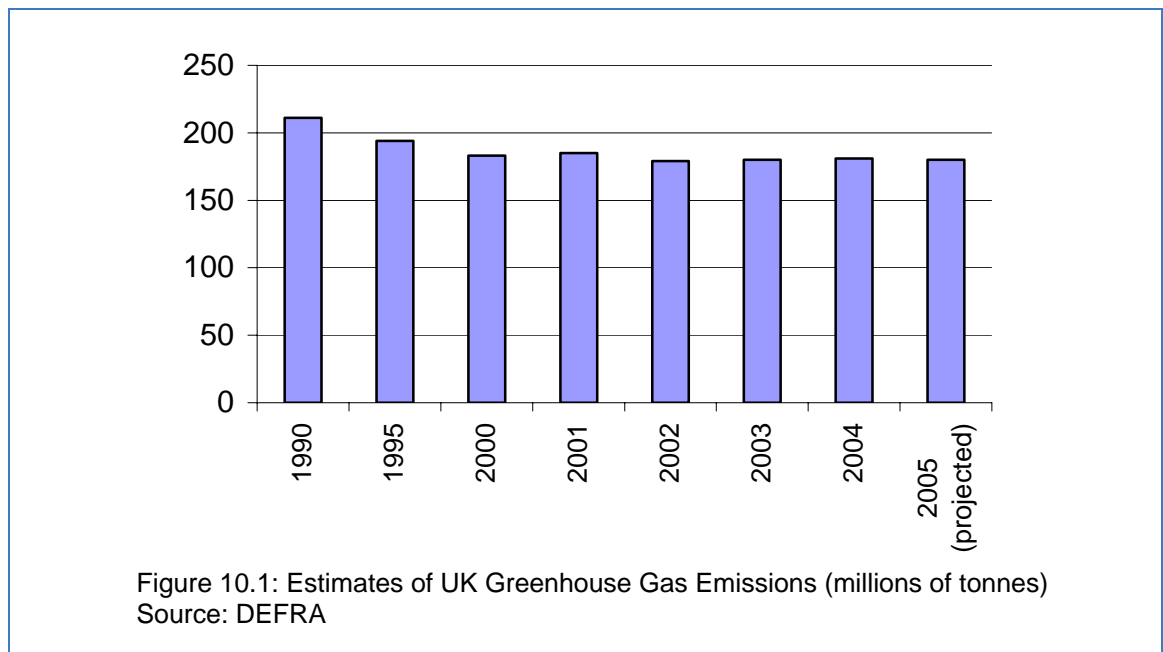
⁵ Local and Regional CO₂ Emissions Estimates for 2004, DTI (2006)

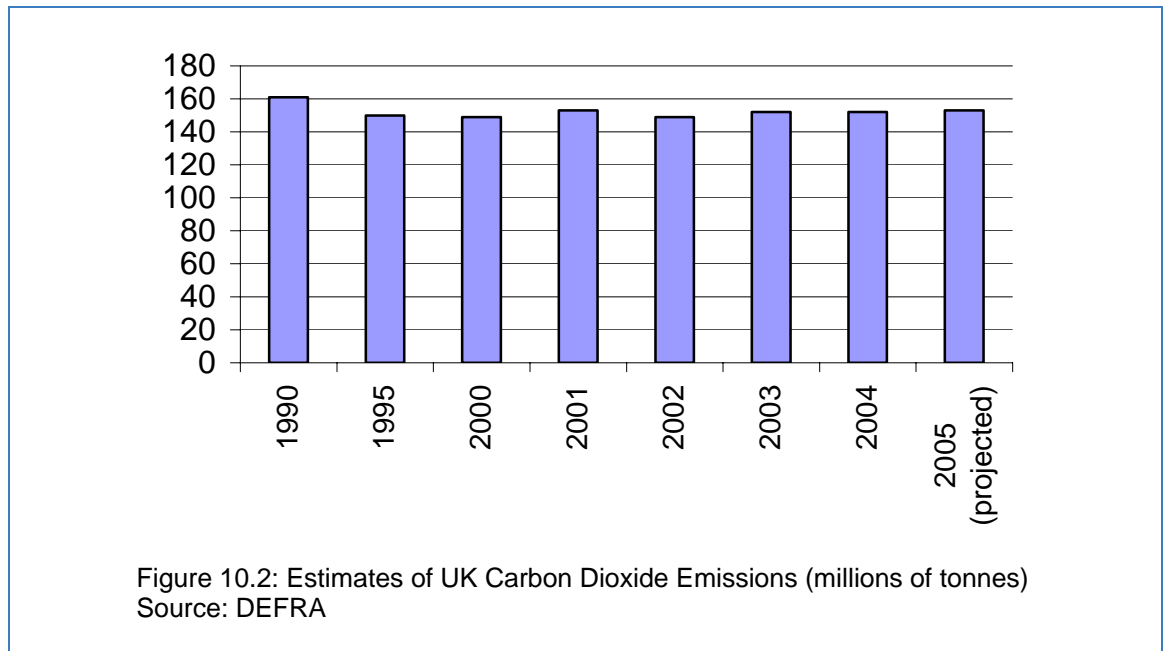
Table 10.1: Indicative Estimates of Carbon Dioxide Emissions in 2003 and 2004

Authority	Estimated Emissions (Kt CO ₂) (2003)	Estimated Emissions (Kt CO ₂) (2004)	Population (1000s of people) (2001)	Emissions Per Capita (Tonnes) (2003)	Emissions Per Capita (Tonnes) (2004)
Cheltenham	637	663	110	5.79	6.02
Cotswold	947	931	80	11.84	11.64
Forest of Dean	721	775	80	9.01	9.68
Gloucester	653	709	110	5.94	6.45
South Gloucestershire	2553	3288	247	10.34	13.31
Stroud	1063	1191	108	9.84	11.03
Tewkesbury	886	1029	76	11.66	13.54

Source: DEFRA

- 10.4.2 The figures quoted in Table 10.1 should be treated with caution because they are estimates based on other estimates and are therefore likely to be inaccurate. However it is possible to compare performance between authorities with greater confidence since each estimate is made using a common methodology, meaning they are likely to be 'consistently inaccurate'.
- 10.4.3 This comparison reveals that Stroud emits far more carbon dioxide per person than either Gloucester or Cheltenham, authorities with approximately the same size population. Clearly some of this difference can be attributed to the greater amount of road travel per person that takes place in rural Districts compared with urban Boroughs.





10.4.4 Per capita emissions for all but one of the Gloucestershire districts appear to have risen dramatically between 2003 and 2004. It is probable that this reflects a methodological change in the estimate rather than a real increase on the scale indicated. Nevertheless a small increase in emissions would be consistent with the national estimates shown in Figures 10.1 and 10.2, above.

10.4.5 Although the most recent figures (2003, 2004) show a rise in UK emissions, the overall recent trend is downwards. The decrease is attributed to improvements in domestic and industrial energy efficiency and the replacement of coal by gas in the generation of energy. However, this fall disguises an underlying increase in emissions from transport and road traffic in particular.

10.5 Likely future conditions

10.5.1 It seems probable that the transport sector will continue to increase its contribution to the UK total emissions of greenhouse gases. Road traffic continues to rise and there is increasing concern about the role of air travel in adding to emissions.

10.5.2 Although UK greenhouse gas emissions have fallen in recent years, this has mainly been due to the replacement of coal-fired power stations with gas-fired power stations during the so-called 'dash for gas' in the 1990s. It is possible that the downward trend has stalled and that total UK emissions may be about to rise again. Reliable trend data is not available for the District however the estimates in Table 10.1 suggest an increase between 2003 and 2004.

10.5.3 Projections by the Intergovernmental Panel on Climate Change (IPCC) suggest an increase in globally averaged surface temperature between 1.4 and 5.8°C over the period 1990 to 2100. This projected rate of warming is very likely to be without precedent during at least the last 10,000 years⁶. The consequences of this for the UK and for Stroud cannot be predicted with accuracy.

⁶ IPCC Third Assessment Report – Climate Change (2001)

10.6 Environmental and Sustainability Problems

10.6.1 The following problems have been identified

- Action is needed to ensure that we are prepared for the likely effects of climatic change
- Further steps are required to address the emission of greenhouse gasses from a number of sectors including transport, industry and domestic user
- The relatively dispersed settlement pattern in Stroud presents particular difficulties in reducing greenhouse gas emissions and reinforces the need to place new development in sustainable locations

10.7 Proposed SA / SEA Objectives

10.7.1 Based on the problems identified, the following SA / SEA Objectives are proposed:

- To encourage energy efficiency through building design to maximise the re-use of buildings and recycling of building materials
- To implement strategies that help mitigate global warming and adapt to unavoidable climate change within the District

11 Air

11.1 Introduction

- 11.1.1 Historically the main cause of poor air quality has been pollution from factories or coal burned for domestic heating. Smoke and sulphur dioxide from these sources resulted in serious public health problems in the major cities. By and large, thanks to regulation and technological changes, this source of pollution is no longer a problem in the UK, however poor air quality remains an issue.
- 11.1.2 Today traffic forms the principal source of pollution. Carbon monoxide (CO), oxides of nitrogen (NO_x), volatile organic compounds (VOC) and small particles (PM₁₀) are among the pollutants emitted from vehicle exhausts. These compounds can cause severe cardio-vascular and respiratory harm to people, especially in the long term, and also have adverse effects on the natural and built environment.

