



Canterbury City Council

Sustainability Appraisal of Development Scenarios

Technical Note



AMEC Environment & Infrastructure UK Limited

June 2012

Copyright and Non-Disclosure Notice

The contents and layout of this report are subject to copyright owned by AMEC (©AMEC Environment & Infrastructure UK Limited 2012), save to the extent that copyright has been legally assigned by us to another party or is used by AMEC under licence. To the extent that we own the copyright in this report, it may not be copied or used without our prior written agreement for any purpose other than the purpose indicated in this report.

The methodology (if any) contained in this report is provided to you in confidence and must not be disclosed or copied to third parties without the prior written agreement of AMEC. Disclosure of that information may constitute an actionable breach of confidence or may otherwise prejudice our commercial interests. Any third party who obtains access to this report by any means will, in any event, be subject to the Third Party Disclaimer set out below.

Third-Party Disclaimer

Any disclosure of this report to a third party is subject to this disclaimer. The report was prepared by AMEC at the instruction of, and for use by, our client named on the front of the report. It does not in any way constitute advice to any third party who is able to access it by any means. AMEC excludes to the fullest extent lawfully permitted all liability whatsoever for any loss or damage howsoever arising from reliance on the contents of this report. We do not however exclude our liability (if any) for personal injury or death resulting from our negligence, for fraud or any other matter in relation to which we cannot legally exclude liability.

Document Revisions

| No. | Details | Date |
|-----|--------------------------|----------|
| 1 | Draft Report for Comment | 20.12.11 |
| 2 | Revised Report | 16.04.12 |
| 3 | Final | 8.5.12 |
| 4 | Revised Final | 16.6.12 |

Report for

Adrian Verrall,
Canterbury City Council
Military Way
Canterbury
CT1 1YW

Main Contributors

Liz Duffy
Pete Davis

Issued by

.....
Liz Duffy

Approved by

.....
Pete Davis

**AMEC Environment & Infrastructure
UK Limited**

Gables House, Kenilworth Road, Leamington Spa,
Warwickshire CV32 6JX, United Kingdom
Tel +44 (0) 1926 439 000
Fax +44 (0) 1926 439 010

Doc Reg No. 16903rr19i2

h:\projects\em-260\16000 projects\16903 sa sea canterbury\c client\16903-
19 sa of development scenarios\development options revised final sa
(18.6.12).doc

Canterbury City Council

Sustainability Appraisal of Development Scenarios

Technical Note

AMEC Environment & Infrastructure
UK Limited

June 2012



Certificate No. FS 13881



Certificate No. EMS 69090

In accordance with an environmentally responsible approach,
this document is printed on recycled paper produced from 100%
post-consumer waste, or on ECF (elemental chlorine free) paper

Executive Summary

Purpose of this Report

AMEC Environment & Infrastructure UK Limited (AMEC) was commissioned by Canterbury City Council (CCC) to undertake a sustainability appraisal (SA) of the development scenarios as presented in *Canterbury Development Requirements Study* as assessed by Nathaniel Lichfield & Partners (NLP).

| Box 1 | This Technical Note |
|---|---------------------|
| <p>This technical note represents a non-statutory Sustainability Appraisal of the emerging indicative development options. The options presented here are indicative and this technical note, although not intended to comply with the requirements of the SEA Directive itself, will form part of the evidence base for the development of spatial options for the Canterbury Core Strategy (or equivalent spatial planning document following conclusion of the planning reforms). As such, it will form the basis for the chapter that will address consideration of reasonable alternatives within the formal Sustainability Appraisal which will accompany the published draft Local Plan document.</p> <p>The key elements emerging from this technical note are the appraisal scores and conclusions, which, in combination with other detailed studies will contribute to the selection of which options warrant more detailed investigation.</p> | |

The ten development scenarios considered in the appraisal (grouped by one of four drivers) are as follows:

- Existing policy and supply led scenarios which present a baseline group of scenarios based on existing policy and trends (out to 2031);
 - Scenario A. Existing Supply
 - Scenario B. Trend Based Completions
 - Scenario C. South East Plan Requirements
- Economic led scenarios based on differing numbers and proportions of the population in employment (out to 2031);
 - Scenario D. East Kent Strategy
 - Scenario E. Futures 'Preferred Scenario'
 - Scenario F. 'Travel for work'
 - Scenario G. Updated Economic Forecast
- Demographic led scenarios based on population changes (out to 2031);
 - Scenario H. Zero Net Migration

- Scenario I. Past Trends Demographic
- Housing led scenario based on meeting housing needs out to 2031.
 - Scenario J. Housing Need

The development scenarios are set out in more detail within the technical note.

To be consistent with the approach to sustainability appraisal of Local Plan documents in Canterbury, each of the development scenarios has been assessed against the sixteen SA objectives detailed in the 2010 Scoping Report, using updated baseline information to inform the appraisal. In consequence, the appraisal identifies the extent to which the different options would contribute to addressing the environmental, social and economic issues of the area. The results of the appraisal show that there are positive and negative effects associated with all of the development scenarios. These are summarised briefly below:

- **Scenarios which only require development on currently committed land (namely scenarios A and H) will not provide enough homes** for the current population. This will result in out-migration of people looking for homes, a reduction in jobs and the labour force over time and a long term reduction in the viability of shop, service and community facilities. These options therefore score significantly negative for housing, economy, and sustainable community/quality of life options. However, developing only on land which is currently committed minimises any negative effects on environmental objectives.
- **Scenarios B, D and G have similar impacts on all of the sustainability objectives.** Land take associated with these scenarios is broadly consistent with previous trends in the district; however, it remains unclear whether the environmental effects will be significant. This is due to the uncertainties over where the actual development will be located and whether sites will be adjacent or close to sensitive and important biodiversity, geological, landscape and cultural sites.
- **Scenario C represents a missed opportunity for economic growth** and is unlikely to meet housing needs. As a result, there may be benefits to providing more homes to militate against the out-migration of working age population. Initiatives to encourage retention of university leavers or to promote Canterbury as a place that would attract young workers could improve scores under this scenario without further negatively affecting environmental objectives.
- **Scenario E has the potential for significantly negative impacts on biodiversity and countryside/historic environment** as it requires 446 ha of land although it also has a significantly positive effect on the local economy. The negative effects on the natural environment could be minimised or reduced by avoiding siting development in, adjacent to or close to existing sensitive and important nature conservation and cultural heritage sites.
- **Scenarios with a high number of new dwellings (over 1,000 new dwellings per year, namely scenarios F, I and J), have a significantly positive impact on economy objectives.** However, an increase in out-commuting in scenario F will place additional pressure on transport infrastructure above scenarios I and J. Significant investment in the transport infrastructure could reduce these negative impacts. Without a proportionate allocation of employment land, whilst there will be a

significant increase in the population over time, many people will need to travel outside the district to work. This will limit the economic benefits that will accrue to the district. Despite this, the overall effect on the local economy will still be significant due to the substantial number of homes constructed. The importance of encouraging a diversity of jobs and preventing an over reliance on the service sector, as is the case in scenario F, is also highlighted. However, scenario F highlights that concentrating such a high proportion of development (70%) within Canterbury City neglects objectives within rural and coastal areas, including affordable housing targets and contributing to viability and vitality in these areas. Furthermore, focusing on development within Canterbury City increases the land take around urban fringes increasing the significantly negative effect within these areas for environmental objectives. Although scenarios I and J reduce negative impacts within the urban fringes, they spread the significantly negative effects to rural and coastal areas.

A level of compromise needs to be reached across the sustainability objectives, as scenarios which score highly on economy have significant negative effects on environmental objectives (i.e. - scenarios F, I and J) whereas scenarios that score more favourably on environment and resource use have a negative effect on the economy (i.e. – scenarios A and H). **It is recommended that at this stage scenario E offers the greatest potential to achieve the appropriate balance (to optimise growth and minimise detrimental environmental effects).** However, careful consideration would be required of the proposed location of development envisaged in the scenario to avoid sensitive sites, to optimise positive community effects and to take the opportunity to maximise the benefits of innovative sustainable design (by ensuring efficient use of land and resources) to mitigate any potentially significant negative impacts.

Contents

| | |
|--|-----------|
| Purpose of this Report | v |
| 1. Introduction | 1 |
| 1.1 Background | 1 |
| 1.2 Description of the Development Scenarios | 2 |
| 1.2.1 Policy and Supply Led Scenarios | 2 |
| 1.2.2 Economic Led Scenarios | 3 |
| 1.2.3 Demographic Led Scenarios | 4 |
| 1.2.4 Housing Led Scenario | 4 |
| 1.2.5 Summary of Development Scenarios | 4 |
| 1.3 Purpose of this Technical Note | 6 |
| 2. Approach to Sustainability Appraisal | 7 |
| 2.1 Overview | 7 |
| 2.2 Sustainability Objectives and Appraisal Criteria | 14 |
| 2.3 When the SA was Undertaken and by Whom | 17 |
| 2.4 Uncertainties and Assumptions | 17 |
| 2.4.1 Uncertainties | 17 |
| 2.4.2 Assumptions | 17 |
| 3. Appraisal of Effects | 19 |
| 3.1 Appraising Sustainability Performance | 19 |
| 3.1.1 Completed Summary Appraisal Matrix | 19 |
| 3.2 Summary of the Effects of the Scenarios | 21 |
| 3.2.1 Scenario A. Existing Supply Scenario | 21 |
| 3.2.2 Scenario B. Trend Based Completions Scenario | 21 |
| 3.2.3 Scenario C. South East Plan Requirements | 21 |
| 3.2.4 Scenario D. East Kent Strategy scenario | 21 |
| 3.2.5 Scenario E. Futures “preferred scenario” | 21 |
| 3.2.6 Scenario F. “Travel for Work” Scenario | 21 |
| 3.2.7 Scenario G. Updated Economic Forecast | 21 |
| 3.2.8 Scenario H. Zero Net Migration | 21 |
| 3.2.9 Scenario I. Past Trends Migration | 21 |

| | | |
|------------|---|-----------|
| 3.2.10 | Scenario J. Delivering Housing Need | 21 |
| 4. | Conclusion and Recommendations | 21 |
| 4.1 | Key Conclusions Emerging from the Appraisal | 21 |
| 4.2 | Summary and Recommendations | 21 |
| Table 1.1 | Summary of Demographic, Housing and Economic Change of Scenarios over 2011-2031 | 5 |
| Table 2.2 | Sustainability Objectives and Detailed Criteria | 15 |
| Table 3.1 | A guide to the scoring system used in the Sustainability Appraisal | 19 |
| Appendix A | Appraisal of Development Scenarios | |

1. Introduction

1.1 Background

Canterbury City Council (CCC) is exploring the implications of different growth scenarios for the district as part of its developing evidence base to support the emerging spatial plan. Nathaniel Lichfield & Partners (NLP) were commissioned by CCC to assess the overall scale of need and infrastructure requirements of ten broad spatial development scenarios for future housing and employment development within the Canterbury district¹. AMEC Environment & Infrastructure UK Limited (AMEC) was also commissioned by the Council to undertake a high level qualitative appraisal of the sustainability effects of the ten development scenarios as presented in the Development Requirements Study. By undertaking a high level Sustainability Appraisal (SA) of the development scenarios, Canterbury City Council seek to ensure that the scenarios brought forward have been tested for their contribution to sustainability and help to develop the evidence base to support the eventual spatial planning strategy. Collectively the NLP study and the SA aid the Council in addressing emerging Government guidance² which is to review the development needs of the District on the assumption that there is no longer a regional housing provision figure for the district.

This appraisal is part of the ongoing Sustainability Appraisal (SA) work to ensure that the requirements of the Strategic Environmental Assessment (SEA) Regulations³ are met in the development of the Core Strategy. The outputs of this appraisal (as summarised in Section 3.2 and Section 4) will be used in the SA Report that will be produced to inform and accompany the consultation on the draft Local Plan document. It presents the appraisal information regarding the consideration of reasonable alternatives which is a specific requirement of the SEA legislation and is an area that receives considerable external scrutiny.

The SA objectives and the approach to the appraisal of the scenarios is based on the methodology described in the Canterbury City Council Scoping Report (2010), and which has been revised to reflect comments received on the Scoping Report during the subsequent consultation period⁴. The SA objectives have been informed by those of national, regional and local policy and baseline information with particular reference to local sustainability issues, community and environmental strategies. The baseline information summarised in this report has been updated to ensure that the evidence base and resulting appraisal remains appropriate and relevant to the prevailing conditions and issues in Canterbury.

¹ Nathaniel Litchfield and Partners (2011), *Canterbury City Council: Canterbury Development Requirements Study*, November 2011

² Department for Communities and Local Government (2011), *Draft National Planning Policy Framework*, July 2011

³ HMSO (2004), *Statutory Instrument No.1633 - The Environmental Assessment of Plans and Programmes Regulations 2004*, July 2004

⁴ Canterbury City Council (2010) *Sustainability Appraisal of the LDF: Agreed Scope of the Sustainability Appraisal (following consultation on the Scoping Report)*, Entec UK Ltd, London.

1.2 Description of the Development Scenarios

NLP worked with Canterbury City Council (CCC) and Kent County Council (KCC) to identify and agree a number of scenarios, reflecting alternatives for potential future growth in the District up to 2031 which then formed the basis of the analysis in the Development Requirements Study. These scenarios were based upon considerations of key factors that influence and/or reflect growth, namely demographic changes, economic activity and housebuilding. To explore the varying contributions of these factors (and their implication) to growth in the district, scenario variants were also developed around the following themes:

- Existing policy and supply led scenarios which present a baseline group of scenarios based on existing policy and trends (out to 2031);
- Economic led scenarios based on differing numbers and proportions of the population in employment (out to 2031);
- Demographic led scenarios based on population changes (out to 2031); and
- Housing led scenario based on meeting housing needs out to 2031.

1.2.1 Policy and Supply Led Scenarios

Scenarios A, B and C, use either existing land supply trends or growth policy to project development requirements out to 2031. Demographic models have been applied to model the impact upon population and labour supply of these scenarios.

Scenario A – Existing Supply

Scenario A envisages only delivering the housing development that is currently committed through the adopted plan and existing extant planning permissions. At late 2011, this is estimated to total 3,000 dwellings. This scenario models the demographic and economic implications of delivering this level of committed development to assess the extent to which this would meet needs and aspirations in Canterbury and is aligned with projected economic growth.

Scenario B – Trend Based Completions

Scenario B projects forward the past trends in development completions (617 dwellings per annum for housing and 1,550 sqm per annum for employment/commercial floor space) based on data for the last decade from Canterbury District Council and Kent County Council's annual monitoring statistics. This scenario models the demographic implications of this level of housing supply and similarly the extent to which this would meet future needs.

Scenario C – South East Plan Requirements

Scenario C is based upon the South East Plan (SEP) requirements for housing, which targeted delivery of 510 dwellings per annum. This scenario models the demographic implications of the housing target contained within the Regional Strategy and also the extent to which it would support economic growth within Canterbury.

1.2.2 Economic Led Scenarios

For these scenarios the number of jobs are used as the fixed variable (based upon growth rates from Experian forecasts), with projected migration constrained or inflated to a level, which alongside the profile of migrants moving in and out and natural change within the population, produces a labour force which is sufficient to support a given level of employment growth within the district.

Scenario D – East Kent Strategy

Scenario D is based upon the East Kent Sustainable Community Strategy (EKSCS) and the application of this through the Canterbury Futures Study to an East Kent Strategy for the economy. This scenario involves modelling the necessary demographic change to achieve a resident labour force in Canterbury to support the number of workplace jobs projected for Canterbury within an ‘East Kent’ strategy approach, appreciating what level of delivery of development within Canterbury would support achieving this vision.

Scenario E – Preferred Economic Scenario

Scenario E is based upon the preferred scenario within the Canterbury Futures Study (alongside the evidence subsequently submitted the SEP examination and the Panel Report recommendations). This scenario models the necessary demographic change to achieve a resident labour force in Canterbury to support these workplace jobs, and subsequently the housing requirement associated with this.

Scenario F – “Travel for Work”

Scenario F is based upon the “open to commuters” scenario identified in the Canterbury Futures Study. This scenario models the implications of Canterbury becoming a place with increased levels of out-commuting; potentially meaning more housing would need to be delivered to accommodate out-commuters and sustain future growth in Canterbury’s own economy. This scenario models the implications of this shift in commuting in terms of economic and housing impacts for Canterbury. This scenario applies a sensitivity test to the Labour Force ratio to take account of increased out-commuting.