11.2 Environmental Protection Objectives

- 11.2.1 Directive 96/62/EC the 'Air Quality Framework Directive':
- To assess air quality and obtain relevant information
 - To maintain ambient air quality where it is good and improve it in other cases
- 11.2.2 Directive 1999/30/EC the first 'Daughter Directive':
- To maintain levels of sulphur dioxide (SO₂), nitrogen dioxide (NO₂), small particles and lead below limit values and to prepare attainment programmes where limit values are unlikely to be met under a 'business as usual' scenario
- 11.2.3 Directive 2000/69/EC the second 'Daughter Directive'
- To establish limit values for benzene and carbon monoxide (CO)
- 11.2.4 Directive 2002/3/EC the third 'Daughter Directive'
- To set long term objectives for equivalent to the World Health Organisation's new guideline values
 - To formulate reduction plans in cases of non-compliance
 - To set target values for ozone (O₂)
- 11.2.5 Directive 2004/107/EC the fourth 'Daughter Directive'
- To set target values for arsenic (As), cadmium (Cd), mercury (Hg), nickel (Ni) and polycyclic aromatic hydrocarbons (PAHs) in ambient air

11.3 Context Review

11.3.1 The following are the key messages from the context review:

Key Messages from the Context Review	Evidence Source
<p>The strategy sets pollution targets for 9 pollutants as follows:</p> <p>Benzene 16.25 µg/m³ (Running Annual Mean) 31 December 2003 5 µg/ m³ (Annual Mean) 31 December 2010</p> <p>1,3-Butadiene 2.25 µg/m³ (Running Annual Mean) 31 December 2003</p> <p><i>Carbon monoxide</i> 10.0 mg/m³ (Maximum daily running 8 Hour Mean) 31 December 2003</p> <p>Lead 0.5 µg/m³ (Annual Mean) 31 December 2004 0.25 µg/m³ (Annual Mean) 31 December 2008</p> <p>Nitrogen dioxide 200 µg/m³ Not to be exceeded more than 18 times per year (1 Hour Mean) 31 December 2005 40 µg/ m³ (Annual Mean) 31 December 2005</p> <p>Nitrogen oxides 30 µg/ m³ (Annual Mean) 31 December 2000</p> <p>Ozone 100 µg/ m³ (Running 8 hour Mean Daily maximum of running 8 hr mean not to be exceeded more than 10 times per year) 31 December 2005</p> <p>Particles (PM₁₀) 50 µg/m³ Not to be exceeded more than 35 times per year (24 Hour Mean) 31 December 2004 40 µg/m³ (Annual Mean) 31 December 2004</p> <p>Sulphur dioxide 266 µg/m³ Not to be exceeded more than 35 times per year (15 Minute Mean) 31 December 2005 350 µg/m³ Not to be exceeded more than 24 times per year (1 Hour Mean) 31 December 2004 125 µg/m³ Not to be exceeded more than 3 times per year (24 Hour Mean) 31 December 2004 20 µg/m³ (Annual Mean) 31 December 2000 20 µg/m³ (Winter Mean: 1 October - 31 March) 31 December 2000</p>	<p>Working Together for Clean Air: The Air Quality Strategy for England, Scotland, Wales and Northern Ireland (January 2000) and Addendum (February 2003)</p>
<p>Reductions in emissions from traffic will be necessary in order to improve air quality across the Gloucestershire area</p>	<p>A County-Wide Air Quality Strategy for Gloucestershire 2004</p>
<p>The M5 motorway and other major arterial routes through the county are major sources of pollutants, particularly NO₂ and fine particles (PM₁₀). Industrial emissions may have an impact at a local level for example dust emissions from quarrying.</p>	<p>A review of Air Quality in the County of Gloucestershire 2000</p>

11.4 Baseline

- 11.4.1 The Council is responsible for monitoring the quality of air within the District and, if necessary, declaring one or more Air Quality Management Areas to tackle pollution hotspots.
- 11.4.2 The local air quality management process determined that there were no areas within the District that were likely to exceed the limit values defined in the Air Quality Strategy (2000) and consequently Stroud has not declared any Air Quality Management Areas. The most recent study of air quality in Stroud is 'A Review of Air Quality in the County of Gloucestershire' produced in 2000. The data used in this is taken from the Stroud DC annual statement on air quality within the district from January – December 1997.
- 11.4.3 The review revealed the following:
- The M5 motorway is the major contributor of ambient NO₂ concentrations within the District.
 - Higher NO₂ concentrations were recorded in town centre locations compared to rural sites.
 - SO₂ concentrations were higher during the winter months, indicative of winter fuel burning.

11.5 Likely future conditions

- 11.5.1 The lack of recent data, in particular pollution trends, makes assessing the current status of air pollution in Stroud, and assessing its likely future status problematic. However it seems unlikely that the air quality limit values will be exceeded in the near future.
- 11.5.2 It is likely that there will be a continuation of the current situation where air pollution is much worse in urban areas and around the M5 motorway corridor than in rural areas.

11.6 Environmental and Sustainability Problems

- 11.6.1 Traffic is likely to continue to be the major source of air pollution in the District. However air quality in the District is generally good and does not currently represent a significant environmental issue.

11.7 Proposed SA / SEA Objectives

- 11.7.1 Based on the problems identified, the following SA / SEA Objective is proposed:
- To ensure the air quality continues to improve

12 Soil

12.1 Introduction

12.1.1 Healthy soils are essential to sustainable development. Soils form part of most terrestrial habitats, provide a medium in which plants can grow and are, therefore, essential to biodiversity. Similarly, they play a key role in agriculture, with the fertility of the soil having a major bearing on the productivity of the land.

12.1.2 Soil can be considered a non-renewable resource because its formation is an extremely slow process.

12.2 Environmental Protection Objectives

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

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

12.2.2 The First Soil Action Plan for England (2004-2006) has the overall guiding objective *'to protect soil and make a more sustainable use of it'*.

12.2.3 Best Value Performance Indicator 106: sets a Comprehensive Performance Assessment (CPA) target of 60% of new homes to be built on previously developed land.

12.3 Context Review

12.3.1 The key messages from the context review are given below:

Key Messages from the Context Review	Evidence Source
Many urban areas contain large amounts of land, once used for industrial purposes but now under-used or vacant. Optimum use should be made of potential sites and existing premises in inner cities and other urban areas.	Planning Policy Guidance 4: Industrial, commercial development and small firms; Planning Policy Statement 6: Planning for Town Centres
Need to promote a sustainable, diverse and adaptable agriculture sectors where farming achieves high environmental standards that is competitive and profitable; and provides high quality products	Planning Policy Statement 7: Sustainable Development in Rural Areas
Planning Policy Statement 9 sets out to protect, and enhance when possible, biodiversity and geological resources in the areas where development plan policies and planning decisions are taking place.	Planning Policy Statement 9: Biodiversity and Geological Conservation

Key Messages from the Context Review	Evidence Source
Planning Policy Statement 10 (PPS10) sets out the Government's policy to be taken into account by waste planning authorities and forms part of the national waste management plan for the UK.	Planning Policy Statement 10: Planning for Sustainable Waste Management
'local development documents should take account of (...) the likely availability for use of land...'	Annex B1, Planning Policy Statement 12.
'should include an indication (...) about the resources likely to be available (...) and it should have particular regard to the conservation of finite or non-renewable resources such as land..'	Annex B2, Planning Policy Statement 12
Planning Policy Statement 23 (PPS23) is intended to complement the new pollution control framework under the Pollution Prevention and Control Act 1999 and the PPC Regulations 2000. The Annex provides advice to Regional Planning Bodies (RPBs), Local Planning Authorities (LPAs), developers and other interested parties on the issues relevant to development and use of land that may be affected by contamination and the extent of controls operated through planning and environmental legislation.	Planning Policy Statement 23: Planning and Pollution Control; Planning Policy Statement 23: Planning and Pollution Control - Annex 2: Development on Land Affected by Contamination
Warmer temperatures and longer growing seasons resulting from climate change could lead to increased productivity and present opportunities to grow new crops	Draft South West RSS
Integrate soil and land protection objectives in spatial planning strategies including promoting development on brownfield sites and clean up of contaminated land; Draw up a scientific soil catalogue including nature of soil, contaminated areas, and high value soils.	EC Communication towards a thematic strategy for soil protection (2004)
Quantify diversity, quality and extent of soils to help develop strategies to eliminate threats to soil and promote sustainable land management	DEFRA Soil Protection Programme (2005)
The Council's priorities in dealing with contaminated land will be: 1. To protect human health 2. To protect controlled waters 3. To protect specified ecosystems 4. To prevent damage to property In dealing with these priorities the Council also aims to prevent any further contamination of land, to encourage voluntary remediation of contaminated land and to encourage re-use of brownfield land.	Strategy for the Identification of Contaminated Land (Stroud DC, June 2001 – Issue 1)
'The District Council will encourage the redevelopment of appropriate contaminated sites, provided there is no unacceptable risk to human health or the environment'.	Stroud District Local Plan

12.4 Baseline

12.4.1 Geologically Stroud is characterised predominantly by soils formed in the Lower Jurassic period (108-205 million of years old).

12.4.2 In general terms, the morphology of the soil is of an escarpment that rises quite sharply from the low-lying Severn Vale forming a prominent, elevated, concave scarp slope, (which runs virtually

unbroken for almost 52 miles), at its base the Lias Group of clays, mudstones, silts and sandstones are exposed. These are easily eroded and this results in an uneven ground towards the foot of the escarpment. This has resulted in the formation of deep, wide valleys and combs. (Gloucestershire LGAP)

12.4.3 Typically 70 -80% of the Gloucestershire Cotswolds area is predominated by the Jurassic limestone, which leads to a dominance of shallow “brashy” soils. The presence of the clay shales at shallow depth may lead to situations where the limestone soils are poorly drained, and at the surface leads to wet clay soils. In agriculture, this tends to explain the pattern of arable and permanent pasture, in biodiversity terms, the pattern of grassland / beech woodland with oak woodland [in a simple generalisation]. (Source: <http://www.glosgeotrust.org.uk/online%20version/frames.htm>, Gloucestershire LGAP)

12.4.4 As shown in Table 12.1 Agricultural land in Stroud contains much land classified as the 'best and most versatile' (DEFRA Grades 1, 2 or 3a).

Table 12.1: Agricultural Land Classification (ALC) Statistics

Grade	Hectares	%
Grade 1	0	0
Grade 2	2,546	5.5
Grade 3	29,835	64.7
Grade 4	9,933	21.5
Grade 5	901	2.0
Non agricultural	853	1.8
Urban	2,065	4.5

Source: <http://www.defra.gov.uk/rds/lgmt/docs/ALC-Stats071105.pdf>

12.4.5 For the purposes of classifying the quality of agricultural land, the main soil properties that are taken into account are texture, structure, depth, stoniness and chemical fertility. These may act as limitations separately, in combination or through interactions with climate or site factors. (Agricultural Land Classification of England & Wales, MAFF 1988)

12.4.6 Table 12.2 shows how Stroud has performed in meeting the government's target of 60% of new homes to be built on previously developed land.

Table 12.2: New Homes Built on Previously Developed Land

2001/02	2002/03	2003/04
59.0%	89.2%	81.4%

Source: DCLG Local Government Performance

12.5 Likely future conditions

12.5.1 It is likely that ongoing redevelopment in the District will result in the continuing cleanup of contaminated land. The Council is keen to promote the reuse of previously developed land, some

of which will be contaminated. Developers are required to remediate such contaminated land prior to construction taking place.

12.5.2 Given the priority accorded to the reuse of previously developed land, it is probable that the agricultural land resource in the District will be largely preserved.

12.6 Environmental and Sustainability Problems

12.6.1 The key problems identified are as follows:

- Large areas of the best and most versatile agricultural land represent a very significant asset to the District but their productivity is threatened by climate change
- Contamination of soils is a known problem at certain locations in Stroud, for instance at Brimscombe, Capel Mill and Bourne Mill. However, the full extent of this problem cannot be quantified until the Council's contaminated land database is complete.

12.7 Proposed SA / SEA Objectives

12.7.1 Based on the problems identified, the following SA / SEA Objective is proposed:

- To protect and enhance soil quality

13 Water

13.1 Introduction

- 13.1.1 About 97% of all of the water on the Earth is saltwater. Of the remaining three per cent that is fresh, most is frozen in the polar ice caps. Usable freshwater represents less than one per cent of the total globally: existing as groundwater in aquifers below the surface, or visible as streams, rivers and lakes.
- 13.1.2 Water is essential for all life, human as well as animal or plant, and it is important to treat water as the scarce resource it really is in order to minimise impact on the environment and human health. The efficient use of water, which takes into account its long-term availability and quality is an important factor in sustainable development.
- 13.1.3 Many activities have the potential to pollute water. Pollution may enter the water environment from a point source, for example effluent discharged from a pipe, or from a diffuse source, such as nitrates in rainwater runoff from agricultural land. Polluted water can be treated if it is contained; this, for instance, is what happens to sewage before it is released into the environment. Untreated pollutants can severely damage the natural environment and are a risk to human health.
- 13.1.4 Flooding is another important concern. In England and Wales, around five million people live in areas at risk of flooding. Many floods are localised, short-lived events that can happen suddenly, sometimes with little or no warning. They are usually caused by intense storms that produce more runoff than an area can store or a stream can carry within its normal channel. Urban areas, which have many hard surfaces that restrict infiltration, are at increased risk of flooding.
- 13.1.5 In high-risk areas defence mechanisms can be put in place to control floods but these are costly and frequently merely transfer the problem to another location. Therefore a key aim of land use planning is ensure that flood risk is taken into account at all stages in the planning process to avoid inappropriate development in areas at risk of flooding, and to direct development away from areas at highest risk.

13.2 Environmental Protection Objectives

- 13.2.1 Protection of Water against Agricultural Nitrate Pollution (England and Wales) Regulations 1996, SI 888):
- Surface or underground waters that are or could be high in nitrate from agricultural sources must be designated as Nitrate Vulnerable Zones (NVZ).
 - Within these zones farmers must observe an action programme of measures restricting the timing and application of fertilisers and manures and must keep accurate records⁷.
- 13.2.2 Urban Waste Water Treatment Directive 1991:
- The Directive aims to protect the environment from the adverse effects of waste water discharges;

⁷ Environment Agency. EC Directive on controlling nitrates from agricultural sources. Available on [www.environment-agency.gov.uk]. Accessed 10.01.2007.

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

13.2.3 Groundwater Regulations 1998:

- Impose the requirement to hold an authorisation to make discharges of certain pollutants to groundwater.
- Substances are classified into List I and List II:
 - List I includes the most toxic substances, which should be prevented from entering groundwater. These include pesticides, sheep dip, solvents, hydrocarbons, mercury, cadmium, cyanide, and other substances with mutagenic and/or carcinogenic properties. Disposal of List I substances into groundwater is prohibited, and its disposal onto land requires prior authorization from the EA.
 - List II includes less dangerous substances, although their entry into groundwater must still be restricted in order to prevent pollution. List II substances include some heavy metals, ammonia, phosphorous and its compounds. Direct discharge of list II substances into land or directly into groundwater requires prior authorization from the EA.

13.2.4 Pollution Prevention and Control Regulations 2000:

- It is the implementation into England and Wales of the EC Directive 96/61/EC on Integrated Pollution Prevention and Control.
- The operation of an installation or mobile plant requires a permit from the regulator. A permit must include emission limit values for the pollutants listed in Schedule 5 of the Act (these include Air and Water pollutants). These normally apply at the point at which the emissions leave the installation or mobile plant.

13.2.5 Water Framework Directive 2000:

- Aims to promote the sustainable use of all UK water bodies, including coastal waters, estuaries and all inland water bodies;
- It requires all UK river basins to reach "good status" by 2015, through demanding environmental objectives, including chemical, biological and physical targets;
- Three types of UK water quality standards are being developed (a formal classification instrument should be completed in late 2007)⁸:
 - Priority substances (and Priority Hazardous Substances)
 - Specific Pollutants
 - Physico-chemical pollutants

⁸ Environment Agency. The Water Framework Directive. Timeline for Adoption of New Environmental Quality Standards. Available on [www.environment-agency.gov.uk]. Accessed 09.01.2007.

13.3 Context Review

13.3.1 The key messages from the context review are given below:

Key Messages from the Context Review	Evidence Source
All water bodies should be used sustainably and efforts should be made to improve the status of UK waters, including measures to reduce the runoff of nitrates into groundwater or surface water. Water conservation is a priority and water abstraction/impoundment must not be done so in an unsustainable manner or one that contributes to the deterioration of water resources.	Water Framework Directive 2000; Water Act 2003; Nitrates Directive 1991.
Collection, treatment and discharge of urban wastewater should be done in a way which does not have a negative impact on the environment.	Urban Waste Water Treatment Directive 1991
The inland waterways should be developed and conserved in a sustainable way as they are an important part of cultural heritage, and may have significant ecological and economic and amenity potential (recreation, tourism and sport). LTPs should integrate inland waterways with other transport-related policies, as they may not only provide useful local and national transport routes, but may also form cycling, walking and public access corridors.	Waterways for Tomorrow (DEFRA, 2000) Planning a Future for the Inland Waterways (2001)
Pollution impacts are a material planning consideration. The LDF should set out the criteria against which applications for potentially polluting developments will be considered. The 'precautionary principle' should be invoked when there is pollution potential.	Planning Policy Statement 23: Planning and Pollution Control
Climate change is expected to increase flood risk so that some existing development may not be sustainable in the long-term, LPAs should consider whether there are opportunities in the preparation of LDDs to facilitate the relocation of development to more sustainable locations at less risk from flooding	Planning Policy Statement 25: Development and Flood Risk
Development will not be permitted where: • It is within a floodplain and at risk from flooding; or • It will increase the risk of flooding or cause detriment to third parties by increasing flooding elsewhere.	Gloucestershire Structure Plan - Third Alteration (unadopted)
Re-opening of disused canals may intensify water resource demands. This is a potential problem where there are already significant water resource constraints. Flows in the Rivers Frome and Leadon could potentially be affected through the restoration of the Cotswold Canals.	Gloucestershire Biodiversity Action Plan
Permission will not be granted to any development proposal that would unacceptably affect the water environment, including surface waters, groundwater levels and resources. Development proposals should incorporate the principles of 'Sustainable Drainage Systems' into the scheme.	Stroud District Local Plan

13.4 Baseline

Nitrates

- 13.4.1 Most of Stroud consists of agricultural land, which involves the regular use of pesticides and fertilisers. Fertilisers can have a major impact on surface and groundwater systems entering as a diffuse source and causing eutrophication, leading to a lack of dissolved oxygen, as well as making water unfit for human consumption.
- 13.4.2 Much of Stroud has been classified as a Nitrate Vulnerable Zone (NVZ), meaning that it is land that drains into nitrate polluted waters, or is close to waters that could become polluted by nitrates. NVZ are classified as such when the waters exceed or are at risk of exceeding the EU limit of 50mg/NO₃/l.

Surface Waters

- 13.4.3 River Quality is classified by the Environment Agency using the General Quality Assessment (GQA) scheme of which a brief explanation is given below. Each stretch of river is then given a grade ranging from A (very good) to F (bad). The GQA data for the fresh water bodies is shown in the tables in Appendices 1 and 2.
- 13.4.4 The river chemical and biological water quality data indicates that the condition of the streams and rivers is generally good, with:
- River Chemical GQA fluctuating between A (“very good”) and B (“good”) for all watercourses; the data also appears to have stabilised at A (“very good”) in the last 5 years;
 - River Biological GQA, with a majority of grades of B (“good”) and C (“fairly good”).
- 13.4.5 Appendix 3 shows that the quality of the local rivers and aquifers may be threatened in future as many are classified as “at risk” or “probably at risk” of pollution or other harmful factors”. The main risks posed to the water quality of rivers appear to be physical and morphological alterations as well as pollution from diffuse sources, with a majority of rivers being “probably at risk” or “at risk” of these threats.

Ground waters

- 13.4.6 Groundwater appears to be mainly affected by pollution from diffuse sources. These include pollution from, for example, fertilisers and pesticides from agricultural land.
- 13.4.7 This indicates that the District may be failing to comply with the Water Framework Directive’s objectives as groundwater is likely to be exposed to significant pollution (including nitrates and phosphates) from diffuse sources.

Flood Risk

- 13.4.8 The area of the District currently thought to be at greatest risk of flooding is shown in Map 1.

13.5 Likely future conditions

- 13.5.1 The biological and chemical quality of the rivers and streams of Stroud has remained good/very good or improved in the past five years, indicating a potential upwards trend in the overall water quality of the rivers.
- 13.5.2 Nevertheless, available data indicates that the water quality of a significant number of rivers and aquifers is at risk of being affected by human activities causing pollution and/or other harmful effects (see Appendix 3). The quality of Stroud's water bodies may therefore deteriorate in the future.

13.6 Environmental and Sustainability Problems

- 13.6.1 The following problems have been identified:
- It appears that although the water quality of the rivers is good, both rivers and groundwater are at risk of pollution and/or harm from different threats (such as water abstraction, physical modifications or pollution)
 - Most of the District is a NVZ which indicates that the different water bodies are exposed to significant levels of nitrates, most of which originate from unsustainable agricultural practices
 - There is an increased likelihood of flooding resulting from climate change. The District is vulnerable to tidal flooding in addition to flooding from rivers or sewers

13.7 Proposed SA / SEA Objectives

- 13.7.1 Based on the problems identified, the following SA / SEA Objectives are proposed:
- To maintain and enhance the quality and quantity of ground and surface waters
 - To reduce the risk of flooding in new and existing development

14 Biodiversity

14.1 Introduction

14.1.1 Biodiversity is the variety of life on earth at all levels, from genes to worldwide populations of the same species; from communities of species sharing the same small area of habitat to worldwide ecosystems.