Scenario G - Updated Economic Forecast Scenario

Scenario G is based on an updated baseline economic forecast from Experian, which identifies projected employment growth averaging 0.36% per annum to 2026, which has also been rolled forward to 2031. This scenario models the necessary employment space/land requirements of the forecast jobs growth for the District as

well as the related housing requirements based upon an appreciation of maintaining a sufficient indigenous labour force to support these jobs.

1.2.3 Demographic Led Scenarios

Components of population change are used to project how the future population, their household composition, and consequently their requirements for housing, will shift in the future. It also projects the proportion of the population who will be economically active and will support employment growth

Scenario H – Zero Net Migration

Scenario H is a demographic scenario whereby net migration to and from the district is equal, meaning there is only population churn in the district and the natural change of this population. The scenario does not anticipate any growth from net in-migration. This theoretical scenario examines the potential housing requirement if Canterbury District was to provide only for the population pressures arising from inward and outward migration being in balance.

Scenario I – Past Trends Demographic Led

Scenario I considers population change as a result of natural change and migration, based upon migration rates using a trend based projection using past average migration rates. This scenario represents an ‘unconstrained’ estimate of the demographically driven need for new housing and employment development (albeit recognising that past trends are themselves in part a reflection of past constraints).

1.2.4 Housing Led Scenario

Scenario J is the only scenario which is led by broader housing market issues.

Scenario J – Housing Need Scenario

Scenario J is based upon an appreciation of the need to deliver affordable housing. This scenario draws upon the Strategic Housing Market Assessment (SHMA) and housing waiting list data to derive a scenario that would meet existing and future affordable housing need.

1.2.5 Summary of Development Scenarios

Table 1.1 shows a summary of the key outputs per development scenario, as described in *Canterbury Development Requirements Study*.

Table 1.1 Summary of Demographic, Housing and Economic Change of Scenarios over 2011-2031

| Key Aspects (by 2031) | Policy/Supply Led | | | Economic Led | | | | Demographic Led | | Housing Led |
|---|-------------------|------------|------------|--------------|------------|------------|------------|-----------------|------------|-------------|
| | Scenario A | Scenario B | Scenario C | Scenario D | Scenario E | Scenario F | Scenario G | Scenario H | Scenario I | Scenario J |
| Population Change | -4,476 | +17,684 | +12,608 | +19,573 | +25,501 | +43,402 | +20,780 | -6,979 | +40,653 | +42,840 |
| of which natural change | -6,001 | -2,074 | -2,974 | -2,202 | -1,224 | +2,056 | -1,946 | -6,979 | +2,153 | +2,396 |
| of which net migration | +1,525 | +19,758 | +15,583 | +21,775 | +26,724 | +41,345 | +22,726 | 0 | +38,500 | +40,444 |
| Dwelling Change | +3,000 | +12,342 | +10,199 | +13,094 | +15,593 | +23,334 | +13,585 | +1,591 | +22,791 | +22,978 |
| Dwellings per annum | +150 | +617 | +510 | +655 | +780 | +1,167 | +679 | +80 | +1,140 | +1,149 |
| Labour Force | -10,690 | +1,014 | -1,668 | +2,153 | +5,305 | +14,759 | +2,754 | -13,219 | +14,030 | +14,304 |
| Jobs | -8,478 | +2,523 | +2 | +3,593 | +6,556 | +4,283 | +4,159 | -10,855 | +14,756 | +15,014 |
| Jobs per annum | -424 | +126 | 0 | +180 | +328 | +214 | +208 | -543 | +738 | +751 |
| Land Requirements for dwellings (in ha) | 86 | 353 | 291 | 374 | 446 | 667 | 388 | 46 | 629 | 657 |
| Employment Land for offices | 6.8 | 9.3 | 8.7 | 10.9 | 16.5 | 9.5 | 9.6 | 6.3 | 12.1 | 12.2 |
| Employment Land for industrial | -20.9 | 14 | -4.4 | -0.9 | -0.9 | 1.7 | 17.2 | -25.6 | 40 | 40.5 |

Source: Adapted from Canterbury City Council (2011) Canterbury Development Requirements Study

1.3 Purpose of this Technical Note

The purpose of this Technical Note is to highlight the high level sustainability issues of each of the ten development scenarios (and described in Section 1.2). It is anticipated that this information will then help inform and guide decision makers so that the most appropriate scenario or combination of scenarios may be progressed, influencing and leading to more sustainable and suitable development for the District's future.

This report is structured as follows:

Section 1: Introduction. This section provides a background to the SA process and requirements for SA. It also sets out the development scenarios.

Section 2: Approach to Sustainability Appraisal. This section sets out the SA objectives and the appraisal criteria used to assess the development options.

Section 3: Appraisal of Effects. This section identifies the assessment of the effects of the various scenarios.

Section 4: Conclusions and Recommendations. This section provides the conclusions of the appraisal and highlights the next steps.

2. Approach to Sustainability Appraisal

2.1 Overview

This section outlines the methodology used to appraise the development scenarios presented in Section 1.2 and sets out the objectives against which the scenarios have been assessed.

The SA considers both the positive and negative effects of the different development scenarios in a holistic manner at a strategic level. The SA objectives used for this appraisal are consistent with those developed to appraise other Canterbury City Council documents and were consulted upon in the 2010 Scoping Report⁵.

As identified in the Scoping Report (2010), the key sustainability issues within the District are;

- A. Climate Factors;
- B. Biodiversity, Landscape and Geographic Diversity;
- C. Waste;
- D. Water Quality and Resources;
- E. Air Quality;
- F. Historic Environment;
- G. Housing;
- H. Employment and the Economy;
- I. Transport;
- J. Skill and Education;
- K. Quality of Life;
- L. Energy and Renewable Energy; and
- M. Sustainable Tourism.

The baseline against which this appraisal has been undertaken has been updated to reflect changes since the 2010 Scoping Report was completed. **Table 2.1** presents this updated baseline against which the SA has been undertaken.

⁵ Canterbury City Council (2010) *Sustainability Appraisal of the Canterbury Local Development Framework*

Table 2.1 Key Sustainability Issue for Canterbury

Key Sustainability Issues for Canterbury

A. Climate Factors.

Climate change is likely to lead to greater unpredictability in weather with increased incidents of storms, a long term gradual increase in average temperatures, rising sea levels and increased risk of flooding. The UKCP09 climate projections suggest that by 2080 under the medium emissions scenario, the South East of England will have an estimated increase in winter mean temperature of 3C and an increase in summer temperature of 3.9 C. In the same area, winter precipitation is forecast to increase by 22% while summer precipitation is estimated to drop by 22%. Under medium emissions the projections predict a sea level rise of 36.9 cm at the 50th percentile; however the extreme predictions is a sea level increase of 75.8cm.

Climate change poses a threat both in terms of flooding and drought to Canterbury. This is particularly true for coastal flooding as Canterbury District has approximately 20 km of coastline, stretching from Reculver in the east to Graveney Marshes in the west. This section of coastline includes the settlements of Herne Bay and Whitstable.

Much of the coastal section of the Canterbury district is protected by flood defences which reduce the risk of flooding. The approved Shoreline Management Plan for the Isle of Grain to South Foreland proposes that the existing flood defences are maintained (by 'holding the line') for both the Whitstable and Herne Bay settlements (www.se-coastalgroup.org.uk). To the east of Herne Bay, the Reculver cliffs are regarded as being an important source of material for shoreline recharge further west. Their geological, environmental and landscape importance also deter shoreline protection structures and subsequently it has been recommended that an approach of 'no active intervention' is adopted (www.se-coastalgroup.org.uk). Between Reculver and Minnis Bay a 'managed realignment' strategy has been recommended for the next 20-50 years (www.se-coastalgroup.org.uk). For the Seasalter section of coast it is proposed that in the short term a policy of 'hold the line' is maintained with 'managed realignment' implemented in the medium to long term. This would result in some loss of assets but would result in a section of coast which would no longer require ever increasing expenditure and would also provide new brackish habitat.

In addition to the potential increase in coastal flooding as a result of climate change there are also inland sections of the district which are at risk of flooding particularly areas around the River Stour, including the section which runs through Canterbury itself. The Environment Agency largely classifies these areas as being at a moderate risk of flooding (www.environment-agency.gov.uk/maps/info/floodmaps). Historic flood events such as in 1953 resulted in flooding of the Wantsum Channel, to the east of Reculver which almost turned Thanet into an island again (<http://www.canterbury.gov.uk/buildpage.php?id=148>). These climate change effects have already been demonstrated in the Canterbury District, most notably the drought conditions in 2005-06.

Potentially, large numbers of new housing could be proposed for Canterbury, Kent and the South East, and if brought forward, careful planning and design will be required to ensure that climate change effects are fully considered (<http://www.southeast-ra.gov.uk>).

Government has set targets to reduce national CO₂ emissions by at least 80% by 2050 and at least 26% by 2020, against a 1990 baseline (http://www.decc.gov.uk/en/content/cms/legislation/cc_act_08/cc_act_08.aspx). By 2030 Kent's has the target to reduce greenhouse gas emissions to 60% below 1990 levels. (<http://www.kent.gov.uk>). In 2009, Canterbury District emitted 832,000 tonnes of CO₂, giving a per capita release of 5.6 tonnes which is considerably lower than the tonnes per capita emissions from Kent County and the UK as a whole (in both cases this is 7.4 tonnes of CO₂ per capita). (<http://www.decc.gov.uk>) Methane and nitrous oxides are other greenhouse gases which should also be reduced.

Climate change is anticipated to increase the magnitude and frequency of storms and is likely to have serious economic consequences. Damages to crops are likely to increase food costs and reduce income to farmers; insurance premiums may also rise as a result of an increase in claims on building and property damages (www.hm-treasury.gov.uk). Water resources in the area are also likely to be placed under stress as overall rainfall in the region decreases which may lead to higher economic costs and the risk of shortages of drinking water as well as damaging the ecological systems of reservoirs and rivers (www.environment-agency.gov.uk).

Issue Summary: The urgent need to address the causes of climate change to reduce the current and future threat to Canterbury District's population, wildlife, natural resources, archaeological and cultural heritage and material assets (including flood risk).

This links with Objective 7 (Climate Change, Energy and Air Quality) and Objective 8 (Flood Risk and Coastal Erosion).

Key Sustainability Issues for Canterbury

B. Biodiversity and Geology.

Canterbury District has a rich array of biodiversity resources. The district can be roughly split into four natural areas. These regions include:

- The coastal region, roughly 20km of coastline, the biodiversity value of much of this is recognised by international and national designations;
- The Blean sits to the south of the coastal region and comprises the ancient Blean Forest complex, the region is important for the diverse woodland species which this area supports. Much of the Blean area is designated at both national and international levels.
- The floodplain of the River Stour is associated with important wetland habitats either side of Canterbury. Stodmarsh is an important wetland habitat to the north east of Canterbury which is protected through national and international designations.
- The Downs lie to the south of Canterbury (some of the southern parts of the Canterbury district lie within this area, this area is an Area of Outstanding Natural Beauty (AONB) characterised by rolling countryside with chalk grasslands and areas of ancient woodland.

Within the district there are three Ramsar sites (Thanet Coasts and Sandwich Bay, The Swale and Stodmarsh), all of which are also Special Protection Areas (S PA). There are also two Special Areas for Conservation (SAC) (Blean Complex and Stodmarsh). There are two National Nature Reserves (Blean Woods and Stodmarsh). There are fifteen Sites of Special Scientific Interest (SSSI) There are also a number of regional and local wildlife reserves within the district (www.magic.gov.uk). There are 10 Local Nature Reserves (LNR) within the District which amounts to over 200 hectares of protected countryside as well as 49 Local Wildlife Sites which are considered to be of County importance for nature conservation.

Kent is home to 28 UK Biodiversity Action Plan (BAP) priority habitats. 85 species have been made priority species in Kent, the Kent and Medway Biological Records Centre shows that 35 of these Kent priority species have been recorded in the Canterbury district.

Canterbury District has a wealth of natural landscape features which provide a valuable resource in the form of 'Green Infrastructure', this network helps to maintain landscape and habitat connectivity.

There are several Regionally Important Geological Site (RIGS); Chislet Colliery has three 'tip' sites; Long Rock at Tankerton, Brambeling Quarry, Coopers Pit at Canterbury and Chartham Hatch Pit within the district (<http://extranet7.kent.gov.uk/klis/home.htm>).

Issue Summary: The need to conserve, enhance and maintain biodiversity, landscape character and protect sites important for their geological resource across the District. In particular, the need to enhance Canterbury District's environment as the green heart of East Kent, taking the lead on environmental protection and enhancement.

This links with Objective 5 (Countryside and Historic Environment) and Objective 6 (Geology and Biodiversity).

C. Waste.

The generation and processing of waste is one of the biggest challenges faced in Britain today, as a nation we are running out of landfill space. This is a significant issue in the South East region where a growing amount of waste is produced, especially in light of population trends, proposals for new housing and a decrease in average household occupancy rates.

Domestic waste for landfill is collected fortnightly throughout Canterbury district. There are a total of 63 recycling sites across Canterbury district. Of these 27 are in Canterbury, 16 in Whitstable, 8 in Herne Bay with the remaining 12 in the villages around the district. In addition the council collects domestic waste to take to recycle with residents able to recycle paper and cardboard, plastic bottles, cans, aluminium foil and garden waste. There are also local facilities for recycling other household waste; Kent County Council operates two household waste recycling centres within Canterbury district; the Canterbury Recycling Centre and the Herne Bay Household Waste Recycling Centre. Canterbury aims to provide kerbside collection of food and glass waste in 2013. Canterbury district also deals with fly tipping, beach arising and flood damage clearances. Kent have recently completed the construction of a major energy from waste facility at Alington Quarry, which will help to reduce Kent's dependency on landfill and help prevent emissions of landfill gases which is a potent greenhouse gas.

In 2009/10 Canterbury produced 61,726 tonnes of municipal waste and 55,834 of household waste. Over the same period, residents produced 479kg of household waste per household, 45.3% of which was recycled, reused or composted, which compares favourably to the Kent average of 672kg of household waste per household and a recycling rate of 38.4%. (<http://www.defra.gov.uk/statistics/environment/waste/wrfq23-wrmsannual/>).

Waste from the construction and demolition industry makes up the largest element of waste generated in Kent by far (in 2008, 55% of all waste generated in Kent came from this sector) (<http://www.kent.gov.uk>). The South East plan recognises the significant amount of waste generated by construction and seeks to continue to reduce waste generated by construction and demolition waste through the adoption of Policy W2.

The net spend on waste by CCC in 2009/10 was £2,779,000. (Canterbury City Council Budget Information 2009/10).

Issue Summary: The need for an integrated sustainable approach to managing waste from reduction through to re-use, recycling and reprocessing. The need to continue to increase the amount of domestic, commercial and industrial materials recycled or reused. The need to reduce the volume of construction, demolition and excavation wastes produced. .

This links with Objective 15 (Natural Resources) and Objective 16 (Waste).

Key Sustainability Issues for Canterbury

D. Water Quality and Resources.

A changing climate and changing pressures on water resources in the south east of England mean that there is an ever increasing need to manage and protect water resources. This is true not only of drinking water, but also of ground, river and coastal waters and their use for industrial abstraction, recreation, to generate energy, to run machinery, to carry wastes, enhance the landscape and provide habitat and resources for wildlife.

There are four recognised beaches within Canterbury district. West Beach (Whitstable), Tankerton, Herne Bay Central and Herne Bay. Of these four beaches all but Herne Bay were rated as 'excellent' (Guideline) for 2011 while Herne Bay West was 'good' (Mandatory) in 2011 (<http://www.canterbury.gov.uk/main.cfm?objectid=7235>). Over the last few years West Beach (in Whitstable) has been excellent for four out of the five previous years, Tankerton (by Swalecliffe) has been excellent for the past two years, Herne Bay Central and Herne Bay have both been excellent two out of the past five years (www.environment-agency.gov.uk).

Canterbury district is covered by two Catchment Abstraction Management Strategies (CAMS). These are the North Kent and Swale CAMS area and the Stour CAMS (<http://www.environment-agency.gov.uk/research/planning/33444.aspx>).