14.1.2 Biodiversity has many attributes:

- It is a vital, integral part of the planet's life support system;
- It is the basis for evolution and adaptation to a rapidly changing environment;
- It is a key component of a functioning environment for future generations;
- It is essential to maintain clean water, fertile soil and clean air, thereby providing the basis for existence and indirect economic benefits;
- Can be managed and used for economic benefit, for instance to produce crops, medicines, building materials, fuel and tools;
- Has economic and social values e.g. in leisure and recreation or tourism, and educational, aesthetic and spiritual value, and so enriches our quality of life;
- Determines the distinctive character or 'feel' to an area, be it a chalk downland, estuary, woodland or moor; and
- People value the existence of biodiversity and want it conserved.

14.1.3 The main threats to both local and global biodiversity are associated with human activities causing habitat loss/ damage, loss of biodiversity, loss of protected species, disturbance to and pollution of ecosystems, risk to unprotected habitats. Many species-populations are being reduced and fragmented below viable sizes. Conserving biodiversity is a global, long-term challenge and requires global, long-term solutions that start at the local level.

14.2 Environmental Protection Objectives

14.2.1 Ramsar Convention on Wetlands of International Importance, 1971:

- To conserve wetlands of international importance, especially as waterfowl habitats;

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

- To protect endangered species and their habitats;

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

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

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

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

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

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

14.3 Context Review

14.3.1 The following are the key messages from the context review:

Key Messages from the Context Review	Evidence Source
Biodiversity is threatened by development and agricultural intensification	Habitats Directive
The Thematic Strategy for the Protection and Conservation of the Marine Environment aims to achieve 'good' status for the EUs Marine Waters by 2012. This will apply to the Severn Estuary.	Sixth Environment Action Programme
Priority habitats for protection which are identified that are represented in Stroud include grassland and a number of Estuary habitats.	UK Biodiversity Action Plan
Tourism is an important in Stroud. Opportunities exist for biodiversity and geo-diversity to act as tourist attractions. Tourism can place pressure on biodiversity through visitor pressure and disturbance.	Working with the Grain of Nature: The Biodiversity Strategy for England, 2002
Developments should recognise the role and value of biodiversity in supporting economic development and contributing to a high quality environment.	Planning Policy Statement 9: Biodiversity and Geological Conservation, 2005
Development should not take place where it would cause a loss or damage to ancient woodland except where the development can be proven to have benefits that outweigh the loss of the woodland.	Planning Policy Statement 9: Biodiversity and Geological Conservation, 2005
Previously developed land can have significant biological or geological interest and opportunities for retaining this and incorporating it into developments should be taken.	Planning Policy Statement 9: Biodiversity and Geological Conservation, 2005
In addition to biodiversity, attention should be paid to geological conservation, which relates to the sites that are designated for their geology and/or geomorphological importance	Planning Policy Statement 9: Biodiversity and Geological Conservation, 2005
The Environment is the South West regions prime asset and driver of economic activity. Good stewardship is required to protect the regions non-renewable resources. The habitats and landscape of the South West is valued by residents and internationally.	Draft South West RSS

Key Messages from the Context Review	Evidence Source
<p>Gloucestershire's Biodiversity Action Plan includes Habitat Action Plans for Ancient Woodlands, Limestone Grassland, Reedbeds, and Open Water habitats and Species Action Plans for farmland birds, bats, arable wildflowers, otters and many other species. It sets objectives and targets and lists the actions required to achieve them in order to guide nature conservation over the coming years. The full list of Action Plans is given in Appendix 4.</p>	<p>Gloucestershire Biodiversity Action Plan</p>

14.4 Baseline

Habitats

- 14.4.1 The South West contains a significant proportion of the UK's overall resource of important wildlife sites, habitats and species.
- 14.4.2 Stroud consists of two Natural Areas: the Cotswolds to the east and the Severn and Avon Vales to the west. Natural Areas can be defined as bio-geographical zones that interpret and illustrate national ecological variations in terms of geology, wildlife, landforms, human uses and impacts and all the interactions between these⁹.
- 14.4.3 Each Natural Area is home to a number of endangered species that are the subject of Species Action Plans, Biodiversity Action Plans or other conservation initiatives such as English Nature's species recovery programmes¹⁰. This includes for example the dormouse and Barbastelle bat in the Severn and Avon Vales, and the Greater and Lesser Horseshoe Bats in the Cotswolds.
- 14.4.4 Appendix 4 lists all the Habitat and Species Action Plans for Gloucestershire.
- 14.4.5 Stroud has two internationally recognised Ramsar sites: the Severn Estuary Ramsar site and the Walmore Common Ramsar site.
- 14.4.6 European sites in Stroud, their habitat type and status are shown in Table 14.1.

Table 14.1: 'European' sites in Stroud

Site	Habitat Type	Status
Rodborough Common SAC	Limestone Grassland Geological	10.48% favourable 89.28% unfavourable no change 0.24% unfavourable declining
Cotswold Beechwoods SAC	Ancient Woodland, Limestone Grasslands	39.36% favourable 24.41% unfavourable recovering 35.38% unfavourable no change 0.86% unfavourable declining
Severn Estuary SPA	Estuary, Flood Meadows and Dykes	96.67% favourable 3.33% unfavourable declining

Source: English Nature

⁹ English Nature. Natural Areas and their Role. Available on [<http://www.english-nature.org.uk/Science/natural/role.htm>]. Accessed 11.01.2007.

¹⁰ English Nature (1997). Severn and Avon Vales natural Area. Available on [<http://www.english-nature.org.uk/Science/natural/profiles/naProfile56.pdf>]. Accessed 11.01.2007.

14.4.7 There are 30 Sites of Special Scientific Interest with national importance in Stroud, their habitat type and status are given in Table 14.2. An analysis of their status reveals that many Ancient Woodland and Limestone Grassland habitat types are in partial or complete decline. Other habitat types appear to be in far better condition.

Table 14.2: Status of SSSIs in Stroud

Site	Habitat Type	Status
Box Farm Meadows	Limestone Grassland	100% unfavourable declining
Bull Cross, the Firth and Juniper Hill	Ancient Woodland, Limestone Grassland	57.46% favourable 42.54% unfavourable declining
Coaley Wood Quarries	Ancient Woodland, Scrub, Limestone Grassland, Geological	100% favourable
Cotswold Commons and Beechwood	Ancient Woodland, Limestone Grasslands	39.36% favourable 24.41% unfavourable recovering 35.38% unfavourable no change 0.86% unfavourable declining
Coombe Hill	Limestone Grassland	84.15% favourable 15.85% unfavourable declining
Daneway Banks	Limestone Grassland	100% favourable
Easter Park Farm Quarry	Geological	100% favourable
Edge Common	Limestone Grassland	100% unfavourable no change
Frampton Pools	Wetland	100% unfavourable no change
Garden Cliff	Geological	100% favourable
Haresfield Beacon	Limestone Grassland and Scrub, Geological	100% favourable
Hucclecote Meadows	Neutral Grassland	100% unfavourable declining
Juniper Hill, Edgeworth	Limestone Grassland	100% unfavourable no change
Kingscote and Horsely Wood	Ancient Woodland	79.50% unfavourable recovering 20.50% unfavourable declining
Minchiphampton Common	Limestone Grassland Geological	47.50% favourable 1.34% unfavourable recovering 51.16% unfavourable no change
Midger	Limestone Grassland	89.71% favourable 10.29% unfavourable no change
Nibley Knoll	Geological and Semi-Natural Grassland	100% favourable
Purton Passage	Geological	100% favourable
Range Farm Fields	Neutral Grasslands	100% favourable
Rodborough Common	Limestone Grassland Geological	10.48% favourable 89.28% unfavourable no change 0.24% unfavourable declining

Site	Habitat Type	Status
Rough Bank	Limestone Grassland	100% favourable
Selsley Common	Limestone Grassland Geological	100% favourable
Stinchcombe Hill	Ancient Woodland Geological	100% unfavourable no change
Strawberry Bank	Limestone Grassland	100% favourable
Swifts Hill	Limestone Grassland	100% unfavourable no change
Upper Severn Estuary	Estuary, Flood Meadows and Dykes	96.67% favourable 3.33% unfavourable declining
Woodchester Park and Breakheart Hill	Bat breeding colony, Ancient Woodlands, Wetlands and Grasslands	25.37% favourable 74.63% unfavourable no change
Wotton Hill	Semi Natural Grassland and Ancient Woodland	100% favourable
Yarley Meadows	Limestone Grassland	100% favourable

14.4.8 Key Wildlife Sites are areas of land, rich in wildlife. They may be identified for their habitat (e.g. woodland, flower rich grassland, or marsh) or for the rare and unusual species that are present. They are non-statutory sites and so have no legal protection, yet they still deserve recognition as the most important places for wildlife outside of legally protected land such as SSSIs. The Stroud Local Plan identifies 206 such sites within the District.

Geodiversity

14.4.9 Geodiversity is protected through designation as SSSIs and Regionally Important Geological and Geomorphological Sites (RIGS). Geological sites may appear to be permanent but they can be damaged, destroyed or lost all together. This can happen in a number of ways, including inappropriate development, use as landfill, fly tipping or many natural processes. Fifty-four RIGS are listed in the Stroud Local Plan.

14.5 Likely future conditions

14.5.1 As shown in Tables 14.1 and 14.2, a number of European sites and SSSIs in Stroud have unfavourable and / or declining status, a problem that appears to affect Ancient Woodland and Limestone Grassland habitat types in particular. This means that the value of these sites for biodiversity and nature conservation will decrease into the future unless action is taken to address the causes.

14.6 Environmental and Sustainability Problems

14.6.1 The following problems have been identified:

- Biodiversity is threatened by climate change, inappropriate built development / infrastructure, pollution, vandalism, changing land management practices, and deficient habitat management.
- Fragmentation of habitats and resulting isolation of species in unsustainable populations.

- Tourism can place pressure on biodiversity resources through development and visitor pressure. However, tourism can act as a positive force in protecting biodiversity by generation income through visits to wildlife attractions and specialist tourism such as bird watching holidays.
- Priority habitats and species that are recognised nationally and internationally require greater protection.

14.7 Proposed SA / SEA Objectives

14.7.1 Based on the problems identified, the following SA / SEA Objective is proposed:

- To conserve and enhance the natural environment and biodiversity

15 Landscape

15.1 Introduction

15.1.1 Landscape character is defined as 'a distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse' (Source: Landscape Character Network). Landscape gives a locality its sense of place, making it different from neighbouring localities.

15.1.2 Landscapes can be areas designated for their natural beauty or ambience but can also be 'ordinary' places that are not given statutory protection. Urban landscapes also have an important role to play in affecting the quality of people's lives, therefore enhancing 'townscapes' is also important.

15.2 Environmental Protection Objectives

15.2.1 European Landscape Convention (2000)

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

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

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

15.2.3 Planning (Listed Buildings and Conservation Areas) Act (1990):

- Provides specific protection for buildings and areas of special architectural or historic interest

15.2.4 Countryside and Rights of Way Act (2000):

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

15.3 Context Review

15.3.1 The following are the key messages from the context review:

Key Messages from the Context Review	Evidence Source
Local Planning Authorities should promote high quality design in new developments over the lifetime of the development. Design which fails to take the opportunities available for improving the character and quality of an area should not be accepted.	Planning Policy Statement 1: Delivering Sustainable Development

Key Messages from the Context Review	Evidence Source
<p>The countryside should be protected from encroachment and the setting and character of historic town preserved through the use of Green Belts, which help to prevent urban sprawl by keeping land open.</p> <p>There is a green belt between Gloucester and Cheltenham to the north of the District.</p>	<p>Planning Policy Guidance 2: Green Belts</p>
<p>It is essential that town centres provide a high-quality and safe environment if they are to remain attractive and competitive. Well-designed public spaces and buildings, which are fit for purpose, comfortable, safe, attractive, accessible and durable, are key elements that can improve the health, vitality and economic potential of a town centre.</p>	<p>Planning Policy Statement 6: Planning for Town Centres</p>
<p>The quality of life and environment in rural areas should be raised through the promotion of continued protection of the open countryside with the highest level of protection for valued landscapes and environmental resources.</p>	<p>Planning Policy Statement 7: Sustainable Development in Rural Areas</p>
<p>Valued landscape will be protected in designated National Parks and Areas of Outstanding Natural Beauty.</p>	<p>Rural White Paper Our Countryside: A Fair Deal for Rural England</p>
<p>The regions environment should be protected by development which respects local landscape</p>	<p>Draft Regional Spatial Strategy for the South West 2006-2026</p>
<p>SD2 - All new development where appropriate will conserve or enhance local character and distinctiveness.</p> <p>SD7 – Development in the open countryside will be strictly controlled. However rural enterprises will be encouraged at scales and locations consistent with their rural surroundings.</p> <p>MR1 – In providing for development the following aspects of the environment, which positively contribute to local character and distinctiveness should be maintained and enhanced;</p> <ul style="list-style-type: none"> a) the quality of landscape b) the settings of settlement and buildings within the landscape c) the quality of the built and historic environment d) the sites and landscapes of archaeological and historic value e) the distinctiveness of wildlife and habitats f) the special qualities of rivers, canals and other watercourses and features <p>MR7 – In Areas of Outstanding Natural Beauty the conservation and enhancement of natural beauty will be given priority over other considerations.</p> <p>MR9 – Development will not be permitted which has a detrimental impact on the nature conservation interest, landscape setting and character, and the archaeology of the Severn Estuary.</p>	<p>Gloucestershire Structural Plan Third Alteration</p>
<p>When considering development proposals in Special Landscape Areas, priority will be given to the conservation and where possible enhancement of the landscape character.</p> <p>Development proposals should conserve or enhance the special features and diversity of the different landscape character types found within the district as identified in the Stroud District Landscape Assessment.</p>	<p>Stroud District Local Plan</p>

Key Messages from the Context Review	Evidence Source
All landscape matters not just those that are particularly well know or evoke strong images.	Cotswold Landscape Character Assessment

15.4 Baseline

15.4.1 The former Countryside Agency's Countryside Character Initiative divides the landscape in England into 159 broad 'character areas'. Stroud lies astride the south portion of the Severn & Vale character area and the western part of the Cotswolds character area. Much of the material in this chapter draws upon the character assessments of these two areas.

15.4.2 According to the Countryside Agency, the key landscape characteristics of the Severn & Vale character area within the District are:

- Diverse range of flat and gently undulating landscapes, united by broad river valley character
- Riverside landscapes with little woodland, often very open
- Variety of land uses from small pasture fields and commons in the west to intensive agriculture in the east
- Many ancient market towns and large villages along the rivers
- Nucleated villages with timber frame and brick buildings
- Prominent views of the Cotswolds at the edges of the character area

15.4.3 The key landscape characteristics of the Cotswolds character area are:

- Defined by its underlying geology: a dramatic scarp rising above adjacent lowlands with steep combes, scarp foot villages and beech woodlands
- Rolling, open, high wold plateaux moulded by physical and human influences, with arable and large blocks of woodland, divided up by small, narrow valleys
- Incised landscapes with deep wide valleys
- Flat, open dip slope landscape with extensive arable farmland
- Prominent outliers within the lowlands
- Honey-coloured Cotswold stone in walls, houses and churches
- Attractive stone villages with a unity of design and materials

15.4.4 The Cotswolds Area of Outstanding Natural Beauty (AONB) covers much of the District (see Map Stroud District Council AONB) and is broadly co-incident with the Cotswold character area.

15.4.5 The following landscape forms were identified in the District in the Stroud Landscape Assessment Supplementary Planning Guidance:

Landscape Type	Description	Location
Wold Tops	Elevated, undulating, dissected plateaus	North of the River Frome Valley, i.e. east of Stroud and north of Chalford and also south of the River Frome Valley and south of the Nailsworth and Cam Valleys
Rolling Valleys	Valleys characterised by convex sides with no obvious break in slope from the undulating landscape of the Wold Tops	North-eastern corner of the District stretching from Whiteway to Sudgrove and in parts of the Avening Valley complex
Secluded Valleys	Valleys deeply incised	Occurs extensively throughout the District. Examples would be north of Stroud covered by the Painswick and Slad Valley area
Escarpment	Elevated and exposed scarp face	Runs through District from near Brockworth, southwards to the District's boundary with South Gloucestershire, near Hillesley
Rolling Agricultural Plain	Varied landscape with more open flat plain to more undulating landform towards limestone escarpment	One of the most extensive landscape forms within the District. Stretching from just south of Gloucester it extends to Woodfield and Cam in the south, and is flanked by the Cotswold Escarpment landscape type to the east and to the west by the Severn Vale Grazing Marshes landscape type
Undulating Lowlands	Low lying, gently undulating floodplain	Occurs in the southwest of the District. The main extent of the landscape lies within the catchment of the Little Avon River
Severn Vale Hillocks	Low hills and knolls of higher land composed of clay, head and gravel terraces	Located in the north west of the Stroud District. There are two Distinct areas, one at Overton, and the other stretching from the village of Elmore to Longney
Severn Vale Grazing Marsh	Open flat landscape with extensive views. Strong influence of water	Found on the low-lying land adjacent to the River Severn Estuary as an almost continuous ridge
Sandstone Ridge	An undulating ridge of Limestone and Old Red Sandstone	Located adjacent to the Severn Estuary in the south west of the District
Triassic Ridge	Distinctive ridge. Upper slopes becoming progressively steeper forming a concave profile	Located in the far south western corner of Stroud District
Wooded Cambrian Ridge	Prominent rounded ridgeline covered in extensive mixed woodland	Occupies a small area within the district. The feature is cut through by the M5 motorway and is located near the Michaelwood Services
Kingswood Vale	Transition landscape from the foot slopes of the Cotswold Escarpment to the lowland landscapes of Severn Vale.	The larger portion of the vale lies between the escarpment and a low-lying ridge to the west beyond the District boundary. The southern part of Kingswood Vale has some larger areas of flatter, more gently undulating land, while to the north the streams are more incised and the landform becomes more rolling and broken

15.4.6 Within the built-up areas of the District, the Council has designated forty-two Conservation Areas, which are "area[s] of special architectural or historic interest the character of which it is desirable to preserve or enhance". These are discussed in greater detail in the Cultural Heritage chapter.

15.5 Likely future conditions

15.5.1 Within the Severn and Vale character area recent changes that have made the landscape character more 'open' are likely to continue (Countryside Agency, 1996). These changes have included the replacement of the tall trees and varied character of old orchards with the cultivation of bush forms and the low cutting of hedges.

15.5.2 Development pressure in the Cotswolds character area will continue to put valued landscapes at risk.

15.6 Environmental and Sustainability Problems

15.6.1 The key problems identified by the Countryside Agency (1996) within the Severn & Vale character area are as follows:

- The older types of orchard are in rapid decline
- Riverside trees, pollards and grassland of nature conservation interest need appropriate management and the character of the rivers themselves needs conservation
- Areas of semi-natural vegetation like neutral grassland are often small, fragmented and therefore particularly in need of active conservation
- Many of the villages retain several of their older buildings. Village design guidelines are particularly important as pressure for expansion and infill builds up

15.6.2 Similarly, the key problems within the Cotswolds character area identified by the Countryside Agency (1996) are as follows:

- Tourism and through-traffic have brought a requirement for upgraded roads, bypasses and through-routes with associated upgrading and an increased number of signs for minor routes
- There is pressure for expansion of Cotswold villages and for the creation of new rural settlements, particularly those within easy reach of major towns and cities, also for facilities at tourist honeypots, with associated congestion, erosion of footpaths, bridleways and viewing points
- Dry stone walls are in long-term decline: the limestone walls become friable with age and require regular maintenance which is labour-intensive and expensive

15.6.3 The key problems identified by the Stroud Landscape Assessment are as follows:

- The flat and open nature of the landscape makes it particularly susceptible to inappropriate development
- Where buildings have been constructed using non-traditional materials these tend to be very noticeable in open and undulating landscapes and have a visually detracting effect
- The spread of development up valley sides bears little relationship to traditional settlement patterns and is visually prominent

- The distinctive pattern of field enclosures are sensitive to changes in agricultural land management

15.7 Proposed SA / SEA Objectives

15.7.1 Based on the problems identified, the following SA / SEA Objective is proposed:

- To protect and enhance valued landscapes and townscapes

16 Waste

16.1 Introduction

- 16.1.1 The Environmental Protection Act 1990 identified waste as any substance that constitutes a scrap material, an effluent or other unwanted surplus. This definition was amended by the Waste Management Licensing Regulations 1994 to define waste as *'any substance or object which the producer or the person in possession of it, discards or intends or is required to discard'*.
- 16.1.2 Controlled wastes are subject to regulation since the 1990 Act and include industrial, commercial or household wastes. Some of these wastes are defined as hazardous and are those that have irritant, toxic, harmful, carcinogenic or corrosive properties. These must be handled and treated in specific ways. Non-controlled wastes, from agriculture, mines and quarries, are subject to their own regulations.
- 16.1.3 The Stroud District Council has responsibility for waste collection, however waste planning and waste disposal is the responsibility of Gloucestershire County Council.