The North Kent and Swale CAMS area extends along the North Kent Coast between Gillingham in the west and Herne Bay in the east. The CAMS area includes the Isle of Sheppey and is bounded to the south by the scarp ridge of the North Downs. Many of the streams in the area depend on groundwater levels. This is one of the most intensively licensed areas for water abstraction and it is one of the driest areas in the UK with 665mm per year (Environment Agency (2004) North Kent and Swale Catchment Abstraction Management Strategy). Groundwater quality is regarded as good within this catchment area (Environment Agency (2004) North Kent and Swale Catchment Abstraction Management Strategy).

The Great Stour is a watercourse originating above Ashford; flowing through Canterbury before entering the sea at Pegwell Bay (35 km of the Stour from the sea is tidal). The Stour CAMS area covers much of inland Canterbury district. The Stour is fed by aquifers so changes in groundwater level affect the flow rates. This has been demonstrated in recent years where extreme low flow and flood events have been recorded. Water abstraction within the CAMS area is predominantly for public water supply (licensed to take 84%) with agricultural licences accounting for 10% of the annual abstractions (Environment Agency (2003) The Stour Catchment Abstraction Management Strategy). The surface water quality of the Great Stour river is generally 'good' with only two or three stretches where the quality is 'fair' (Environment Agency (2003) The Stour Catchment Abstraction Management Strategy).

For the Southern Water region, 68% of the population is dependent on groundwater for its drinking water supplies, which makes the area vulnerable to the effects of drought or changes in rainfall patterns. In 2004-2006, the second worst period of drought since records began, the drought led to a severe depletion in ground water reserves which only recovered following higher than average rainfall in the spring of 2007. The pressures on water resources are set to increase through additional demands from population growth and new housing, for example, the proposed growth of Ashford represents a 20% increase in the domestic population that South East Water serves - in an area where water resources are already under pressure. Greater water efficiency, especially within existing and future housing stock, is essential for the sustainable management of water resources (for example grey water recycling systems, 6/4L Dual Flush WCs, aerating taps and maximum capacity volume white goods etc). The Government's Code for Sustainable Homes (DCLG 2006) suggest that to improve the sustainability of buildings to a 'Level 3' standard, measures should be adopted to use no more than 105 litres of water per person per day. The population of the South East is projected to grow by up to 13% over the next 25 years which could result in an increased water demand of 49 million litres a day. (www.southernwater.co.uk).

Water quality may be affected by point and diffuse pollution. In line with the Water Framework Directive, development of brownfield sites should ensure that impacts from diffuse pollution from historical contamination are fully addressed leading to improvements in water quality.

Issue Summary: The need to manage and protect water resources in response to climate change, population growth and lifestyle choices - which are all placing increasing demands on Canterbury District's water supplies.

This links with Objective 3 (Water Quality).

E. Air Quality.

There is one Air Quality management Area (AQMA) within Canterbury District known as AQMA2 - Canterbury City Centre. This was declared in November 2011 and is mainly in respect of exceedences of the annual mean nitrogen dioxide (NO₂) air quality objective (AQO) of 40 µg/m³ due to pollution from traffic. Two small areas within AQMA 2 have also been declared for exceedence of the short term (hourly) objective for NO₂. AQMA 2 covers the main road around Canterbury city centre and various roads feeding into it including parts of the A28, A2050 and A290. The earlier AQMA (AQMA1 Broad Street/Military Road) declared in 2006 is incorporated within AQMA 2. AQMA 1 has therefore been revoked.

An Air Quality Action Plan was drawn up for AQMA 1 and adopted in 2010. This Action Plan includes a number of measures targeted at achieving compliance with the air quality objectives. This Action Plan already contains a number of actions targeted at a wider area and applicable to AQMA 2. The Action Plan will be revised to cover the new AQMA and this may include new or revised Action Plan measures.

The 2009 Update and Screening Assessment (USA) and the Annual Progress Report 2011 concluded that the council will meet objectives on all pollutants except for nitrogen dioxide. The other pollutants required to be assessed are benzene, 1-3, Butadiene, carbon monoxide, lead, particles (PM₁₀) and sulphur dioxide.

Issue summary: The primary source of air pollution in the District is from road traffic, especially on the roads around and into the City. This may be a concern for health and for the conservation and preservation of buildings and there is a need to address this.

This links with Objective 4 (Transport) and Objective 7 (Climate Change, Energy and Air Quality).

Key Sustainability Issues for Canterbury

F. Historic Environment.

The Cathedral, St Augustine's Abbey and St Martin's Church are important milestones in the religious history of England were inscribed by UNESCO as a World Heritage site in 1988 (full details of the justification are available at: <http://whc.unesco.org/en/list/496>). The world heritage site is one of only 28 sites in the UK

In 2011, there were 2,896 statutory listed buildings, 798 locally important buildings, 94 conservation areas, 53 Scheduled Ancient Monuments and 2 historic parks or gardens in the Canterbury district. There are 19 heritage assets at risk in the Canterbury district on the City Council's 2010 Heritage at Risk Register. Of these, two from a total of 185, (1.08%), are grade 1, or grade II* listed buildings. There are 5 scheduled monuments at risk from a total of 53 (9.4%). (<http://www.canterbury.gov.uk/main.cfm?objectid=1595>). In addition, there are a further 32 gardens on the Kent Gardens Trust/Kent County Council compendium.

The historic environment needs to be preserved and enhanced since the quality and character of the environment is of prime importance to residents and tourists will also play an important role in attracting new investment. The issue of how to balance the protection of the historic environment with the needs for growth is of particular importance to the district. Recognising this English Heritage, the Canterbury Archaeological Trust and Canterbury City Council have produced an Urban Archaeological Database which is used to assess archaeological potential and importance of proposed development sites in the city.

In 2009/10, the net expenditure of Council spending on culture and heritage was £2,297,000. (Canterbury City Council Budget Information 2009/2010, <http://www.canterbury.gov.uk/main.cfm?objectid=6317>).

Issue summary: Canterbury District has an exceptionally rich urban and rural heritage. However, the quality of the historic environment is coming under increasing pressure from competing land uses. Canterbury is rich in archaeology, heritage and conservation interests, the Cathedral being one Britain's 28 Unesco World Heritage Sites.

This links with Objective 5 (Countryside and Historic Environment).

G. Housing

Canterbury had a population of 149,100 in 2009 (East Kent SHLAA 2009) with 64,070 dwellings (Housing Strategic Statistical Appendix) in April 2010 (ONS mid-year estimates). The population of Canterbury has a higher than average proportion of the population of university age and over 60. The most recent housing market assessment found that 73% of dwellings were owner occupied with 15% privately rented, 8% council rented and 3.5% owned by housing associations (East Kent SHMA 2009). 15,725 private sector properties do not meet the Decent Homes Standard, 27% of private dwellings. Putting this right will cost £60.4 million. 9,950 'non-decent' homes have at least one category 1 hazard under the Housing Health and Safety Rating System (HHSRS) and require immediate intervention (Private Sector Stock Condition Survey 2011). Most category 1 failures are for excess cold. Most of these homes were built before 1944 and 66% are owner occupied (Private Sector Stock Condition Survey 2011). The council currently owns and manages 5,208 homes for older people across the district (as at April 2010).

The revised housing figures in the South East Plan will require an annual average house provision of 510, the latest construction figures were 638 houses in 2006/07, 1,284 in 2007/08, 965 in 2008/09 and 305 in 2009/10. However, the latest two years figures include readjustments made for undercounting in previous years. The average completion figure since the South East Plan (for the years 06/07 to 09/10) is 798 units (Canterbury City Council 2009) and is within the annual average required by the South East Plan. The current economic climate which has seen a dramatic slow down in house building since 2008/09. (<https://shareweb.kent.gov.uk/Documents/facts-and-figures/Housing/can-hia2010.pdf>).

Registered Social Landlord (RSL) housing provides the majority of new build affordable housing in the district. 16 RSLs own 2,156 homes. 690 new RSL homes have been built between 2005/6 and 2010/11, an average of 115 per year.

In September 2011 the average house price in the district was £230,000, compared to £223,000 in 2007 (although the small number of transactions may distort this figure) (Hometrack 2011 and East Kent SHMA 2009). Property prices are on average £33,000 higher than neighbouring districts. Inflationary pressures on local property include:

- The city's role as an economic centre.
- The demand by landlords for student lets.
- The popularity of Whitstable for second homes and retirement.
- The 'Canterbury Standard', Code for Sustainable Homes Level 4
- The High Speed 1 rail service may attract commuters from London.

Prices vary within the district, Canterbury city, Whitstable and rural areas are the most expensive. Lowest prices are in Herne Bay. A home in the cheapest 25% of properties costs nine times lower quartile earnings. The cost of buying an average 2-bedroom home is £169 per week (assuming and 85% mortgage at 3.45% interest). SHMA guidance recommends that for a market property to be affordable, it should cost no more than 3.5 times the gross household income for a single earner household or 2.9 times the gross household income for a dual-income household. Local house price-to-earnings ratios show that single earner households and people on low incomes cannot afford to buy a home. 52% of first time buyers are priced out of the market (Hometrack 2011 and East Kent SHMA 2009).

The requirements for housing growth will have positive and negative implications for the District, as they will provide new homes for the growing population, but could put pressure on environmental assets (such as greenfield sites), and water resources.

The huge number of young people reflects the city's position as a centre of education. This has many positive effects: jobs, prosperity and a vibrant cultural life. However, there are downsides, with concentrations of students affecting communities and distorting housing market.

Issue summary: The need to meet local and regional housing targets will require that new development comes forward on previously developed land (PDL) and, given the small amounts of PDL available, also on green field land. Meeting housing needs whilst also minimising

Key Sustainability Issues for Canterbury

the impact of development on the districts sensitive environmental receptors is one of the key issues for Canterbury City Council. There is also the need to maximise the supply of appropriate, well designed, located and affordable housing (in all tenures) to meet the needs of the District. Many family-sized homes are shared student houses (CCC Council Tax records). Competition for accommodation from students contributes to high housing costs. Economic vitality masks deprivation and low incomes. Combined, these factors make it difficult for many local people, particularly families with children, to find suitable homes that they can afford to rent or buy. Increasing the amount of purpose built student accommodation is vital to reduce the pressures on the housing market and release family sized homes for occupation by families (CCC Student Scrutiny Review 2006).

This links with Objective 9 (Access to Services), Objective 11 (High Quality Design and Sustainability) Objective 12 (Housing), Objective 14 (Use of Land)

H. Employment and Economy.

Between April 2010 and March 2011, 73.9% of people of working age within Canterbury district were economically active (some 76,300 people). This compares with a South East average of 79.3% and a national average of 76.2%. The corresponding unemployment rates for the same period were 6.8% for Canterbury, comparing to a South East average of 5.8% and national average of 7.6%. (<http://www.nomisweb.co.uk>)

The service sector continues to be the largest employer in Canterbury (88%) with public sector and tourism related employers contributing the greatest proportion of jobs (40.3% and 8.9% respectively). Due to the tourism dependent nature of much of the service sector employment in Canterbury, there is a high proportion of the population (37.6%) employed on a part-time basis.

[In](#) 2011 median gross weekly earnings for employees in Canterbury District was almost £361.00, which is lower than average county, regional and national levels (£382.10, £422.00 and £405.70 respectively) (ASHE, 2011). This can largely be attributed to higher than average levels of employees earning under £250 per week. This is arguably a reflection of the comparatively high concentration of local employment in the District's retail, education and health sectors where employment is frequently characterised by low earnings. Investments in finance, IT and other business activities would help address this balance and potential opportunities exist within the Higher Educational establishments in the area.

According to the indices of deprivation from 2010 (<http://www.communities.gov.uk/publications/corporate/statistics/indices2010>). Canterbury is ranked as the seventh out of twelve local authorities (in Kent (these figures exclude the Medway)) in terms of deprivation (where one is the most deprived); Canterbury is ranked at the 163rd most deprived Local Authority in England. Of the Local Authorities surrounding Canterbury Thanet (1 in Kent), Swale (2), Shepway (3), and Dover (5) are all more deprived with only Ashford (8) less deprived. The economic performance of Canterbury is below the England and Wales average and notably below the South East. Canterbury is (ranked out of 100 where 1 is the worst) 39th for median full time earnings, 49th for gross value added per head (£), and 50th for the stock of VAT registered businesses (Canterbury City Council (2008) medium term financial strategy 2008-2012).

Five of Canterbury districts Super Output Areas (SOA's) (which measure deprivation within individual wards) are within the 20% of most deprived SOA's in England. These are Gorrell, Seasalter, Wincheap, Westgate and Heron wards (Canterbury City Council (2008) medium term financial strategy 2008-2012).

Issues summary: Canterbury is one of the largest economies in Kent and has relatively low levels of claimant unemployment. However, there is a need to broaden the local economy and to increase the knowledge based industry by drawing on links with the Higher Education Institutions and reducing reliance on tourism and retail.

This links with Objective 1 (Economy and Employment), and Objective 2 (Rural/Coastal Communities)

I. Transport

At the time of the last census in 2001 24% of households in the District did not have a car or van. This compares with the national average of 27%. 31% of households have access to two or more cars or vans. This compares with a national average of 29%. (Source: Office of National Statistics, April 2001).

There is a large net inflow of commuters into the area as well as an influx of secondary school children and students in higher education. Around 160,000 vehicles per day travel to and from Canterbury along the nine "A" and "B" roads that converge on the city. Although the city is bypassed to the south-west by the A2, the highway network is under acute pressure and as a result, Canterbury suffers from significant peak hour congestion and poor air quality, especially on the inner ring road and inner radial routes and this is despite 1 million passengers using the Park and Ride every year since in 2003. The key transport issues for Canterbury are:

- Congestion hot spots particularly along the A28 and the ring-road
- Increase the frequency, speed and reliability of public transport services and improve integration
- Linking transport investment with development plan priorities and strategic development allocations at the City of Canterbury
- Reduce the impact of traffic on the historic environment and air quality in the city

The Canterbury District Transport Action Plan (Unlocking the Gridlock) is currently being reviewed. However the transport strategy to tackle congestion and improve will be based around 4 key strands :

- Improving Travel Choice
- Car Parking Strategy
- Highway Infrastructure Solutions
- Reducing the Need to Travel

Total parking provision is 6059 (Source: Unlocking the Gridlock: Canterbury District Transport Action Plan 2004). The Peak Weekend Demand is 4258 and Total Off-Street Parking Provision is 4258 (Canterbury District Council, 2005).

Key Sustainability Issues for Canterbury

Canterbury District has 3 Park and Ride sites, 28 School Travel Plans and 20 Walking Buses. The number of trips on Park and Ride [year ending 2011] is 902,300 trips. (Source: Canterbury City Council Transport Department). According to the Canterbury City Council, there are 43 bus routes, 9 train stations, 3 train lines and 32 cycleways. The length of the cycle routes measure about 67 km long (Source: Canterbury City Council Transport Department).

The Local Transport Plan for Kent (2011-16) has highlighted access improvements to all three A2 junctions at Canterbury. The construction of the A2 London bound on-slip road at Wincheap was completed in August 2011.

Significant increases have been made in bus patronage – an extra 2 million passengers boarded buses in the centre of Canterbury in 2011 compared to 2004 (Source Stagecoach)

The commencement of High Speed Services at Canterbury West Station has increased rail usage at that station - Passenger numbers (per rolling 365 day period) have increased from 176,000 (November 2009) to over 350,000 (November 2011) (Source Southeastern). High Speed One services now stop at the Canterbury West Railway station cutting the journey times to London from approximately 90-56 minutes.

The Council is considering a number of proposals, including increasing Park and Ride Capacity – in particular to provide a site to accommodate the A2 north-western approach, provision of A2 slip roads at Wincheap and Harbledown to reduce city centre congestion, a relief road through Wincheap and a suitable junction with the A28, development of Urban Traffic Management and Control (UTMC) to maximise use of the existing road network, New junction near the a2 at Bridge, bus lanes and priority measures, extend and improve cycling and walking routes, and improvements at Canterbury West railway station (Canterbury City Council)

Issues summary: There is the need to encourage investment in transport infrastructure, to increase transport choice and reduce congestion. There is also the need to improve rural bus services.

J. Skills and Education.

Canterbury district is an important focus for higher and further education with a number of colleges. Canterbury Christ Church University is a modern university with its main campus based in Canterbury but with campuses throughout Kent (<http://www.canterbury.ac.uk>), in addition the University of Kent and the University of Creative Arts both have campuses in Canterbury.

Education and schooling within Canterbury is managed by Kent County Council. There are 37 primary schools within Canterbury District, seventeen secondary schools, two pupil referral units and two special schools (www.kent.gov.uk).

In 2010, within Canterbury District 26.6% of the population have NVQ level 4 or above. This is lower than for the South East (33.9%) and Great Britain as a whole (31.3%). The percentage of the population with no qualifications at all is 7.2% of the working age population which is lower than as the South East (8.5%) and Great Britain as a whole (11.3%) (www.nomisweb.co.uk). The Secondary Strategic Planning document 2007-2017 suggests that 5,665 secondary places for years 7-11 will be required by 2012 and 5,078 places by 2017, allowing for 5% surplus capacity within secondary schools over the district as a whole. These figures suggest a need to remove 275 secondary places for years 7-11 by 2012 and 862 places by 2017 (www.kenttrustweb.org.uk). Canterbury is a net importer of secondary students (from neighbouring districts). There is a disparity in subscription throughout the district with some schools such as Herne Bay high school over subscribed and others currently undersubscribed. Approximately 700 pupils attend grammar schools in Faversham, Canterbury and Thanet. Whitstable Community College expanded to seven forms of entry in 2006 and is expected to fill to capacity in the next five to ten years (www.kenttrustweb.org.uk).

Canterbury district's Riverside centre is the district's Sure Start centre which aims to promote the physical, intellectual and social development of young children under five. Children's centres such as the Riverside Centre in Canterbury are important community hubs for both young children and their parents.

Issues summary: The level of economic and social polarisation within the area has had an impact on educational achievement in some areas. The District is, however, an important focus for higher and further education and there is a need to strengthen the links between secondary and further education.

This links with Objective 1 (Economy and Employment) and Objective 9 (Access to Services).

K. Quality of Life.

Between 2007 and 2009 life expectancy for females in Canterbury district at birth was 82.4 years, less than for the South East (83.3) marginally higher than England as a whole (82.3). For the same period males life expectancy at birth was 78.5 years which was also marginally lower than the South East (79.4) and higher than England (78.4) (<http://www.neighbourhood.statistics.gov.uk>).

The 2001 census data reports that of the 135,278 people in Canterbury 67.5% described themselves as being in good health, 23.5% in fairly good health and 9% in not good health (source: www.neighbourhood.statistics.gov.uk).

Under 18 conceptions in Canterbury district for 2007 were lower, at 31.5 per 1,000, than the South East (32.9 per 1,000) and England (41.7 per 1,000) (source: www.neighbourhood.statistics.gov.uk).

While the District of Canterbury is relatively wealthy overall, compared to East Kent and other areas of the country, it does have areas of deprivation which score significantly worse than the average on factors such as income, employment, health, and education and housing. Four wards in particular are within top 10% most disadvantaged wards in Kent. These wards are Heron (Herne Bay), Northgate (Canterbury), St Stephens (Canterbury) and Seasalter (West of Whitstable) (Canterbury Community Safety Partnership Plan 2010 -2013).

The new Canterbury Community Strategy Partnership Plan 2011 – 2014) refers to the Canterbury City Council Residents Survey 2010 and states that community safety issues are of high priority to local residents. When asked what makes somewhere a good place to live, the largest response, 567 people, 56.24%, said the level of crime and anti-social behaviour.

For 2010/11, the number of notifiable offences in Canterbury recorded by the police for violence against a person was 1,572. For robbery offences and theft of a motor vehicle, the number recorded was 92 and 165 respectively. (<http://www.neighbourhood.statistics.gov.uk>)

Key Sustainability Issues for Canterbury

Canterbury district is covered by the Eastern and Coastal Kent Primary Care Trust which includes St Martins Hospital and Kent and Canterbury Hospitals. Both of these Hospitals are in Canterbury with neither providing Accident and Emergency services. The closest A&E services are in Margate and Ashford (source: www.nhs.uk). There are no walk-in centres within the district with the closest centre in Ashford. There is a newly opened minor injury unit at Estuary View Medical Centre in Seasalter, Whitstable.

The Eastern and Coastal Kent PCT was formed in 2006 and has a budget of over £1bn and serves 710,000 people across Ashford, Canterbury, Dover, Shepway and Thanet districts. The PCT has a vision to be a national exemplar achieving excellence, best practice and demonstrating commitment to equality and diversity. Canterbury district run a children and youth services team which works with children aged five to 18 with the aim of encouraging personal and social development through positive play. Canterbury Council also run a neighbourhood development team who work to support community groups, particularly those who experience disadvantage or social exclusion to make better places for them to live, work and visit. Over the 2010/2011 period 69% of service delivery was to residents of priority wards, 33 volunteers were recruited from priority areas and there was a 15.4% increase in the number of volunteers registered with volunteer centres. Also within this period 4 new neighbourhood bodies were established (Source; Community Development and Outdoor Leisure performance figures 2010-2011.)

Issues summary: Quality of life for the community in Canterbury District can be positively promoted by improving the quality of the physical environment, social well-being and economic and environmental improvements and by recognising the interconnectivity of the above issues.

This links with Objective 10 (Sustainable Living and Revitalisation) and Objective 13 (Quality of Life).

L. Energy and Renewable Energy.

Canterbury City Council publishes guidelines for households in the district in order to present a clear approach to methods to reduce energy expenditure and also to promote microgeneration throughout the district. There is a need to promote sustainable forms of energy, reduce overall energy consumption and become more energy efficient. Offshore wind power on the Kentish Flats (approximately 8.8km from Herne Bay) has been supplying energy to the national grid since December 2005. The 30 turbines can produce 3MW each with a total capacity of 90MW which is enough to power 100,000 homes when operating at capacity (source: www.kentishflats.co.uk).

In 2009, Canterbury consumed 585.1 GWh of electricity and an average domestic consumption of 4,227 KWh compared to an average domestic consumption within the South East of 4,725 KWh.

(http://www.decc.gov.uk/en/content/cms/statistics/energy_stats/regional/regional.aspx).

Issues summary: The need to promote sustainable forms of energy, reduce overall energy consumption and become more energy efficient.

This links with Objective 7 (Climate Change, Energy and Air Quality) and Objective 15 (Natural Resources).

M. Sustainable Tourism.

Canterbury district comprises a wide and diverse range of tourist activities from sight seeing around historic Canterbury to kite surfing on the coast. Canterbury offers a diverse range of activities for tourists and boasts Kent's most visited tourist attraction. Canterbury boasts a rich heritage stretching back to prehistoric times. Visitors have been a feature of Canterbury since the murder of Thomas Beckett in 1170. The pilgrims which visited Canterbury inspired Chaucer's Canterbury Tales.

In 2010 the total value of tourism activity in Canterbury was estimated to have been around £459,191,000, up 2% compared to 2009. This equated to around 6,653 Full-Time Equivalent Jobs and 8,189 Actual Jobs (separated by all seasonal and part-time employment). These jobs are sustained in a wide number of service sectors including retail, catering, travel and hospitality and thus beyond tourism businesses (Tourism South East, 2011). The emerging city council Visitor Economy Policy (2011-2016) signals a desire to generate more overnight and longer stay trips to the district. There is also a need to encourage more visitors to enjoy the numerous attractions offered across the district which include coastline, countryside, internationally recognised sites for wildlife and heritage.

Issues summary: Tourism represents an important sector to the Canterbury District and the City in particular. There is the need to promote responsible tourism which is both ecologically and culturally sensitive, and that benefits the entire district.

This links with Objective 1 (Economy and Employment)

2.2 Sustainability Objectives and Appraisal Criteria

The sixteen sustainability objectives and guide questions have been grouped under four main sustainability themes, reflecting the four aims of the 2005 UK Sustainable Development Strategy 'Securing the Future' which focus on the economy, the environment, society and resource use. They have been presented in **Table 2.2**.

Table 2.2 Sustainability Objectives and Detailed Criteria

| SA Objective | Key questions/guidance | SEA Dir. Topic |
|--|--|--|
| Sustainable innovative and productive economy that delivers high levels of employment | | |
| 1. Economy and Employment To achieve a strong and stable economy which offers rewarding and well located employment opportunities to everyone. | 1.1 Will it improve efficiency, competitiveness, vitality and adaptability of the local economy? 1.2 Will it encourage investment in businesses, people and infrastructure for the long term? 1.3 Will it increase the number of businesses in the District? 1.4 Will it help diversify the economy? 1.5 Will it lead to an increase in the local skill base through recruitment from Canterbury's Higher education establishments? 1.6 Will it help to foster growth in the knowledge based economy? 1.7 Will it promote sustainable tourism? 1.8 Will it meet the employment needs of local people? 1.9 Will it improve physical access to jobs through improved location of sites and proximity to transport links? | Material assets |
| 2. Rural/Coastal Communities To sustain vibrant rural and coastal communities. | 2.1 Will it assist with the diversification of the rural/coastal economy? 2.2 Will it support and encourage the growth of rural/coastal businesses? 2.3 Will it retain village/coastal services and local trading schemes? 2.4 Will it assist in the provision of affordable houses in rural/coastal areas? | N/A |
| Protect and enhance the physical and natural environment | | |
| 3. Water Quality To protect and improve the quality of inland and coastal waters. | 3.1 Will it minimise the adverse effects on ground and/or surface water quality? 3.2 Will it avoid adverse impacts on coastal waters, fisheries and bathing waters? 3.3 Will it protect and improve ground and surface water quality? | Water |
| 4. Transport Reduce road traffic and its impacts, promoting more sustainable modes of transport. | 4.1 Will it reduce travel demand? 4.2 Will it improve transport of goods/people by more sustainable means? 4.3 Will it encourage walking, cycling and use of public transport? 4.4 Will it help to reduce traffic congestion and improve road safety? 4.5 Will it reduce the need to travel? | Air, Climatic factors |
| 5. Countryside and Historic Environment To protect and improve landscapes for both people and wildlife and to protect and maintain vulnerable assets (including built and historic) | 5.1 Will it improve access to the countryside and open space? 5.2 Will it avoid adverse impacts and enhance designated and non-designated landscape features? 5.3 Will it protect and enhance Green Infrastructure throughout the district? 5.4 Will it improve access to urban open space? 5.5 Will it help to protect and enhance sites, areas and features of historic, cultural archaeological and architectural interest? 5.6 Will it help to conserve historic buildings, places and spaces that enhance local distinctiveness, character and appearance through sensitive adaptation and re-use? 5.7 Will it improve and promote access to buildings and landscapes of historic/cultural value? | Landscape, Cultural Heritage Including Architectural and Archaeological Heritage, Soil |
| 6. Geology and Biodiversity To avoid damage to geological sites and improve biodiversity. | 6.1 Will it avoid damage to and enhance species and habitats? 6.2 Will it minimise habitat fragmentation? 6.3 Will it provide opportunities for new habitat creation or restoration and link existing habitats as part of the development process? 6.4 Will it ensure the sustainable management of natural habitats? 6.5 Will it avoid damage to and protect geologically important sites? | Biodiversity, Flora and Fauna |
| 7. Climate Change, Energy and Air Quality To reduce the causes and impacts of climate change, improve air quality and promote energy efficiency. | 7.1 Will it reduce vulnerability to climate change? 7.2 Will it reduce or minimise greenhouse gas emissions? 7.3 Will it maintain and improve local air quality? 7.4 Will it minimise the need for energy? 7.5 Will it increase efficiency in the use of energy? 7.6 Will it help to increase the share of energy generated from renewable sources? | Air, Climatic factors |

| SA Objective | Key questions/guidance | SEA Dir. Topic |
|---|--|---|
| 8. Flood Risk and Coastal Erosion To reduce the risk of flooding and coastal erosion which would be detrimental to the public well-being, the economy and the environment. | 8.1 Will it help to minimise the risk of flooding to existing and new developments/infrastructure? 8.2 Will it help to discourage inappropriate development in areas at risk from flooding and coastal erosion? 8.3 Will it help to manage and reduce the risks associated with coastal erosion? 8.4 Will it reduce vulnerability to flooding and coastal erosion? | Climatic factors, Water |
| Just society that promotes social inclusion, sustainable communities and personal wellbeing | | |
| 9. Access to Services Share access to services and benefits of prosperity fairly and improve wellbeing of everyone. | 9.1 Will it improve social and environmental conditions in the most deprived areas? 9.2 Will it increase economic activity? 9.3 Will it improve access to skills and training for raising employment potential? 9.4 Will it help to provide more equal access to opportunities, services and facilities (e.g. sport, culture, health, education, open space etc.)? | Human health, Population |
| 10. Sustainable Living and Revitalisation To revitalise town and rural centres and to promote sustainable living. | 10.1 Will it improve townscapes/rural centres and physical assets? 10.2 Will it encourage more people to live in town centres? 10.3 Will it improve provision of shops or services within town centre? 10.4 Will it promote responsible tourism which is both ecologically and culturally sensitive? 10.5 Will it improve physical access to services, such as a GP, a hospital, schools, areas of employment and retail centres? | Population, Human health, material assets |
| 11. High Quality Design and Sustainability To encourage sustainable design and practice. | 11.1 Will it use architectural design to enhance the local distinctiveness of development? 11.2 Will it improve the quality of the built environment through high standards of sustainable design and construction of new and existing buildings? 11.3 Will it minimise light and noise pollution? | Material assets, Landscape, Cultural heritage |
| 12. Housing To make suitable housing available and affordable to everyone. | 12.1 Will it encourage more access to affordable housing? 12.2 Will it encourage access to decent housing? 12.3 Will it provide an appropriate mix of housing to meet residents' needs and aspiration and create balanced communities? 12.4 Will it reduce the number of unfit and empty homes? 12.5 Will it reduce the number of empty homes? 12.6 Will it reduce the level of homelessness in the District? | Population, Human health |
| 13. Quality of Life To improve the quality of life for those living and working in the District. | 13.1 Will it reduce actual levels of crime? 13.2 Will it reduce the fear of crime? 13.3 Will it reduce death rates and negative health impacts in key vulnerable groups? 13.4 Will it promote healthy lifestyles? 13.5 Will it improve peoples' perception of their local area being a place where people from different ethnic backgrounds get on well together? 13.6 Will it promote sport and physical activity? | Population, Human health |
| Use resources as efficiently as possible | | |
| 14. Use of Land To deliver more sustainable use of land in more sustainable location patterns. | 14.1 Will it promote the wise use of land (minimise development on greenfield land)? 14.2 Will it reduce the amount of derelict, degraded and underused land? 14.3 Will it reduce land contamination? 14.4 Will it promote the use of previously developed land? 14.5 Will it encourage urban renaissance? | Soil, Material Assets, Landscape |
| 15. Natural Resources To ensure the prudent use of natural resources and the sustainable management of existing resources. | 15.1 Will it minimise the demand for raw materials? 15.2 Will it promote the use of local resources? 15.3 Will it reduce minerals extracted and imported? 15.4 Will it increase efficiency in the use of raw materials and promote recycling? 15.5 Will it minimise the use of water and increase efficiency in water use? 15.6 Will it protect water resources? 15.7 Will it encourage farming practices sensitive to the character of the countryside? | Material Assets, Soil |
| 16. Waste To reduce generation and disposal of waste, and achieve sustainable management of waste. | 16.1 Will it reduce the amount of waste generated? 16.2 Will it encourage the recycling of waste? 16.3 Will it increase the demand for recycled materials? 16.4 Will it ensure the management of wastes consistent with the waste management hierarchy? | Material Assets |

2.3 When the SA was Undertaken and by Whom

This SA was undertaken by AMEC in winter 2011 and revised in spring 2012.

2.4 Uncertainties and Assumptions

2.4.1 Uncertainties

There are a number of uncertainties relating to the high level appraisal of the ten development scenarios proposed by Canterbury City Council, these are as follows:

- The exact composition of the developments are uncertain (and necessitated certain basic assumptions regarding design principles, housing typologies and densities);
- The performance of the economy over the next few years will define the feasibility of a number of scenarios (it has been assumed that current economic slow down will not continue for the duration of the two decades considered in the scenarios and the economy will recover in the medium term to satisfy the predicted levels);
- The exact location of developments is not known; although assumptions have been made on the spatial distribution of homes (see assumptions), it not known exactly where (in the sub-area) development will be, which may affect certain SA objectives (for example, the proximity to designated conservation sites may affect biodiversity).