16.2 Environmental Protection Objectives

- 16.2.1 The EU Landfill Directive:
- By 2010 to reduce biodegradable municipal waste landfilled to 75% of that produced in 1995
 - By 2013 to reduce biodegradable municipal waste landfilled to 50% of that produced in 1995
 - By 2020 to reduce biodegradable municipal waste landfilled to 35% of that produced in 1995
- 16.2.2 The Waste Strategy 2000:
- Reduce the amount of waste produced, increase the proportion of material re-used for other purposes
 - Where material cannot be re-used without treatment, increase the proportion recycled or composted
 - Where re-use and recycling is not possible, use waste as a fuel to derive energy from it
 - Disposal of waste to landfill should be the last resort
- 16.2.3 Statutory targets from the Waste Strategy 2000:
- By 2005 to reduce the amount of industrial and commercial waste sent to landfill to 85% of that landfilled in 1998
 - To recover value¹¹ from 40% of municipal waste by 2005
 - To recover value from 45% of municipal waste by 2010

¹¹ In this context 'to recover value' means to recycle, compost, recover energy or materials (e.g. by a process such as anaerobic digestion)

- To recover value from 67% of municipal waste by 2015

16.2.4 Specific targets for recycling and composting from the Waste Strategy 2000 are:

- To recycle or compost at least 25% of household waste by 2005
- To recycle or compost at least 30% of household waste by 2010
- To recycle or compost at least 33% of household waste by 2015

16.3 Context Review

16.3.1 Key messages from the context review include:

Key Messages from the Context Review	Evidence Source
Increase emphasis on reducing waste at source and making use of it as a resource	Securing the future: UK Sustainable Development Strategy; Planning Policy Statement 10: Planning for Sustainable Waste Management; Gloucestershire Joint Municipal Waste Management Strategy
Provide a framework in which communities take more responsibility for their own waste, and enable sufficient and timely provision of waste management facilities to meet the needs of their communities	Planning Policy Statement 10: Planning for Sustainable Waste Management; Gloucestershire Joint Municipal Waste Management Strategy
Waste is being produced at a rate disproportionate to the South West's population	Draft South West RSS
The provision of waste facilities should generally avoid protected landscapes such as National Parks and Areas of Outstanding Natural Beauty	Draft South West RSS
Provision of waste facilities must take account of the waste hierarchy: <ul style="list-style-type: none"> • Waste should be managed on the site where it arises, wherever possible (waste minimisation) • Waste that is not managed at its point of arising should be managed according to the proximity principle 	Draft South West RSS
In all areas, identification of sites for facilities must take account of the following: <ul style="list-style-type: none"> • Established and proposed industrial sites, in particular those that have scope for the co-location of complementary activities, such as proposed resource recovery parks • Other previously developed land, including use of mineral extraction and landfill sites during their period of operation for the location of related waste treatment activities 	Draft South West RSS

Key Messages from the Context Review	Evidence Source
<p>For SSCTs (the area of Stroud immediately south of Gloucester) the location of new waste management or disposal facilities should accord with the following sequential approach:</p> <ul style="list-style-type: none"> • Within • On the edge of, and/or • In close proximity to (i.e. within 16 kilometres) of the urban area primarily served by the facility 	Draft South West RSS
<p>For rural areas and smaller towns there should be provision of:</p> <ul style="list-style-type: none"> • A network of local waste management facilities concentrated at, or close to, centres of population identified • An accessible network of strategic waste facilities <p>Major sources of waste arising in rural areas will be treated locally, unless specialised facilities are required.</p>	Draft South West RSS

16.4 Baseline

- 16.4.1 In recent years the amount of household waste produced per person in Stroud has been rising steadily, reflecting increasingly wasteful individual behaviour and purchasing patterns. This means that the District is failing to meet the government's objective on waste reduction, although clearly the Council has little direct control over this variable.
- 16.4.2 Previously, Stroud was making good progress towards the government's target of 25% of household waste to be recycled or composted, although the rate seems to have stalled recently, as shown in Table 16.1. Stroud District Council's Best Value Performance Plan 2005-6 reports that the recycling rate reached 21.9% in 2005-2006, some way short of the target.
- 16.4.3 Figures for reuse and recovery of household waste are not available, nor are statistics for commercial and industrial waste streams.

Table 16.1: Waste Collection and Treatment in Stroud

	2001 -2002	2002 - 2003	2003 - 2004	2004 - 2005
Household waste collected per head	343.0kg	N/A	350.0kg	354.6kg
Percentage recycled	16.7%	N/A	20.8%	20.9%
Percentage composted	0%	N/A	0%	0%
Percentage used to recover energy	0%	N/A	0%	0%
Percentage landfilled	N/A	N/A	N/A	N/A

Source: DCLG Local Government Performance (Best Value Indicators)

16.5 Likely future conditions

- 16.5.1 Based on past trends, it appears likely that the amount of waste produced by households will continue to rise. Recycling rates are increasing but slowly. The targets for recycling and composting of household waste in 2010 and 2015 do not at present seem likely to be achieved.

16.6 Environmental and Sustainability Problems

16.6.1 The following problems have been identified:

- The amount of household waste generated per person is rising year on year
- There is a need for a greater focus on the waste hierarchy (waste reduction, increased re-use of materials that would otherwise be thrown away, then recycling, energy recovery, finally disposal by landfill)
- Government targets for recycling and composting are not being achieved

16.7 Proposed SA / SEA Objectives

16.7.1 Based on the problems identified, the following SA / SEA Objective is proposed:

- To minimise the amount of waste produced, maximise the amount of material that is reused or recycled, and seek to recover energy from the largest proportion of the residual material

17 Next Steps

17.1 Introduction

17.1.1 This report is a working draft that documents the findings from Stage A and discusses what happens next. It is being sent to the three SEA consultation bodies – Natural England, English Heritage and the Environment Agency – and other key stakeholders for consultation.

17.1.2 The SA Guidance states that stakeholder consultation at Stage A is particularly important:

“Consultation at this stage helps to ensure that the SA will be comprehensive and robust enough to support the DPD during the later stages of full public consultation and examination”. In particular, the Guidance suggests, “Sustainability objectives and indicators and targets should be developed with input from key stakeholders and ideally should be open to wider comment and discussion”.

17.2 Next Steps

17.2.1 Following statutory consultation, Stage B in the SA process involves assessing the various options put forward against the SA objectives. In addition, Stage B will include:

- Testing the plan objectives against the SA Framework
- Developing and refining options
- Predicting and assessing effects
- Identification of mitigation measures
- Developing monitoring proposals
- Reporting the conclusions in a Sustainability Appraisal Report

17.2.2 This assessment will be undertaken on the basis of professional judgement and will be informed by evidence obtained from the context review, the collection of baseline information and the identification of sustainability problems. Geographical Information Systems (GIS) will be used where appropriate in the assessment process.

17.3 Sustainability Appraisal Reports

17.3.1 Sustainability Appraisal Reports will be produced for each LDD to record the findings of the SA. They will comprise the following sections:

- Summary and outcomes
- Background
- Appraisal Methodology
- Sustainability objectives, baseline and context
- Plan issues and options
- Plan policies
- Implementation

17.3.2 The level of detail of the reports cannot at this stage be determined, as it will depend on the nature of options assessed. However the reports will consider:

- Probability, duration, frequency and reversibility of the effects
- Cumulative nature of the effects
- Trans-boundary nature of the effects
- Risks to human health or the environment
- Magnitude and spatial extent of the effects (geographical area and size of the population likely to be affected)
- Value and vulnerability of the area likely to be affected due to: special natural characteristics or cultural heritage; exceeded environmental quality standards or limit values; intensive land-use; or effects on areas having a recognised national, Community or international protection status

17.3.3 The Council will be seeking the views of stakeholders and the public on the emerging LDDs and accompanying SA Reports in due course.

18 Further Information

18.1.1 Further information on the LDF preparation process and the SA / SEA process can be obtained from:

Department of Communities and Local Government (DCLG) - Planning Policy Statement 12: Local Development Frameworks

<http://www.communities.gov.uk/index.asp?id=1143846>

18.1.2 The following website provides more general information on SA and SEA:

Department of Communities and Local Government (DCLG) – Introduction to SEA, SEA regulations, SEA guidance

<http://www.communities.gov.uk/index.asp?id=1143275>

18.1.3 For further information on the Stroud LDF and consultation process, please refer to the following documents:

- Draft Local Development Scheme, Stroud District Council (2006)
- Draft Statement of Community Involvement, Stroud District Council (2006)

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Appendix 1 - River Quality (Chemical)

Frome R, Conf. With Slad Brook to Ryeford

	1988 to 1990	1991 to 1993	1992 to 1994	1993 to 1995	1994 to 1996	1995 to 1997	1996 to 1998	1997 to 1999	1998 to 2000	1999 to 2001	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
Grade	A	B	B	A	A	A	A	A	B	B	B	A	A	A

Frome R., FB at Duntisbrooke Common to Slad Brook

	1988 to 1990	1991 to 1993	1992 to 1994	1993 to 1995	1994 to 1996	1995 to 1997	1996 to 1998	1997 to 1999	1998 to 2000	1999 to 2001	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
Grade	A	B	B	A	A	A	A	A	A	A	A	A	A	A

Nailsworth S., Nailsworth to confluence with R.Frome

	1988 to 1990	1991 to 1993	1992 to 1994	1993 to 1995	1994 to 1996	1995 to 1997	1996 to 1998	1997 to 1999	1998 to 2000	1999 to 2001	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
Grade	B	B	B	B	B	B	B	B	A	A	A	A	A	A

Painswick Stream, FB at Damsels to Stroudwater Canal

	1991 to 1993	1992 to 1994	1993 to 1995	1994 to 1996	1995 to 1997	1996 to 1998	1997 to 1999	1998 to 2000	1999 to 2001	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
Grade	B	A	A	A	B	B	B	B	A	A	A	A	B

Slad Brook, Above Uplands to Stroudwater Canal

	1988 to 1990	1991 to 1993	1992 to 1994	1993 to 1995	1994 to 1996	1995 to 1997	1996 to 1998	1997 to 1999	1998 to 2000	1999 to 2001	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
Grade	C	C	B	B	B	B	B	A	A	A	A	A	A	A

Source: Environment Agency

The chemical GQA measures the following:

- Dissolved Oxygen – essential to aquatic life
- Biochemical Oxygen Demand (BOD) – indicator of organic pollution
- Ammonia – indicator of organic pollution

Appendix 2 - River Quality (Biological)

Frome R, Conf. from Slad Brook to Ryeford

	1995	2000	2002	2005
Grade	B	C	C	B

Frome R., FB at Duntisbrooke Common to Slad Brook

	1995	2000	2004
Grade	B	B	C

Nailsworth S., Nailsworth to confluence with R. Frome

	1990	1995	2000	2004
Grade	D	C	C	B

Painswick Stream, FB at Damsels to Stroudwater Canal

	1990	1995	2000	2003
Grade	C	B	B	A

Slad Brook, Above Uplands to Stroudwater Canal

	1995	2000	2003
Grade	B	B	B

Slad Brook, Famish Hill to above Uplands

	2002	2005
Grade	A	A

Source: Environment Agency

The biological GQA uses measurements of the presence of macro-invertebrates (such as insect larvae) that tend to be good indicators for the following reasons, as they:

- Can be seen with naked eye
- Do not move far

- Respond to water pollutants and to physical damage to the habitat.