2.4.2 Assumptions

As described in Canterbury City Council's Development Requirements Study there are a number of assumptions which will form the basis for all modelled scenarios, including:

- A base population (2001-2011) derived from Canterbury dwelling counts built up from the 2001 Census population to 2011;
- Total Fertility Rate trending forward the 2009-10 rate (which was below the trend for Canterbury to be below the national rate) and national projected Standard Mortality Rates (which reflects Canterbury's past trends broadly mirroring national rates);
- Projected age specific profiles of migration from the SNPP;
- Headship rates and populations not in households from the CLG 2008-based headship projections and projections of people that would not fall into a household for Canterbury;
- Dwelling vacancy (2.66%) and second home rate (0.9%);
- Reduction in unemployment rates from existing level 6.8% to 4.6% over period to 2019 (-0.3% per annum) then held constant, reflecting growth out of recession;
- Commuting rate, to estimate the labour force impacts of each scenario, remains static with no inferred increase or decrease in net commuting proportions (PopGroup uses a labour force density assumption

– the LF Ratio – based on the current relationship between indigenous jobs and resident workers). This is based on the Census 2001 and KCC updated travel to work matrix; and

- Economic activity by age cohort taken from KCC projections of future economic activity, which take account of shifting trends in economic activity and changes to pension ages.

In addition to the assumptions made within the Canterbury Development Requirements Study, a number of assumptions were made in the appraisal of the development scenarios. These are as follows:

- The size of land required for housing developments is based on the assumption that there are 35 homes per hectare⁶;
- The number of construction jobs generated from the construction of housing developments is based on the assumption that for each home constructed there will be 1.5 construction FTE generated⁷;
- Scenarios A and H will only be delivered on land which is currently allocated;
- Scenarios B, C, I and J will follow a past trends of spatial delivery with 43.5% delivered in Canterbury, 17.7% in Whitstable, 26.6% in Herne bay, 11.6% in the Rural North and 0.6% in the Rural South;
- Developments under the Economic Led Scenarios (namely Scenarios D-G) will be predominately located within Canterbury City, where service sectors are more prevalent. In these cases housing numbers within rural and coastal areas would match the baseline (i.e. – the same as scenario B) with all additional homes being located within Canterbury. This ranges from 46.8% of development being located in Canterbury under scenario D to 70.1% under scenario F.

⁶ A density similar to that achieved across sites of 5 or more dwellings previously in Canterbury District – KCC Housing Density Report: <https://shareweb.kent.gov.uk/Documents/facts-and-figures/housing-density-report-2008.pdf>

⁷ House Building Federation (2011) National Planning Policy Framework Fact Sheet <http://www.hbf.co.uk/>

3. Appraisal of Effects

3.1 Appraising Sustainability Performance

The ten potential scenarios described in Section 1.2 were appraised against each of the sustainability objectives and guide questions presented in **Table 2.2**. For each scenario, a commentary on the likely effects and a ‘score’ against the objective is provided. A guide to the scoring system used is provided in **Table 3.1**.

Table 3.1 A guide to the scoring system used in the Sustainability Appraisal

| Score | Description | Symbol |
|-----------------------|---|--------|
| Major Positive Impact | The proposed scenario contributes significantly to the achievement of the objective. | ++ |
| Minor Positive Impact | The proposed scenario contributes to the achievement of the objective but not significantly. | + |
| Neutral | The proposed scenario does not have any effect on the achievement of the objective | 0 |
| Minor Negative Impact | The proposed scenario detracts from the achievement of the objective but not significantly. | - |
| Major Negative Impact | The proposed scenario detracts significantly from the achievement of the objective. | -- |
| Unrelated | The proposed scenario is unrelated to the sustainability objective | ~ |
| Uncertain | The proposed scenario has an uncertain relationship to the objective or the relationship is dependant on the way in which the aspect is managed. In addition, insufficient information may be available to enable an assessment to be made. | ? |

For objectives where there is a level of uncertainty where it is not possible to determine between 2 scores, this is reflected by adding both symbols and both of the appropriate colours within vertical lines.

The scores are only intended to serve as an indication to the types of effects that may occur based on the level of information considered. The findings of the appraisal are presented in **Table 3.2**.

3.1.1 Completed Summary Appraisal Matrix

Table 3.2 shows the scoring for each of the development scenarios. Full appraisal matrices are presented in **Appendix A**.

Table 3.2 Appraisal Results for the Development Scenarios

| Options SA Objectives | Policy and Supply Led Scenarios | | | Economic Led Scenarios | | | | Demographic and Housing Led Scenarios | | |
|---|---------------------------------|---------------------------|------------------------------------|----------------------------------|--|--------------------------------|---|---------------------------------------|-------------------------------------|---------------------------------------|
| | Scenario A Existing Supply | Scenario B Trend Based | Scenario C SE Plan Requirements | Scenario D East Kent Strategy | Scenario E Futures "Preferred Scenario" | Scenario F "Travel to work" | Scenario G Updated Economic Forecast | Scenario H Zero Net Migration | Scenario I Past Trends Migration | Scenario J Delivering Housing Need |
| Sustainable innovative and productive economy that delivers high levels of employment | | | | | | | | | | |
| 1. Economy and Employment | -- | + | 0 | + | ++ | ++ | + | -- | ++ | ++ |
| 2. Rural/Coastal Communities | -- | -/+ | -/0 | + | + | + | + | -- | ++ | ++ |
| Protect and enhance the physical and natural environment | | | | | | | | | | |
| 3. Water Quality | 0 | - | - | - | - | - | - | 0 | - | - |
| 4. Transport | + | - | - | - | - | -- | - | + | -- | -- |
| 5. Countryside and Historic Environment | 0 | -/-- | -/-- | -/-- | -/-- | -- | -/-- | 0 | -- | -- |
| 6. Geology and Biodiversity | 0 | -/-- | -/-- | -/-- | -/-- | -- | -/-- | 0 | -- | -- |
| 7. Climate Change, Energy and Air Quality | + | - | - | - | -/-- | -- | - | + | -- | -- |
| 8. Flood Risk and Coastal Erosion | 0 | - | 0/- | - | - | -/-- | - | 0 | - | - |
| Just society that promotes social inclusion, sustainable communities and personal wellbeing | | | | | | | | | | |
| 9. Access to Services | - | 0 | 0 | 0 | 0 | 0/- | 0/- | 0/- | 0 | 0 |
| 10. Sustainable Living and Revitalisation | - | + | + | + | + | -/+ | + | - | + | + |
| 11. High Quality Design and Sustainability | 0 | + | + | + | + | ++ | + | 0 | + | + |
| 12. Housing | -- | - | -/-- | - | - | + | - | -- | ++ | ++ |
| 13. Quality of Life | - | + | + | + | + | + | + | - | + | + |
| Use resources as efficiently as possible | | | | | | | | | | |
| 14. Use of Land | 0 | -/-- | -/-- | -/-- | -/-- | -- | -/-- | -/+ | -- | -- |
| 15. Natural Resources | 0 | -/-- | -/-- | -/-- | -/-- | -- | -/-- | 0 | -- | -- |
| 16. Waste | 0/+ | -/-- | -/-- | -/-- | -/-- | -- | -/-- | + | -- | -- |

3.2 Summary of the Effects of the Scenarios

The following section gives a summary of the appraisal presented in **Table 3.2** and described in detail in **Appendix A**.

3.2.1 Scenario A. Existing Supply Scenario

The delivery of 3000 new dwellings by 2031 would be considerably below the overall housing and affordable housing need for all areas of the district. As a result there will be considerable out-migration, especially amongst those of working age. This, along with an ageing population, will lead to a contraction in the local labour force (giving a total loss of some 8,480 jobs by 2031). Furthermore, the reduced spending associated with a decreased work force will affect the local economy and may affect future investment. This is likely to heighten the local hardship of those communities already experiencing a degree of disadvantage or deprivation. As a result, this scenario scores significantly negative under the sustainable, innovative and productive economy objectives.

Both, the small scale of construction and its concentration on existing committed land will avoid development on (or within close proximity to) sensitive and important biodiversity, geological landscape and cultural sites (such as the Blean Complex SAC, North Downs AONB, Canterbury Cathedral and the River Stour floodplain). The scale of construction will also minimise development on greenfield land and will ensure that much of the green infrastructure remains intact, ensuring that habitats and the connectivity for species is not adversely affected. Therefore, it is expected that the risks of negatively affecting objectives relating to protecting and enhancing the physical and natural environment will be low. Any effects that do arise could be easily mitigated, such as through introduction of SUDS for water quality objectives or via screening for countryside and historic environment objectives, resulting in a neutral score for most of these objectives.

A decrease in population, especially amongst those of working age, is likely to decrease total demand for transport, especially during peak commuting hours. This would ease existing commuting problems within the ring road, and could have a minor positive impact on the transport and air quality objectives. However, it is recognised that rural and coastal areas may score less well against this objective, given that these areas are likely to have more limited access to public transport options which may increase overall reliance on cars within these areas. A decreasing population is likely to reduce energy and water demand within the district which may have a minor positive impact on climate change objectives.

The viability of shops, services and community facilities is likely to be negatively affected under this scenario due to the decreased population, which may result in their closure. The scenario may also have a negative effect on access to services, quality of life and sustainable living, especially within rural and coastal areas.

Similarly to natural environment objectives, the small scale of construction, minimal use of greenfield land and ability to mitigate negative effects easily (including through the use of sustainable construction techniques and site waste management plans) will have a neutral effect on objectives linked to efficient resource use. A decreased population is likely to decrease total household waste generation which may increase the length of time until landfill capacity is reached. It is expected that this will have a positive impact on this objective, which, is expected to be greater than the negative effect of generation of waste from construction (especially given that any

construction will be of a small scale and will use sustainable techniques). This will result in an overall minor positive impact for waste.

3.2.2 Scenario B. Trend Based Completions Scenario

Delivery of 12,350 dwellings by 2031 will result in a significant increase in the population, by some 12%. However, given the demographic profile of migrants (in-migrants are mostly retired or students, whereas out-migrants are mostly working age) and the aging of the existing population, the increase in labour force and jobs will be modest (some 2,500 new jobs supported within the district). This, alongside with construction jobs generated from the developments and spend from the increased population will result in a modest positive effect on the local economy, within urban, rural and coastal areas.

The requirement of more than 350 hectares of land (much of which will be greenfield) under this scenario will lead to removal of topsoil and loss of green infrastructure. Furthermore, construction of 617 dwellings a year will increase the risks of accidental discharge to water and/or negative effects on biodiversity through dust, noise and vibration during the construction period. Therefore, this scenario is expected to negatively affect objectives related to protecting and enhancing natural environment. However, given that at this stage it is not known where the development would proceed, there is potential (at least in theory) for development to affect sensitive and important biodiversity, geological landscape and cultural sites (such as the North Downs AONB, Canterbury Cathedral and the River Stour floodplain), and therefore cause significantly negative impacts.

The increase in demand for transport during peak commuting hours driven by a modest increase in labour force and potential increase in in-commuting should be able to be accommodated within the existing transport infrastructure without any significant adverse impact, although sensitive areas such as the ring road may experience minor increases in congestion, carbon emissions and reduction in air quality. The significant increase in population and the energy used during the construction and subsequent occupation of development is likely to lead to an increase in energy and water demand in district. This will contribute to climate change and will also increase vulnerability to risks expected under a changing climate, such as water shortages in summer and flooding events. However, given that there may be some opportunities for low carbon technologies within developments and energy supply is expected to be decarbonised to some extent by 2031, this is considered to be a minor negative.

Mixed impacts are expected for objectives linked to sustainable communities. The provision of 617 dwellings a year is expected to meet the majority of overall housing need. However, given the current legacy need for affordable homes within the district, the demand for affordable housing will not be met. This will result in a worsening affordability, especially within Canterbury City, resulting in minor negative score for the housing objective. A significant increase in population is likely to have a positive effect on shops, services and community facilities improving quality of life and town centre vitality and viability. The scale of development under this scenario is such there is an opportunity to have positive effects on the sustainable design objective.

Similarly to natural environment objectives, the area of greenfield land and scale of construction will result in negative impacts to efficient resource use objectives, with the greatest potential for negative effects within Whitstable. Furthermore, population increase will increase strain on water resources and generation of household waste. However, the increase in raw materials required and waste generated during construction can be mitigated

in part by re-use and recycling of construction materials, and sustainable design and construction techniques, preventing against significantly negative effects.

3.2.3 Scenario C. South East Plan Requirements

Although it is expected that there will be an overall decrease in diversity of employment and an increased reliance on the service sector, the number of jobs supported will remain static, with some temporary construction jobs generated. Therefore, this scenario is likely to have a neutral impact on economy and employment, but, given that economic growth is considered to be achievable represents a missed opportunity to grow the economy. However, the lack of affordable homes in rural and coastal areas especially in Whitstable and Herne Bay result in a potential minor negative score for rural/coastal communities' objectives.

This scenario is expected to have similar effects on objectives related to protecting and enhancing the physical and natural environment and efficient resource use as scenario B. However, given that the scale of land take and construction is less, it is expected that the impact will also be less, although still negative as considerable greenfield land will still be required. At this stage it is not known where the proposed development would be located within the district and there is potential (at least in theory) for development to affect sensitive and important biodiversity, geological, landscape and cultural sites (such as the North Downs AONB, Canterbury Cathedral and the River Stour floodplain). This could cause significant negative impacts although the likelihood of such effects would be less than Scenario B commensurate with the smaller land take. The population increases under this scenario are expected to be less than under scenario B and therefore energy and transport demand and waste generation through the district and potential negative effects on climate change, transport and waste objectives are expected to be reduced.

For objectives related to sustainable communities it is expected that scores will be largely similar as for scenario B, although this scenario is considered slightly less favourable of the two as the scale of development is such that opportunities for sustainable design and designing out crime is considered as only possible in urban areas and not rural and coastal areas. Given that provision of 510 homes a year will fall short of both overall housing and affordable housing demand, it is considered to be less favourable than Scenario B for housing objectives.

3.2.4 Scenario D. East Kent Strategy scenario

The modest increase of 180 jobs a year, generation of approximately 985 construction jobs and increased spend of an population increasing by more than 13% in 20 years will have a minor positive impact on economy and employment. All areas of the district should benefit from this, although, given that developments and new jobs are likely to be driven by the service sector, which is predominantly located within Canterbury City and more closely matched to the skill set of the city population, the employment benefit will be relatively less in rural and coastal areas.

The amount of land required, the scale of construction, and subsequent increase in population and demand for resources and transport under this scenario are marginally higher than for scenario B (with approximately an additional 25 ha of land required over the 20 year period). The proportions of sub-area development are the same across the two scenarios. As a result, the scores for this scenario for objectives related to protecting the natural and

physical environment and efficient use of resources are similar as for scenario B, albeit it is recognised that effects may be marginally more likely to be significantly negative due to the additional land required. However, uncertainties over the location of the anticipated development remain, which affect whether the effects will be a minor or significant negative effect.

The marginal increase in the scale of construction may offer marginally more opportunities for sustainable design, improving community infrastructure, and quality of life, resulting in this option scoring slightly better than scenario B under objectives related to sustainable communities, but this is still not considered to be significant. Although, this scenario is likely to come closer to meet affordable housing demand than scenario B, it will still fall short given the current legacy need and therefore still scores a minor negative.

3.2.5 Scenario E. Futures “preferred scenario”

An increase of 328 new jobs a year from employment land, 1,750 construction jobs a year and increased spend of a population increasing by more than 17% in 20 years will have a significantly positive effect on the economy and employment in the district. Given that developments and jobs are likely to be predominantly located within the city centre (some 55% of development) and better matched to skill sets found within the city, it is expected that the economic benefit will be greatest in the city with less effects in rural and coastal areas.

The land requirement under this scenario for dwellings is more than 445 hectares. This need would result in development proceeding on the periphery of the city, using significant areas of greenfield sites and potentially encroaching on sensitive landscape or biodiversity sites. As a result, this scenario has the potential to score significantly negative for objectives related to countryside and historic environment, geology and biodiversity and use of land objectives. Although the scale of construction of 780 dwellings a year is high it is considered that use of Construction Environmental Management Plans and mitigation measures such as introduction of SUDS will keep risks of negatively affecting water quality or flood risk sufficiently low to score a minor negative for these two objectives.

The increase in population and labour force, plus a potential increase in levels of in-commuting will increase the demand for transport during peak hours to a level which could exacerbate congestion on principal routes where this is already a problem. However, given that the scale of increase is small, the likelihood of it having a significant negative effect on existing congestion levels during peak hours is considered low. Furthermore, the population growth will also increase energy and water demand, generate more household waste and wastewater to levels which could potentially be significantly negative.

Development (within the city centre and dispersed around the urban fringe) of the scale expected, offers opportunity for sustainable design and designing out crime. Furthermore, the good access to existing transport, shops, services and community facilities are likely to reduce reliance on cars. However, it is recognised that a more targeted approach of development and funds across the district could lead to a more optimal distribution of resource in a way that would better benefit rural and coastal areas where access to services and vitality of shops and community services is expected to be less strong than urban areas. As a result this scenario scores a minor positive against sustainable community objectives.

Although this scenario will come closer to meet affordable housing demand than scenario D it will still fall short given the current legacy need and therefore still scores a minor negative.

3.2.6 Scenario F. “Travel for Work” Scenario

The increase in 214 new jobs per year is relatively modest; however, given that 37% of the population are expected to commute to work in another district under this scenario, the increase in population of 29% in 20 years will be significant. The spend from this population plus the generation of approximately 1,750 construction jobs for 1,170 homes a year, result in significantly positive score for economy and employment. However, given the requirement for good access to transport and service jobs, development is assumed to be predominantly within the city centre (some 70%) and provision of employment land is low compared to the size of the working population it is expected that there will still be shortages in affordable housing and employment need in rural and coastal areas. As a result, this scenario is not expected to have a significant positive impact on rural and coastal communities.

Given the high increase in population and levels of out-commuting, the levels of congestion experienced within the ring road and the overcrowding on trains will increase significantly, especially during peak hours, with an increasing number of people travelling to work. This is likely to be further exacerbated by increases in vehicle movements for large scale construction concentrated in urban fringes. Increased congestion and car use to the levels expected under this scenario result in significantly negative scores for transport and air quality objectives. The significant increase in population will also result in significantly increased demand for resources, such as energy and water, and will also generate significantly more waste. As a result, objectives related to climate change, natural resources and waste score significant negatives.

More than 665 ha of land will be required for dwellings under this scenario. This significantly exceeds current trends in land take (reflected in Scenario B) and will require the development of significant areas of greenfield land. Furthermore, the need for land may result in developments being constructed within close proximity to sensitive or important cultural or biodiversity sites, such as Larkey Valley Wood SSSI or Harbledown Conservation Area, or on other land with high biodiversity or geological value. As a result this scenario scores significantly negatively for countryside and historic environment, geology and biodiversity and use of land. Although the scale of construction is high it is considered that the risks of negatively affect water quality are low given the use of Construction Environmental Management Plans and SUDS.

Concentrating development around the urban fringes of Canterbury to the scale expected in this scenario will give increased opportunity for significantly positive sustainable development designs, including the inclusion of low carbon technologies such as CHP. The increasing population is likely to have positive impacts on shops, services and community facilities throughout the district. However, given the focus of development within urban areas, the rural/urban divide on access to services and quality of life may be exacerbated, hence there is only a minor positive effect expected for most objectives related to sustainable communities. In a similar way, housing scores only a minor positive under this scenario despite the total number of houses for the total district meeting affordable housing needs as focusing on Canterbury’s urban fringes will mean that local rural and coastal needs will not be met.

3.2.7 Scenario G. Updated Economic Forecast

The construction of 679 homes a year is of a very similar scale as scenario D and also generates very similar levels of population, construction and additional jobs. Furthermore, the spatial distribution of development under both scenarios is likely to be almost the same, with some 49% of development concentrated within urban areas and its fringes. Therefore the majority of objectives will score the same as under scenario D, albeit slightly more positive scores for sustainable community and housing objectives given the larger population increases and more new dwellings, and slightly more negative scores for protecting and enhancing physical and natural environment and efficient resource use, given the larger land use required and increased resource demand.

However, it is recognised that under this scenario the diversity of jobs generated will be greater than scenario D as industrial as well as service employment land will be provided, this results in a slightly more positive score than under scenario D. Otherwise the total number of jobs generated, construction jobs and indirect spend from population is expected to be similar, albeit slightly higher, resulting in a minor positive score.

3.2.8 Scenario H. Zero Net Migration

Due to the ageing population expected under this scenario, total population numbers and labour force will decrease significantly, leading to the significant loss of more than 7% of jobs when compared to 2011, with much of this loss anticipated to come from the industrial sector. Furthermore, the decrease in population is likely to reduce spend in the district. These factors will have significantly negative effects on economy objectives throughout the entire district.

The construction of 80 dwellings a year will be entirely within land already committed and will minimise use of greenfield land. Therefore, similar to scenario A it is considered that the risks of negatively affecting objectives related to protecting and enhancing the physical and natural environment will be low and easily mitigated, such as through introduction of SUDS for water quality objectives or via screening for countryside and historic environment objectives, resulting in a neutral score for most of these objectives.

The decrease in population expected under this scenario will decrease total demand for transport, resource use and waste which results in a minor positive score for transport, climate change, and waste. This is similar to scenario A, although it is recognised that with a greater decrease in population under this scenario scores may be higher, although still not significant. However, the larger decrease in population will further decrease viability of shops, services, and community facilities resulting in slightly more negative scores for sustainable community objectives compared to scenario A.

Under this scenario, 40 ha of committed land will be unused, and the impact this will have on the use of land objective will depend on the nature of the unused land. If this land is greenfield and thereby reducing the overall loss of greenfield, this would have a positive effect. On the other hand, if this land were derelict or unused it could have a negative effect on this objective.

3.2.9 Scenario I. Past Trends Migration

The scale of construction, requirement of land take (630 ha), increase in population and subsequent resource use is similar under this scenario as scenario F, albeit slightly lower, which results in similar scores for objectives relating to protecting and enhancing the physical and natural environment and efficient resource use. However, given that the level of out-commuting is expected to remain at 27% and the population is expected to increase across all age cohorts, the total jobs generated within the district (some 740 jobs a year) is expected to be significantly greater than under scenario F. Furthermore, there will be increases across both the industrial and service sectors, which will increase total diversity of jobs. As a result this scenario scores significantly positive for economic objectives in all areas of the district above any of the other scenarios.

Furthermore, this scenario assumes a more even spread of developments than scenario F. As a result it is assumed that, although the total number of dwellings provided is less, they will better address the current legacy need for affordable housing in rural and coastal areas, so that need is met through all areas of the district, resulting in a significantly positive score for housing objectives. The more even distribution of land take will take some of the pressure for land away from the urban fringes (although the demand for land will still be significant) and will increase pressure in rural and coastal areas and could affect important rural areas such as the Kent Downs AONB, hence the potentially significant negative effects identified.

Increasing populations to follow existing patterns should have a positive impact for shops, services and community facilities across all areas of the district, improving sustainable communities' objectives to score minor positives. However, the decreased scale of construction in urban fringes may slightly decrease the opportunity for design of large sustainable centres and less existing services in rural areas may result in slightly lower scores under these objectives relative to scenario F

3.2.10 Scenario J. Delivering Housing Need

The scale of construction, requirement of land take (660 ha), increase in population and subsequent resource use are very similar as under scenario I, albeit slightly higher. The proportional spatial distribution is identical, and results in requirements for land take that will be significant across the district. As a result, the scores for this scenario are almost identical to scenario I.

4. Conclusion and Recommendations

4.1 Key Conclusions Emerging from the Appraisal

The ten indicative development scenarios considered in this appraisal provide a starting point for the development of the preferred spatial strategy for the Local Plan. The following broad conclusions can be made based on the appraisals findings:

- **Scenarios which only require development on currently committed land (namely scenarios A and H) will not provide enough homes** for the current population. This will result in out-migration of people looking for homes, a reduction in jobs and the labour force over time and a long term reduction in the viability of shop, service and community facilities. Therefore, these options score significantly negative for housing, economy, and sustainable community/quality of life options. Measures to reduce the out-migration of the working age population, for example through initiatives to retain university leavers, could reduce the negative impacts to economy. Only developing on land which is currently committed will minimise any negative effects on environmental objectives. Further landscaping or biodiversity enhancements could improve these scores from neutral to positive.
- **Scenarios B, D and G have similar impacts on all of the sustainability objectives.** Land take associated with these scenarios is broadly consistent with previous trends in the district; however, it remains unclear whether the environmental effects will be significant. This is due to the uncertainties over where the actual development will be located and whether sites will be adjacent or close to sensitive and important biodiversity, geological, landscape and cultural sites.
- **Scenario C represents a missed opportunity for economic growth** and is unlikely to meet housing needs. As a result, there may be benefits to providing more homes to militate against the out-migration of working age population. Initiatives to encourage retention of university leavers or to promote Canterbury as a place that would attract young workers could improve scores under this scenario without further negatively affecting environmental objectives.
- **Scenario E has the potential for significantly negative effects to biodiversity and countryside/historic environment.** Although it has a significantly positive effect on the local economy it requires 446 ha of land. The negative effects on the natural environment could be minimised or reduced by avoiding siting development in, adjacent to or close to existing sensitive and important nature conservation and cultural heritage sites.
- **Scenarios with a high number of new dwellings (over 1,000 new dwellings per year, namely scenarios F, I and J), have a significantly positive impact on economy objectives.** However, an increase in out-commuting in scenario F will place additional pressure on transport infrastructure above scenarios I and J. Significant investment in the transport infrastructure could reduce these negative impacts. Without a proportionate allocation of employment land, whilst there will be a significant increase in the population over time, many people will need to travel outside the district to work. This will limit the economic benefits that will accrue to the district. Despite this, the overall effect on the local economy will still be significant due to the substantial number of homes constructed. The importance of encouraging a diversity of jobs and preventing an over reliance on the service sector, as is the case in scenario F, is also highlighted. **However, scenario F highlights that concentrating such a high proportion of development (70%) within Canterbury City neglects**

objectives within rural and coastal areas, including affordable housing targets and contributing to viability and vitality in these areas. Furthermore, focusing on development within Canterbury City increases the land take around urban fringes increasing the significantly negative effect within these areas for environmental objectives. Although scenarios I and J reduce negative impacts within the urban fringes, they spread the significantly negative effects to rural and coastal areas.

4.2 Summary and Recommendations

The different development scenarios will have differing impacts on the sustainability objectives. These impacts reflect the scale of development proposed, the composition of housing and employment land in each scenario and the broad location of the development (whether concentrated around Canterbury or dispersed across the district). As the scale of development increases, so do the potential positive economic effects. However, there is also a commensurate increasingly negative effect on the natural environment. Not all of the higher growth scenarios are associated with positive social effects (again, it depends on the location of growth, its composition and the extent to which it provides attendant community infrastructure) as well as the extent to which the scenario contains proposals to address existing issues of housing need and deprivation. In summary:

- **The significantly negative effects on economy and housing expected under scenarios A and H where the provision of homes is very low is a very serious sustainability concern.**
- **The significantly negative effects on the natural environment and resource use under scenarios F, I and J raise another serious sustainability concern** driven by the need to construct on substantial areas of greenfield land. The scale of land required is such that any mitigation (either through preferential use of brownfield sites or increases in dwelling densities) will not be able to make a significant impact. Increased resource demand may be in part mitigated; for example through inclusion of low carbon technologies and water saving applications, but this is still considered a major concern.
- **Scenarios I and J indicate that provision of industrial and office jobs will help to promote diversity of jobs** that will better meet the skill set of rural populations. However, given current economic trends, this may not be realisable in the short term.
- Scenario F has similar land use requirements and changes to population resulting in the similar negative scores for environmental objectives related to land use and demand for resources. However, the lower scores for housing, rural and coastal communities and the lower impact on the economy suggest that increases to out-commuting above current levels should be discouraged and a more even spread of development in-keeping with baseline distributions should be pursued.
- Mitigating against the out-migration of working age population or attracting working age population to the district would help to enhance positive effects on economy or prevent against negative effects of an aging population.
- **Given the current demand for affordable housing, ambitious numbers of dwellings must be delivered which will require more land than is currently consented for development.** To minimise the adverse effects on the natural environment through land take, dwellings with a minimal footprint should be encouraged, dwelling densities increased and low carbon or water efficient

technologies employed. Such measures could help maximise positives that an increasing population can bring whilst minimising negative effects associated to increases in resource demand and land take.

A level of compromise needs to be reached across the sustainability objectives, as scenarios which score highly on economy have significant negative effects on environmental objectives (i.e. - scenarios F, I and J) whereas scenarios that score more favourably on environment and resource use have a negative effect on the economy (i.e. – scenarios A and H). **It is recommended that at this stage scenario E offers the greatest potential to achieve the appropriate balance (to optimise growth and minimise detrimental environmental effects).** However, careful consideration would be required of the proposed location of development envisaged in the scenario to avoid sensitive sites, to optimise positive community effects and to take the opportunity to maximise the benefits of innovative sustainable design (by ensuring efficient use of land and resources) to mitigate any potentially significant negative impacts.

Appendix A

Appraisal of Development Scenarios

Demographic and Supply Led Scenarios

| Options SA Objectives | Scenario A Existing Supply | Scenario B Trend Based Completions | Scenario C South East Plan Requirements |
|--|---|---|---|
| Sustainable innovative and productive economy that delivers high levels of employment | | | |
| <p>1. Economy and Employment To achieve a strong and stable economy which offers rewarding and well located employment opportunities to everyone.</p> | <p>Provision of only 150 homes a year will not meet demand from newly forming households. In consequence, the scenario anticipates that there will be an out-migration of approximately 4480 people, as they cannot be accommodated within the district and will have to move elsewhere to find a home.</p> <p>The demographic profile of the people leaving and coming to the district will influence economic activity rates. The highest proportion of those out-migrating are of working age (especially university leavers) and those moving in are most commonly either of retirement age or starting university (and therefore not in full time employment). This, alongside the aging of the existing population (which will result in a high proportion of the population reaching retirement age by 2030) will result in an overall decrease in the labour force by some 10,690 when compared to present, considerably greater than the reduction in population. This demographic shift also affects the percentage of the population who are economically active.</p> <p>This will have a significant negative effect on the economy as it is assumed that the contraction in the local labour force would be reflected in a contraction in the local economy (approximately 8,480 jobs will be lost). Many of these jobs will be lost from agriculture, public services and manufacturing sectors and an estimated quarter will come from B class employment (offices, industrial and warehousing) reflected in the decreases in employment land over the period. It is possible that total decrease in number of jobs that can be supported may be lessened either through an increase in in-commuting and from changes to the age of retirement, which may extend those in work.</p> <p>A decreasing population (which would be reduced by some 3% by 2031 compared to current) will lead to changes in consumer spending and may lead to a decreased spend on domestic goods and services. However, this is unlikely to be significant.</p> <p>A high proportion of out-migration will be university leavers, which to some extent would also be expected given that</p> | <p>The increase in population under this scenario will be significant (from 147,700 in 2011 to 165,384 in 2031, an increase of some 12%). However, the proportion of the population that will be economically active will decrease, due to the demographic profile of migrants. The majority of out-migration will be of working age (especially university leavers) and a high proportion of in-migration will be by people of either retirement age or students (and therefore not in full time employment). This, alongside the aging of the existing population leading to an increase in those of retirement age, will mean that despite a significant population increase, the increase in labour force for the district will be modest at some 1,014.</p> <p>This increase in the labour force, along with an increase in-commuting and an increase in those who are economically active will support an additional estimated 2500 jobs within the district. This job growth will come from office based sectors which will offset a small decline in manufacturing sectors, in line with past trends.</p> <p>The construction of some 617 dwellings a year will generate approximately 925 construction jobs per annum. This may have an indirect benefit to local suppliers to builders as well during this period. However, given the temporary nature of construction jobs and the scale of construction required, this is unlikely to be significant at the district level.</p> <p>The moderate increase in jobs supported from increased population and construction of dwellings will lead to economic growth within the district. However, this is not considered to be significant and does not reach the full potential economic growth which is considered achievable (under economic-led scenarios).</p> <p>An increased population of some 884 people a year will increase spend on domestic goods and services, however, this is not considered to be significant.</p> | <p>Although the increase in population will be considerable (from 147,700 in 2011 to 160,303 in 2031, an increase of some 8.5%) this scenario anticipates that there will be a decrease in labour supply by some 1,668 people. This is due to the profile of population migrating in and out of the district; the majority of those migrating in are of retirement age or students whilst those that are migrating out are of working age (especially university leavers).</p> <p>However, an increase in people travelling to work from outside the district and a reduction in unemployment will offset the decreases in indigenous labour supply so that the overall number of jobs supported will remain static. However, it is expected that the profile of jobs within the district will change, with job growth within the service sector and a decrease in industrial sector (highlighted by an increase in office employment land by 8.7 ha being required and a decrease in industrial employment land by some 4.4 ha). This will result in a decrease in diversity of employment and an increased reliance on the service sector.</p> <p>The construction of some 510 dwellings a year will generate 765 construction jobs within the district per annum. This may have an indirect benefit to local suppliers to builders as well during this period. However, given the temporary nature of construction jobs and the scale of construction required, this is unlikely to be significant at the district level.</p> <p>Given that economic growth is considered to be achievable, this scenario represents a missed opportunity to grow the economy.</p> |