Their condition can indicate the presence of infrequent or low concentrated pollutants, which may be missed in the chemical analysis.

Appendix 3 - Rivers and Aquifers 'at risk'

Type of Water Body	Identification (River and Aquifer ID)	Overall Risk Category	Pollution Category				
			Point Source	Diffuse Source	Water Abstraction and Flow Regulation	Physical or Morphological Alteration	Alien Species
River	Nailsworth Stream GB109054026530	At risk	Not at risk	Probably at risk	Not at risk	At risk	Probably not at risk
	Slad Brook GB109054032440	Probably not at risk	Not at risk	Probably not at risk	Not at risk	Probably not at risk	Probably not at risk
	Painswick Stream GB109054032460	Probably at risk	Not at Risk	Probably not at risk	Not at risk	Probably at risk	Probably not at risk
	Frome GB109054032470	At risk	Not at risk	Probably not at risk	Probably at risk	At risk	Probably not at risk
	Severn (Lower) GB109054032600	Probably at risk	Not at risk	Probably at risk	Not at risk	Probably not at risk	Probably at risk
	Frome (Southern Arm) GB209054032450	Not at risk	At risk	At risk	Probably not	At risk	Probably not at risk
Aquifer	GB40901G304500 (Aquifer type: principal aquifer; River Basin District: Severn)	At risk	Probably not at risk	At Risk	Probably not at risk	N/A	N/A
	GB40902G303800 (Aquifer type: Secondary; River Basin District: Severn)	At risk	Probably not at risk	At risk	Probably not at risk	N/A	N/A

Source: Environment Agency

Appendix 4 - Habitat and Species Action Plans

Habitat Plans	Species Action Plans		
	Vertebrates	Invertebrates	Plants, Fungi and Lichens
<ul style="list-style-type: none"> • Estuaries, Saltmarsh and Mudflats • Rivers and Streams • Canals • Reedbeds • Standing Open Waters • Lowland Wet Grassland • Unimproved Neutral Grassland • Unimproved Limestone Grassland • Cereal Field Margins • Species Rich and/or Ancient Hedgerows • Woodlands • Woodpasture, Parkland and Veteran Trees • Lowland Heathland • Acid Grassland • Limestone Pavement • Urban Habitat 	<ul style="list-style-type: none"> • Great Crested Newt • Farmland Birds (skylark, linnet, reed bunting, corn bunting, tree sparrow, grey partridge, bullfinch. Turtle dove, song thrush) • Bittern • Nightjar • Woodlark • Spotted flycatcher • Allis and Twaite shad (fish) • Water vole • Brown hare • European otter • Dormouse • Bats (barbastelle, bechstein's bat, pipistrelle, greater horseshoe bat, lesser horseshoe bat) 	<ul style="list-style-type: none"> • Ants and bees (various) • Stag beetle • High brown fritillary butterfly • Pearl-bordered fritillary butterfly • Marsh fritillary butterfly • Flies (various) • Moths (various) • White clawed crayfish • Snail <i>Lauria sempronii</i> • Freshwater mussels 	<ul style="list-style-type: none"> • Devil's bolete • A wax cap <i>Hygrocybe calyptriformis</i> • A lichen <i>Bacidia incompta</i> • Round-leaved feather moss • Arable wildflowers (cornflower, red tipped cud.-weed, red hempnettle, shepherd's needle, spreading hedge parsley, broad-fruited corn salad) • Tower mustard • Prickly sedge • True fox-sedge • Early gentian • Juniper • Perfoliate pennycress • Lesser bearded stonewort • Starry stonewort • Tassel stonewort • Great tassel stonewort

Source: Gloucestershire County Council

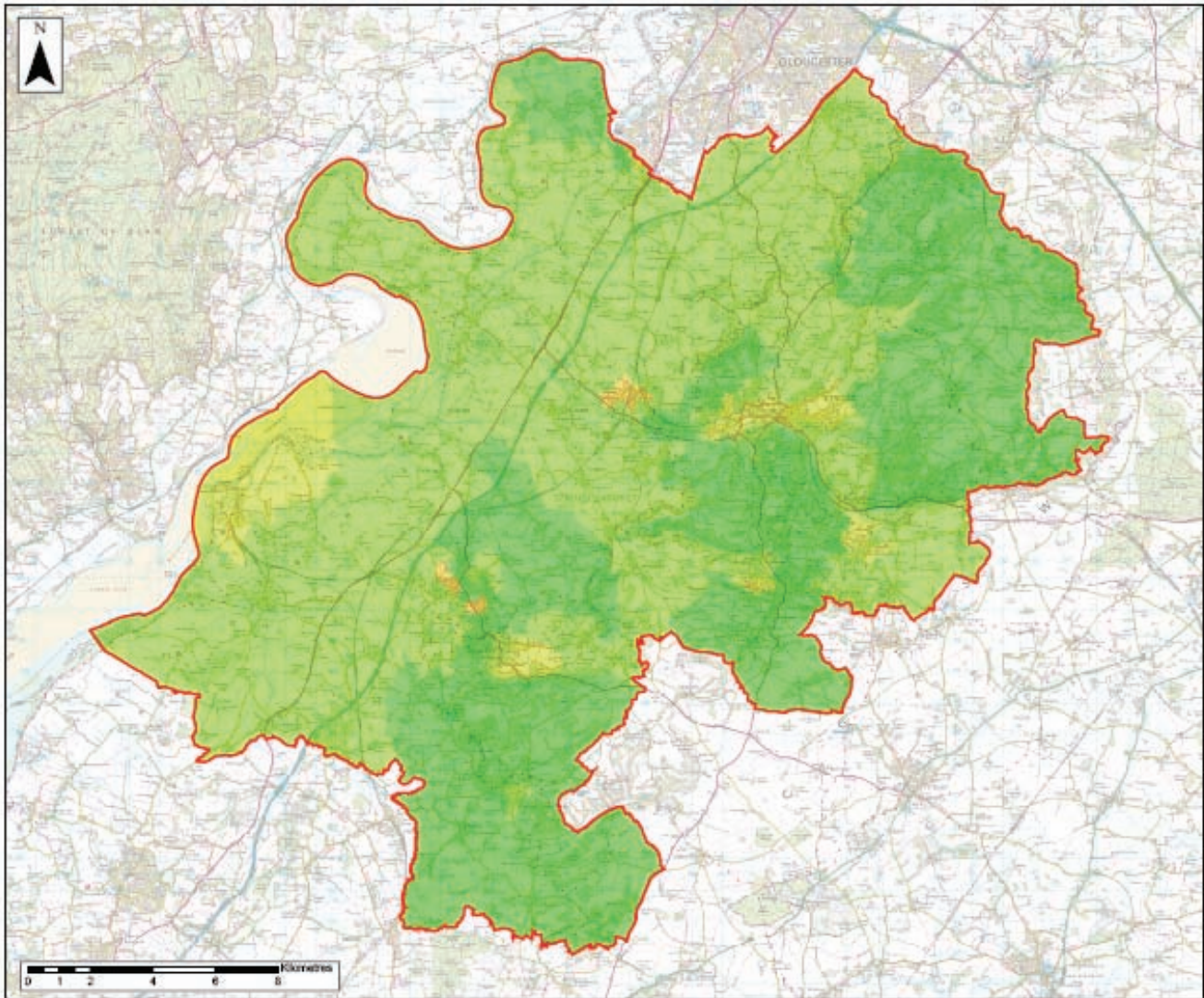
Appendix 5 - Cotswold Canals

This appendix highlights the sustainability issues relevant specifically to the canals corridor.

Employment	
An appropriate balance must be struck between securing future canal side restoration and providing sufficient employment opportunities to assist in the development of a sustainable local economy	Stroud Valleys Employment Study
Transport and Access	
Canals perform a variety of functions: Leisure and recreation Freight Water supply and drainage Heritage and the natural environment Regeneration Innovation (e.g. path for telecommunications cables)	Waterways for Tomorrow
Waterways contribute directly to the Government's Strategy for Sustainable Development in a number of ways. These include the conservation of the waterway environment and heritage; social and economic development through urban and rural regeneration; integrated transport; and educational opportunities.	Waterways for Tomorrow
Cultural Heritage	
Waterways are exceptionally rich in heritage value, with a diverse range of historic buildings and examples of innovative civil engineering. The British Waterways estate alone contains 130 scheduled monuments and some 2,800 listed structures - second only in number to those managed by the National Trust.	Planning a Future for the Inland Waterways
All waterways should be managed in an integrated way taking into account the complex inter-relationships between navigation, water supply, ecology, flood control, land drainage and recreation	Planning a Future for the Inland Waterways
Planning obligations can be used to assist in the restoration of disused or derelict waterways. Developer contributions might be sought for: <ul style="list-style-type: none"> • The creation and improvement of access points to the waterspace and improvement to the tow path and corridor for pedestrians and cyclists; • The provision of commuted sums to assist waterway enhancement and management schemes; • The implementation of works to secure off-site landscaping; • The creation or extension of mooring basins and marinas; • The provision of boating facilities; and • Reinstatement of waterway walls affected by development. 	Planning a Future for the Inland Waterways
Modern industrial uses, unless they are served by water-based freight transport, tend to have different locational requirements than when the waterways were primarily used for freight transport. Large-scale industrial-use zoning of waterfront areas is therefore no longer appropriate.	Planning a Future for the Inland Waterways