| Options SA Objectives | Scenario A Existing Supply | Scenario B Trend Based Completions | Scenario C South East Plan Requirements |
|--|--|--|---|
| | <p>Canterbury is a University town with a young mobile student population. However, Canterbury's ability to retain newly qualified University graduates will be negatively affected by the low level of housing provision and represents a missed opportunity to further develop a highly skilled local workforce.</p> <p>A decreasing workforce and spend in the district is likely to lead to decreased investment from businesses and services in the district which will further encourage out-migration exacerbating the overall problem.</p> <p>Construction jobs will be generated but given the temporary nature of the jobs and the small scale of construction required this will be very small compared to the total number of jobs lost due to a declining population.</p> | | |
| <p>2. Rural/Coastal Communities To sustain vibrant rural and coastal communities.</p> | <p>The provision of 150 dwellings a year (spread across the district) will fall far short of meeting the housing requirements within rural and coastal areas (including the demand for affordable housing demand). In consequence, this is reflected in the significant negative score against this objective. --</p> <p>The lack of homes through the district, including rural areas, will lead to significant out-migration especially by young people and growing families, which will considerably decrease the labour force. As a result, the scenario anticipates a reduction in economic activity, to the point where some 8,480 existing jobs will be lost. There is potential for some of the jobs 'lost' to be filled by currently unemployed workers from Canterbury's rural and coastal communities; however, there will still be a very significant shortfall due to a lack of relevant skills and experience in the workforce. Therefore, it is expected that under this scenario there will be significantly negative effects on the rural economy.</p> <p>The lack of economic growth across the district will also affect the resilience of the coastal communities and may due to lack of inward investment, unduly affect those communities already experience some degree of disadvantage or deprivation.</p> <p>Although there is likely to be some localised employment for construction of the homes, which could be provided from appropriately skilled workers within rural and coastal communities, given the scale of construction the total number of jobs is considered to be small and insignificant when compared to the total jobs lost due to out-migration.</p> | <p>Under this scenario, a considerable proportion of development will occur within rural and coastal areas (some 57% of total development) and the proportion of housing to each area reasonably well matches the areas of need. However, the total number of affordable homes constructed under this scenario will fall short of total affordable housing demand. -/+</p> <p>However, the quantity of employment land provided under this scenario will provide a modest increase in jobs above the increase in labour force. This may provide job opportunities for rural and coastal communities, although given the small increase in number of jobs (1.7% increase compared to jobs in 2011) this is not considered to be significant. However, given that both office and industrial land will be provided under this scenario the skill set required may better match the skill set of the rural and coastal communities.</p> <p>Furthermore, the construction of 617 dwellings a year will provide some localised construction employment, which could be met by appropriately skilled workers living in coastal and rural communities. Similarly, there will be some indirect spend on services which could benefit the wider population.</p> | <p>Under this scenario, a considerable amount of development will occur within rural and coastal areas (some 57% of total development) and the proportion of housing to each area reasonably well matches the areas of need. However, the total number of affordable homes constructed under this scenario will fall short of total affordable housing demand. -/0</p> <p>The out-migration caused as a result of not meeting housing demand will be such that the labour supply in the district, including rural areas, will decrease. There is the potential for some of the existing jobs to be filled by rural and coastal population hence reducing unemployment in these areas; however, this will depend on how well the required skill set for these jobs matches the skill sets in these communities. Overall it is expected that the number of jobs supported will remain the same, which suggests that rural economy will remain stable.</p> <p>However, the construction of 510 dwellings a year will provide some localised construction employment, which could be met by appropriately skilled workers living in coastal and rural communities. Similarly, there will be some indirect spend on services which could benefit the wider population.</p> |
| Protect and enhance the physical and natural environment | | | |
| <p>3. Water Quality To protect and improve</p> | <p>As is the case with any construction project the construction of 3,000 new homes over 20 0</p> | <p>Depending on the location of the developments, the proximity to water bodies and the prevailing quality of -</p> | <p>Depending on the location of the developments, the proximity to water bodies and the prevailing quality of -</p> |

| Options SA Objectives | Scenario A Existing Supply | Scenario B Trend Based Completions | Scenario C South East Plan Requirements |
|--|---|--|---|
| and coastal waters. | <p>years has the potential to negatively affect water quality through accidental discharges and uncontrolled runoff from the construction site, particularly if the site includes (or is adjacent to) any surface water bodies of good quality.</p> <p>However, the risks of negatively affecting this objective are low given the small scale of construction and that sustainable construction techniques will be used. For example, it is assumed that the design of the development will include SUDS to ensure that all subsequent rainfall will infiltrate surfaces rather than exacerbate any downstream flood risks (which also have temporary effects on water quality).</p> <p>Furthermore, given that all the developments will be constructed on committed land it is assumed that construction will not take place in sensitive areas, such as those around Great Stour River or near the Stodmarsh wetlands.</p> | <p>the water body, the construction of more than 12,300 new dwellings over 20 years has the potential to negatively affect water quality through accidental discharges and uncontrolled runoff from the construction site.</p> <p>It is assumed that there will be no development that will require diversion or modification of existing watercourses. However, if such measures are required, this could affect local water quality.</p> <p>Given that more land is required for constructing the developments than is currently committed for development, it may be necessary to build near sensitive areas around the Great Stour River and areas near Stodmarsh wetlands. If this were the case, extra precaution would be required to ensure any risks of pollutant discharges (such as particulates or oil) are minimised and appropriately managed through site Construction Environmental Management Plans. It is assumed that the design of the development will include SUDS to ensure that all subsequent rainfall will infiltrate surfaces rather than exacerbate any downstream flood risks (which also have temporary effects on water quality).</p> | <p>the water body, the construction of nearly 10,200 new dwellings over 20 years has the potential to negatively affect water quality through accidental discharges and uncontrolled runoff from the construction site.</p> <p>It is assumed that there will be no development that will require diversion or modification of existing watercourses. However, if such measures are required, this could affect local water quality.</p> <p>Given that more land is required for constructing the developments than is currently committed for development it may be necessary to build near sensitive areas around the Great Stour River and areas near Stodmarsh wetlands. If this were the case, extra precaution would be required to ensure any risks of pollutant discharges (such as sediment or oil) are minimised and appropriately managed through site Construction Environmental Management Plans. It is assumed that the design of the development will include SUDS to ensure that all subsequent rainfall will infiltrate surfaces rather than exacerbate any downstream flood risks (which also have temporary effects on water quality).</p> |
| <p>4. Transport Reduce road traffic and its impacts, promoting more sustainable modes of transport.</p> | <p>The decrease in population, especially amongst those of working age, will decrease the number of journeys made and the total demand for transport, especially during commuting peak hours, which may help to ease existing congestion problems within the ring road. +</p> <p>Although there is some potential for increase in in-commuting in order to fill the existing jobs which can no longer be filled by the decreased labour force within the district, this is considered to be insignificant compared to the overall decrease in demand for transport driven by reduction in population.</p> <p>Given that the population is likely to be of increasing age, it is likely that there would be a growing reliance on public transport (particularly bus services to provide access to services). This may increase overall use of such transport options. The use of other more sustainable transport options, such as cycling and walking, will depend on perceptions of ease and safety as well as proximity to the desired services.</p> <p>However, with a decreasing population across the district, it is possible that investment in transport may decrease, and this could affect the effectiveness of the existing infrastructure for example the reliability and frequency of bus services which is currently considered limited, especially during evenings and within rural areas.</p> <p>Under this scenario it is expected that 44% of developments will be located within Canterbury City with the remaining 56%</p> | <p>Although there is an overall increase in population under this scenario, it is expected that the increase to the labour force will be relatively small and therefore any increases to demand during sensitive peak hours are unlikely to significantly increase congestion. -</p> <p>The increase in number of jobs is greater than the increase in labour force and it is anticipated that there would be an increase in levels of in-commuting to fill the jobs. However, given the small increase in jobs, the increase in commuting should be able to be accommodated for within the existing transport infrastructure without any significant adverse impact, although sensitive areas such as the ring road may experience minor increases in congestion.</p> <p>It is possible that there could be an increase in home working which could reduce the increase in the demand for transport, but this is uncertain.</p> <p>Under this scenario it is expected that 44% of developments will be located within Canterbury City with the remaining 56% within rural and coastal areas. It is expected that access to jobs and community facilities will be better within the City. Such services are more likely to be within walking or cycling distance or accessible by public transport reducing reliance on cars. However, rural and coastal areas are likely to have less good access which may increase overall reliance on cars in these areas and would score less well.</p> | <p>Despite an overall increase in population the number of people of working age will decrease. This is due to the ageing of the existing population and the influx of additional retirees exceeding the number of people of working age moving to the district. -</p> <p>However, the scenario envisages an increase in commuting into the district resulting in the number of jobs being stable. As the level of in-commuting is likely to increase, this may increase the total distance travelled by workers and total emissions from transport, however, this is unlikely to be significant.</p> <p>Under this scenario it is expected that 44% of developments will be located within Canterbury City with the remaining 56% within rural and coastal areas. It is expected that access to jobs and community facilities will be better within the City. Such services are more likely to be within walking or cycling distance or accessible by public transport reducing reliance on cars. However, rural and coastal areas are likely to have less good access which may increase overall reliance on cars in these areas and would score less well.</p> |

| Options SA Objectives | Scenario A Existing Supply | Scenario B Trend Based Completions | Scenario C South East Plan Requirements |
|---|--|--|---|
| | <p>within rural and coastal areas. It is expected that access to jobs and community facilities will be better within the City and more likely to be within walking or cycling distance or accessible by public transport reducing reliance on cars and would score highly relative to this objective. However, rural and coastal areas are likely to have less good access which may increase overall reliance on cars in these areas and would score less well.</p> | | |
| <p>5. Countryside and Historic Environment To protect and improve landscapes for both people and wildlife and to protect and maintain vulnerable assets (including built and historic)</p> | <p>Under this scenario it is assumed that the entire provision of 150 homes a year will be delivered on land which is currently committed for development. Given that planning permission has already been granted for these areas of land it is assumed that landscape effects on both built and natural landscape will have been duly considered, including proximity to sensitive and important sites (such as the Kent Downs AONB) and that any negative effects will be minor and easily mitigated, for example, via screening.</p> <p>It is assumed that any construction activities with a potential for negatively affecting cultural important buildings or their setting, such as piling or demolition, through generation of dust, noise and vibration, will be significantly far away from vulnerable buildings or buildings of cultural importance, such as Canterbury Cathedral, so as not to impact on this objective.</p> <p>Development on greenfield land both within urban and rural areas is minimised under this scenario and therefore any risks of damaging any previously undiscovered archaeological features are also minimised.</p> | <p>The provision of approximately 12,350 dwellings by 2020 will require more than 350 hectares of land. This is significantly greater than the 86 ha of currently committed land. Development on the additional sites (the majority of which will be greenfield) increases the likelihood that there will be some negative effects on natural or built landscapes and given that at this stage it is not known where the development would be located, there is potential for development to affect sensitive and important natural landscapes, significant for both residents and local wildlife. However, by giving preference to sites within landscapes which are less diverse and contain fewer features of interest, such as hedges, ditches or woodland, this could minimise negative impacts.</p> <p>Construction on greenfield sites may damage previously undiscovered archaeological features, with a potential higher risk for greenfield land within urban areas, however this is uncertain.</p> | <p>The provision of approximately 11,000 dwellings by 2020 will require almost 300 hectares of land. This is significantly greater than the 86 ha of currently committed land. Development on the additional sites (the majority of which will be greenfield) increases the likelihood that there will be some negative effects on natural or built landscapes and given that at this stage it is not known where the development would be located, there is potential for development to affect sensitive and important natural landscapes, significant for both residents and local wildlife. However, by giving preference to sites within landscapes which are less diverse and contain fewer features of interest, such as hedges, ditches or woodland, this could minimise negative impacts.</p> <p>Construction on greenfield sites may damage previously undiscovered archaeological features, with a potentially higher risk for greenfield land within urban areas, however this is uncertain.</p> |
| <p>6. Geology and Biodiversity To avoid damage to geological sites and improve biodiversity.</p> | <p>Under this scenario approximately 86 ha of land will be required to deliver 3000 homes within 20 years. It is assumed that this can be delivered within land already committed to development.</p> <p>Given that planning permission has already been granted for these areas of land it is assumed that impacts on geology and biodiversity will have been duly considered, including proximity to sensitive sites and species (such as the Blean Complex SAC, BAP priority habitats and species) and that any impacts (during construction and once completed) will be minor and easily mitigated.</p> <p>Under this scenario, the total area of land (and in particular greenfield land) required is minimised. This will ensure that much of the existing green infrastructure remains intact; ensuring that connectivity for species between habitats is not adversely affected.</p> <p>Although some land take and removal of topsoil is inevitable, given that planning permission has already been granted, it is assumed that any greenfield land used will</p> | <p>In order to construct the number of dwellings expected under this scenario, approximately 350 ha of land will be required. This significantly exceeds estimates of brownfield land that is available. As a result, it is anticipated that considerable greenfield land will be required to accommodate the additional housing. It is likely that the majority of these additional sites will be current open space or agricultural land. Development on greenfield land may have a negative effect on biodiversity, especially if key habitats or species are lost.</p> <p>It is uncertain whether any of these additional sites will be close to any of the designated conservation areas (such as the Blean Complex SAC, BAP priority habitats and species) and therefore whilst the effects of the development are considered to be negative against this objective, there is potential that the effects could be significant.</p> <p>The loss of green infrastructure for development will reduce connectivity for species between habitats and will have</p> | <p>In order to construct the number of dwellings expected under this scenario, approximately 290 ha of land will be required. This significantly exceeds estimates of brownfield land that is available. As a result, it is anticipated that considerable greenfield land will be required to accommodate the additional housing. It is likely that the majority of these additional sites will be current open space or agricultural land. Development on greenfield land may have a negative effect on biodiversity, especially if key habitats or species are lost.</p> <p>It is uncertain whether any of these additional sites will be close to any of the designated conservation areas (such as the Blean Complex SAC, BAP priority habitats and species) and therefore whilst the effects of the development are considered to be negative against this objective, there is potential that the effects could be significant.</p> <p>The loss of green infrastructure for development will reduce connectivity for</p> |