Biodiversity	
Disused or lightly boated canals often support highly diverse assemblages of plants and animals and may support nationally scarce species such as grass-wrack pondweed <i>Potamogeton compressus</i> . Canal tunnels may provide excellent roosting and breeding sites for bats. Wetland, grassland or arable habitats are frequently inter-related with the towpath, hedge or other boundary features and contribute shelter and emergence sites for aquatic animals.	Gloucestershire Biodiversity Action Plan: Canals Habitat Action Plan
Canals also provide “green corridors” into urban areas providing a mixture of terrestrial and wetland habitats. Since they are often less intensively managed than the surrounding land, they can be very important and diverse habitats for wildlife.	Gloucestershire Biodiversity Action Plan: Canals Habitat Action Plan
Land adjacent to canals is also often of high value to wildlife. Built structures such as bridges, buildings, walls, and locks provide shelter and foraging sites for birds, bats and otters and can support specialised wall flora including lichens, liverworts and mosses.	Gloucestershire Biodiversity Action Plan: Canals Habitat Action Plan
After abandonment, canals pass through several stages of plant colonisation and silting, and the wildlife they support is largely dependent on their state of dereliction. The open conditions with areas of standing water that persist during the early stages of succession are ideal for many types of wildlife. After a considerable period of neglect, the ecological interest of canals deteriorates as they become completely overgrown with scrub, making the shallow stagnant interior virtually sterile from lack of light and oxygen. At a final stage of dereliction, canals may become completely dried out and the wetland flora and fauna disappears. This process can be seen along the Thames & Severn Canal near Lechlade.	Gloucestershire Biodiversity Action Plan: Canals Habitat Action Plan

Appendix 6 - Maps



**Map 1:
Indices of
Multiple Deprivation**

- 2004 IMD Rank**
- 81 - 100% Least Deprived
 - 61 - 80%
 - 41 - 60%
 - 21 - 40%
 - 11 - 20%
 - 0 - 10% Most Deprived
 - Stroud District Boundary

% represents the rank within all Super Output Areas (SOAs) in England where 1 is the most deprived and 32,482 is the least deprived.

Source: www.communities.gov.uk, Indices of Deprivation by SOA Rank, 2004.

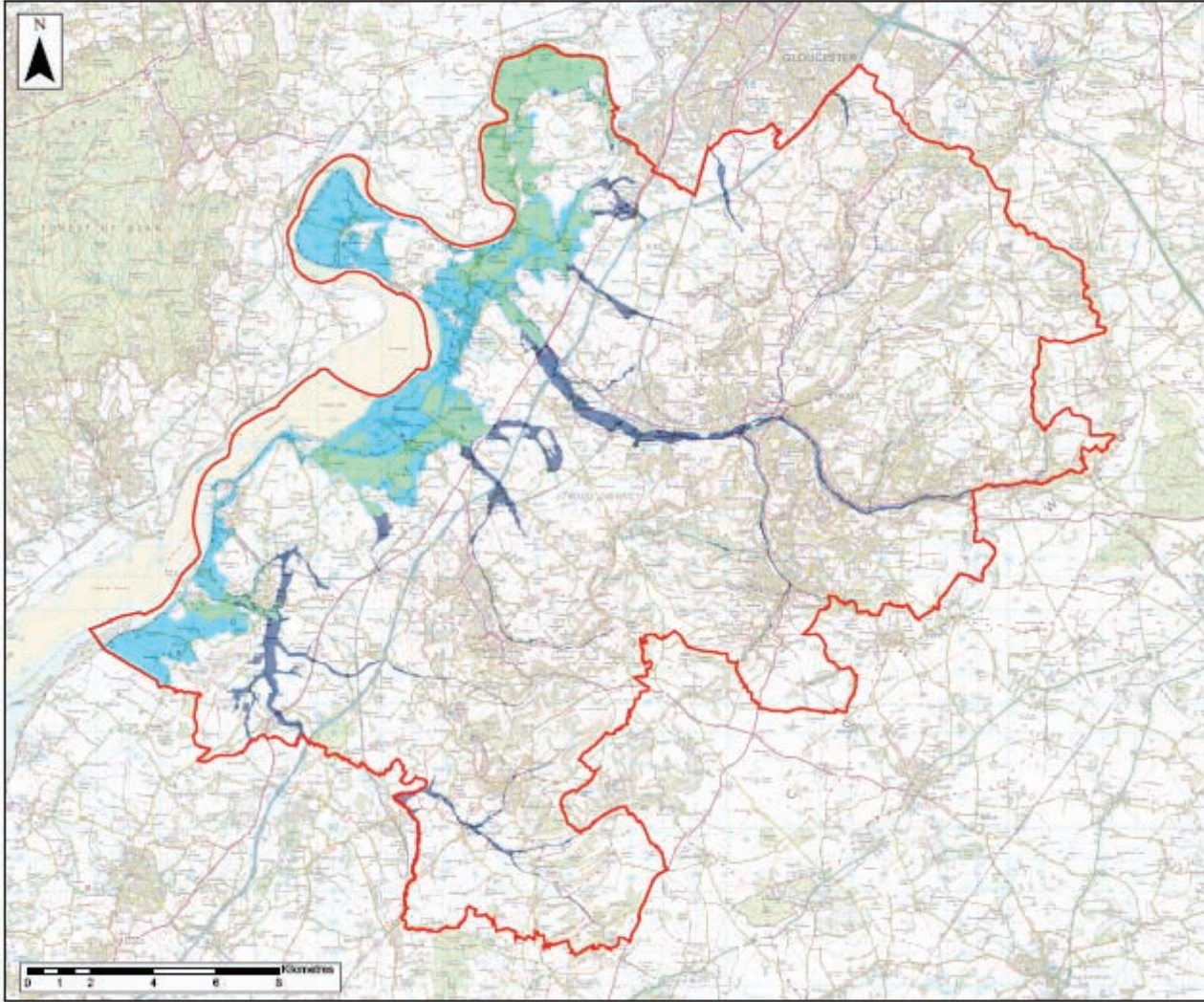
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**Map 2:
FLOOD RISK ZONE 2:
MEDIUM PROBABILITY**

- Stroud District Boundary
- Fluvial
- Fluvial / Tidal
- Tidal

This zone comprises land assessed as having between a 1 in 100 and 1 in 1000 annual probability of river flooding (1% - 0.1%) or between a 1 in 200 and 1 in 1000 annual probability of sea flooding (0.5% - 0.1%) in any year.
Source: Environment Agency

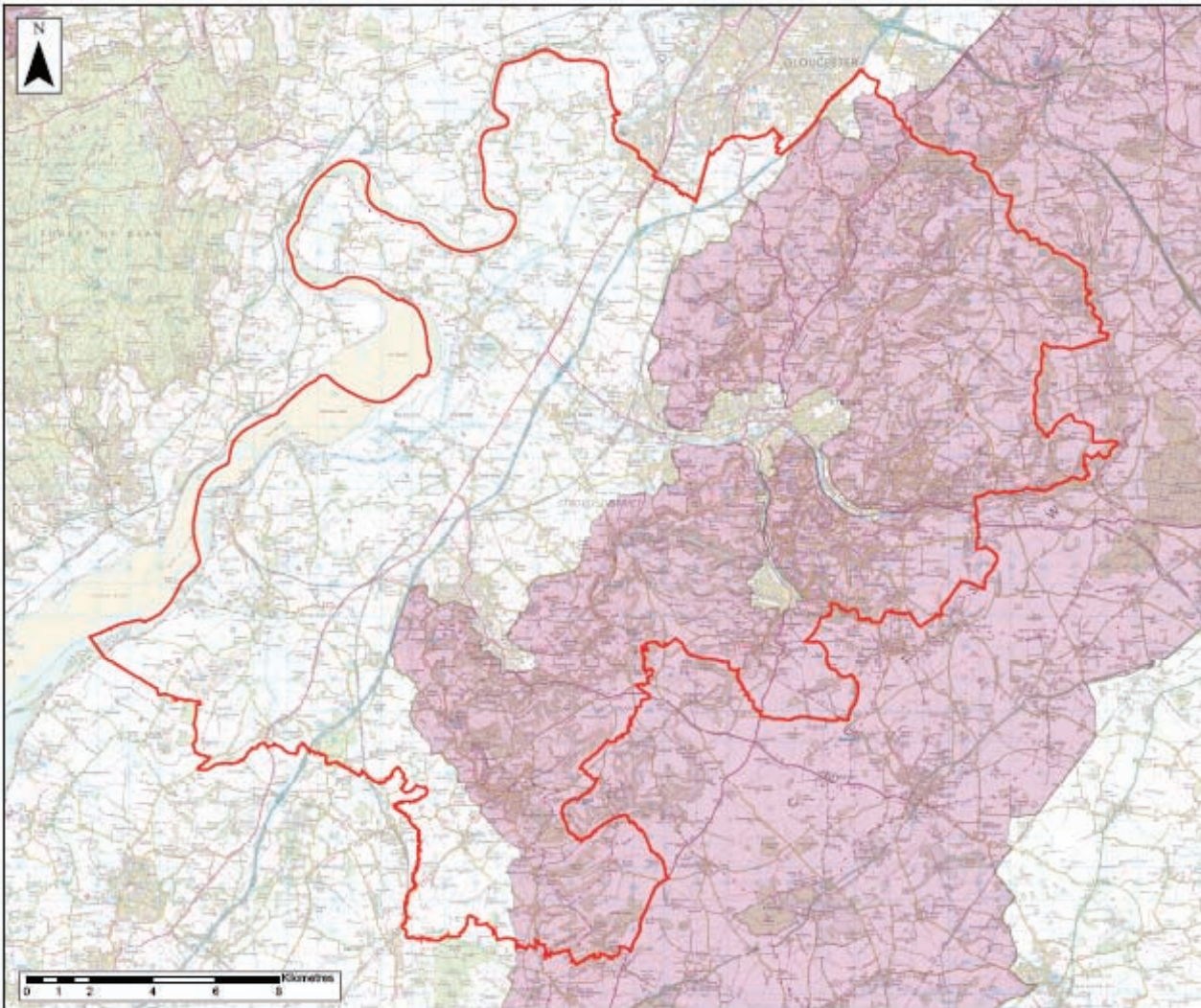
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Map 4:
Areas of Outstanding
Natural Beauty

- ACNB
- Stroud District Boundary

Source: <http://www.mgls.gov.uk> (2006)

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