| Options SA Objectives | Scenario A Existing Supply | Scenario B Trend Based Completions | Scenario C South East Plan Requirements |
|--|---|--|--|
| | <p>not include land of significant high soil quality or biodiversity levels.</p> <p>There may be some potential for improvement through habitat creation, however, this is uncertain.</p> | <p>further negative effects on this objective.</p> <p>Dust, noise and vibrations generated during the construction period may negatively affect species in the short term.</p> | <p>species between habitats and will have further negative effects on this objective.</p> <p>Dust, noise and vibrations generated during the construction period may negatively affect species in the short term.</p> |
| <p>7. Climate Change, Energy and Air Quality To reduce the causes and impacts of climate change, improve air quality and promote energy efficiency.</p> | <p>Although there is some opportunity for providing energy efficient homes with low carbon technologies within new homes, given the scale of development, this is not considered to have a significant effect on this objective. Furthermore, the small scale of development means that many low carbon technologies are less likely to be viable, such as CHP. +</p> <p>The decrease in population by some 4,476 people over 20 years is likely to result in a net decrease in energy use and demand by residents across the district. However, given that the majority of out-migration is likely to be to neighbouring districts whether or not this will reduce the contribution to climate change at a regional level is questionable.</p> <p>There is likely to be a decreased demand in transport, especially during peak hours, as the population ages and the number of people commuting to work decreases. This may reduce total car use and congestion, leading to a reduction in emissions, affecting the district's contribution to climate change and potential improving local air quality. This could lead to changes within the future action plans for the existing AQMA in Canterbury, however, this is uncertain.</p> <p>The decrease in population is likely to reduce water demand, thereby decreasing the district's vulnerability to droughts. However, the change to population is not expected to be of a level that will significantly decrease the use of drought emergency measures during summer months.</p> | <p>The significant population increase (in 2031 the population will have grown by approximately 12% compared to 2011) and the energy used during the construction and subsequent occupation of almost 12,350 new dwellings is likely to lead to a net increase in energy demand across the district. The extent to which it has an overall effect on carbon emissions will be dependent on the extent to which energy supply has been decarbonised by 2031. -</p> <p>There may be some opportunities for the new homes to include low carbon technologies with their design and to use low carbon materials within their construction. The potential to which this is realised will depend on whether ambitious sustainability targets (such as those that exceed the Code for Sustainable Homes) are used.</p> <p>The significant increase in population may increase the total car use, which could increase emissions. However, given that the total labour force and number of jobs will only slightly increase, it is not expected that there will be a significant increase in car use. In consequence, it is not expected that there will be any exacerbation of current levels of congestion and that current air quality is unlikely to deteriorate.</p> <p>Effects of construction on local traffic would be localised and of a short duration (over the duration of the plan) and as such is not anticipated to significantly effect this objective.</p> <p>Climate change is forecast to increase the incidence and frequency of periods of low precipitation in the South East (compared to present). This could affect the recharge and availability of local water supplies. This issue combined with the considerable increase in demand from the increased population from this scenario could lead to an increase in the use of drought emergency measures during summer months. This may be mitigated in part by the installation of water saving appliances into new builds as standard.</p> <p>The incidence and frequency of periods of heavy precipitation and sea levels are also projected to increase compared to present. This is likely to increase risk of flooding or coastal inundation as described under objective 8; this could reduce the resilience of development to flooding.</p> | <p>The significant population increase (in 2031 the population will have grown by approximately 8.5% compared to 2011) and the energy used during the construction and subsequent occupation of approximately 10,200 new dwellings is likely to lead to a net increase in energy demand across the district. The extent to which it has an overall effect on carbon emissions will be dependent on the extent to which energy supply has been decarbonised by 2031. -</p> <p>There may be some opportunities for the new homes to include low carbon technologies with their design and to use low carbon materials within their construction. The potential to which this is realised will depend on whether ambitious sustainability targets (such as those that exceed the Code for Sustainable Homes) are used.</p> <p>The significant increase in population may increase the total car use, which could increase emissions. However, given that the total labour force and number of jobs will only slightly increase, it is not expected that there will be a significant increase in car use. In consequence, it is not expected that there will be any exacerbation of current levels of congestion and that current air quality is unlikely to deteriorate.</p> <p>Effects of construction on local traffic would be localised and of a short duration (over the duration of the plan) and as such is not anticipated to significantly effect this objective.</p> <p>Climate change is forecast to increase the incidence and frequency of periods of low precipitation in the South East (compared to present). This could affect the recharge and availability of local water supplies. This issue combined with the considerable increase in demand from the increased population from this scenario could lead to an increase in the use of drought emergency measures during summer months. This may be mitigated in part by the installation of water saving appliances into new builds as standard.</p> <p>The incidence and frequency of periods of heavy precipitation and sea levels are also projected to increase compared to present. This is likely to increase risk of flooding or coastal inundation as described under objective 8; this could reduce the resilience of development to flooding.</p> |

| Options SA Objectives | Scenario A Existing Supply | Scenario B Trend Based Completions | Scenario C South East Plan Requirements |
|--|---|--|--|
| <p>8. Flood Risk and Coastal Erosion To reduce the risk of flooding and coastal erosion which would be detrimental to the public well-being, the economy and the environment.</p> | <p>Under this scenario it is assumed that the entire provision of 150 homes a year will be delivered on land which is currently committed for development. Given that planning permission has already been granted for these areas of land the risk of flooding within these areas has already been assessed.</p> <p>Development on greenfield land is minimised under this scenario and therefore any risks increasing runoff rates are also minimised.</p> | <p>An estimated 350 ha will be required for the development of approximately 12,350 homes over 20 years (assuming an average density of 35 dwellings per hectare).</p> <p>This scenario requires development over considerable areas of greenfield land. This could reduce infiltration of precipitation, increasing surface runoff and the risk of flooding. However, to manage this risk, any development should be compliant with the requirements of the National Planning Policy Framework (NPPF) and associated technical guidance and achieve runoff rates consistent with existing greenfield runoff rates. This can be achieved through the use of SUDS techniques.</p> | <p>Under this scenario, an estimated 290 hectares of land will be required for the development of 10,200 homes over 20 years (assuming an average density of 35 dwellings per hectare).</p> <p>This scenario requires development over considerable areas of greenfield land. This could reduce infiltration of precipitation, increasing surface runoff and the risk of flooding. However, to manage this risk, any development should be compliant with the requirements in the NPPF and achieve runoff rates consistent with existing greenfield runoff rates. This can be achieved through the use of SUDS techniques.</p> |
| Just society that promotes social inclusion, sustainable communities and personal wellbeing | | | |
| <p>9. Access to Services Share access to services and benefits of prosperity fairly and improve wellbeing of everyone.</p> | <p>The decline in population of some 4,476 over 20 years will decrease the demand for many local services, such as early years child care and schools. However, it is possible that an aging population may increase pressure on existing health services.</p> <p>A declining population, especially within those of a working age, may have negative impacts for shops and services, making it less viable for them to remain open, worsening local access, especially within rural areas. This may be further exacerbated through decreased investment to services within the area from businesses, however, given the relatively small decrease in population (by approximately 3% compared to 2011), this is considered unlikely.</p> | <p>The significant increase in population (by approximately 12% compared to 2011) will create an increased demand for services, such as schools, doctors, hospitals, recreational facilities and open space. As part of the development options, it is assumed that provision will be made to ensure that community infrastructure requirements will be met.</p> | <p>The significant increase in population (by approximately 8.5% compared to 2011) will create an increased demand for services, such as schools, doctors, hospitals, recreational facilities and open space. As part of the development options, it is assumed that provision will be made to ensure that community infrastructure requirements will be met.</p> |
| <p>10. Sustainable Living and Revitalisation To revitalise town and rural centres and to promote sustainable living.</p> | <p>The lack of housing for the population will result in out-migration from all areas of the district. A declining population, especially within those of a working age, may have negative impacts for shops and services, affecting the viability and vitality of town centres. A reduction in population and economy may also affect local government receipts which may affect the level to which the public sector can invest in the local area to stimulate local community centres. The opportunity to improve community facilities and encourage sustainable behaviour, especially within rural and coastal areas may also be affected.</p> | <p>An increasing population may have a positive impact for shops and services, affecting the viability and vitality of town centres. An increase in population, economic activity and developer contributions could also increase local government receipts which could positively affect the level to which the public sector can invest in the local area to stimulate local community centres.</p> <p>It is assumed under this scenario that the spatial provision of homes (and ancillary community facilities) will follow existing patterns to be fairly well matched to population demand. As a result the funds available for community infrastructure should also be divided accordingly to best match need (with a fair share to rural and coastal communities).</p> | <p>An increasing population may have a positive impact for shops and services, affecting the viability and vitality of town centres. However, given the total labour force is expected to decline and the number of jobs is likely to be stable, this may be less likely to be sustained than under other scenarios.</p> <p>The increase in population and developer contributions could increase local government receipts which could positively affect the level to which the public sector can invest in the local area to stimulate local community centres.</p> <p>It is assumed under this scenario that the spatial provision of homes (and ancillary community facilities) will follow existing patterns to be fairly well matched to population demand. As a result the funds available for community infrastructure should also be divided accordingly to best match need (with a fair share to rural and coastal communities).</p> |

| Options SA Objectives | Scenario A Existing Supply | Scenario B Trend Based Completions | Scenario C South East Plan Requirements |
|---|--|--|---|
| 11. High Quality Design and Sustainability To encourage sustainable design and practice. | Development of the scale proposed under this scenario is unlikely to give opportunity for large scale sustainable design such as alternative energy or transport infrastructure or and therefore is unlikely to impact at the district level. 0 | The scale of developments (especially within Canterbury City and its urban fringes) offers the opportunity for large scale sustainable design such as provision of CHP, renewable energy generation or public transport infrastructure to have a positive effect on the sustainable design objective. + | Development of the scale proposed under this scenario within rural and coastal is unlikely to give opportunity for large scale sustainable design and therefore is unlikely to impact these areas. However, within the urban fringes of Canterbury, the scale of development offers potential opportunities for large scale sustainable design such as CHP, renewable energy generation or public transport infrastructure which would have a positive effect on this objective. + |
| 12. Housing To make suitable housing available and affordable to everyone. | The provision of 150 dwellings a year (spread across the district) will fall far short of meeting the housing requirements (including the demand for affordable housing). This will especially be a problem within Canterbury City where need for affordable housing is already high. This will lead to unfulfilled location and tenure aspirations and out-migration (as people will need to move to another district to find a home). In consequence, this is reflected in the significant negative score against this objective. -- | Although the provision of 617 dwellings a year falls short of the CLG projected need for 828 dwellings per annum, this demand is based on a level of net in-migration which is higher than would be expected under this scenario, therefore it is likely that the provision of additional homes should meet the majority of the overall need. However, given the current legacy need for affordable homes within the district, the need for affordable housing will not be met (based upon a requirement for 35% of homes to be classed as affordable). This will lead to worsening affordability. This would occur throughout all areas of the district, but would be especially prevalent in Canterbury City where housing need is the greatest. - | The provision of 510 dwellings a year will fall short of housing demand need, based on projected population change. Even accounting that net in-migration will be lower under this scenario it is still likely to fall short of this overall need. Given the current legacy need for affordable homes within the district, the need for affordable housing will not be met (based upon a requirement for 35% of homes to be classed as affordable). This will lead to worsening affordability. This would occur throughout all areas of the district, but would be especially prevalent in Canterbury City where housing need is the greatest. -/-- |
| 13. Quality of Life To improve the quality of life for those living and working in the District. | A lack of investment to the area, following a declining workforce, may influence on provision of services, community facilities and shops, affecting access to these services, which may have knock-on negative effects on quality of life for residents in the district. There is also a potential for levels of crime to increase as deprivation in the district worsens, especially driven by loss of workforce and economic decline. - | Within Canterbury City, the scale of development may offer the opportunity to design out crime within the new developments. Within rural and coastal areas it is not clear how levels of crime will be affected but invigoration of town centres should help improve vibrancy. + | Within Canterbury City, the scale of development may offer the opportunity to design out crime within the new developments. + |
| Use resources as efficiently as possible | | | |
| 14. Use of Land To deliver more sustainable use of land in more sustainable location patterns. | Development for 3,000 homes under this objective will be delivered within land currently committed to development. This will utilise all currently available brownfield land and will minimise development on greenfield land. Reducing flexibility to only build on land that is currently available may result in missed opportunity to build on land that becomes available over the 20 year period. For example, closure of industry may result in new land becoming available. This could potentially increase the amount of derelict and underused land within the district. 0 | Development of more than 12,300 dwellings across 20 years will require approximately 350 ha of land. This will utilise all currently available brownfield land. The remaining development should be accommodated on greenfield land located on the urban fringes across the district. The loss of significant areas of greenfield land and topsoil is likely to have a significant adverse effect on soil quality. -/-- | Development of approximately 10,200 dwellings across 20 years will require approximately 290 ha of land. The remaining development should be accommodated on greenfield land located on the urban fringes across the district. The loss of significant areas of greenfield land and topsoil is likely to have a significant adverse effect on soil quality. -/-- |
| 15. Natural Resources To ensure the prudent use of natural resources and | Although raw material (aggregates, steels and timber) will be required for construction of 150 dwellings a year, given the small scale of construction and the opportunity to 0 | The provision of 617 dwellings a year will require raw materials. However, given the opportunity to enhance the reuse and recycling of construction materials, it is considered that this would -/-- | The provision of 510 dwellings a year will require raw materials. However, given the opportunity to enhance the reuse and recycling of construction materials, it is considered -/-- |

| Options SA Objectives | Scenario A Existing Supply | Scenario B Trend Based Completions | Scenario C South East Plan Requirements |
|--|---|--|---|
| management of existing resources. | <p>enhance the reuse and recycling of construction materials, it is considered that this would only a very minor effect.</p> <p>Some use of greenfield land and removal of topsoil will be required, however, given the scale of development, this effect is considered to be very small.</p> <p>The 3% decrease in population following out-migration (compared to the population in 2011), may decrease the total demand for water resources, reducing strain on water resources. However, this will depend partly on changes to water consumption per capita.</p> | <p>not have a significantly negative effect.</p> <p>Development on greenfield land will be required, as the stock of PDL within the district is insufficient to meet the demand for land. The irreversible loss of this land to development could be significant depending on its existing value and use.</p> <p>The increase in population by some 12% compared to 2011 levels may increase the strain on water resources, however, given the opportunity for increasing water efficiency within homes, this is not expected to increase strain on water resources significantly.</p> | <p>that this would not have a significantly negative effect.</p> <p>Development on greenfield land will be required, as the stock of PDL within the district is insufficient to meet the demand for land. The irreversible loss of this land to development could be significant depending on its existing value and use.</p> <p>The increase in population by some 8.5% compared to 2011 levels may increase the strain on water resources, however, given the opportunity for increasing water efficiency within homes, this is not expected to increase strain on water resources significantly.</p> |
| <p>16. Waste To reduce generation and disposal of waste, and achieve sustainable management of waste.</p> | <p>Although the construction of 150 new homes every year will increase waste generation, given the small scale of development it is not considered to have a negative effect on this objective. Mitigation measures such as sustainable design and construction techniques and the use of Site Waste Management Plans (SWMP), and following other guidelines within the Sustainable Construction SPD, would further minimize negative effect.</p> <p>The decrease in the population is likely to decrease the total household waste generation in the district. This may increase the length of time until landfill space reaches its capacity. However, given the decrease in population is relatively small (a decrease in 3% compared to the population in 2011) this is unlikely to be significant.</p> | <p>Construction of 617 new homes every year could considerably increase construction waste generation. However, such effects could be mitigated if sustainable design and construction techniques are employed and exacting targets adopted through Site Waste Management Plans.</p> <p>Every effort should be taken to use any waste generated during construction on the site. In addition, in order to further mitigate waste effects the guidelines in the Sustainable Construction SPD should be followed.</p> <p>The significant increase in population (in 2031 the population will have increased by 11% compared to the population in 2011) will significantly increase household waste generation in the district. This is likely to become a major issue in the long term as population increase further and landfill space runs out.</p> | <p>Construction of 510 new homes every year could considerably increase construction waste generation. However, such effects could be mitigated if sustainable design and construction techniques are employed and exacting targets adopted through Site Waste Management Plans.</p> <p>Every effort should be taken to use any waste generated during construction on the site. In addition, in order to further mitigate waste effects the guidelines in the Sustainable Construction SPD should be followed.</p> <p>The significant increase in population (in 2031 the population will have increased by 9% compared to the population in 2011) will significantly increase household waste generation in the district. This is likely to become a major issue in the long term as population increase further and landfill space runs out.</p> |

Economic Led Scenarios

| Options SA Objectives | Scenario D East Kent Strategy | Scenario E Futures “Preferred Scenario” | Scenario F “Travel to work” | Scenario G Updated Economic Forecast |
|---|--|--|--|--|
| Sustainable innovative and productive economy that delivers high levels of employment | | | | |
| <p>1. Economy and Employment</p> <p>To achieve a strong and stable economy which offers rewarding and well located employment opportunities to everyone.</p> | <p>Under this scenario it is assumed that there will be employment growth averaging 0.264% per annum, which would support a modest addition of 3,600 jobs to the district. It is expected that there will be job growth within the service sector leading to a requirement for 11 ha of office employment land which will offset decreases in other sectors, such as the industrial sector, where 1 ha of employment land will be lost.</p> <p>However, the proportion of the population that are of economically active will decrease (as a result of the demographic profile of people moving in and out of the district and the aging of the existing population leading to an increase in those of retirement age). In consequence, it is likely that a higher proportion of those of working age would be in employment, along with considerable in-commuting to the district to fill the new jobs created.</p> <p>It is also likely that the overall increase in population (increasing from 147,700 in 2011 to 167,273 in 2031, an increase of 13.3%) will benefit the local economy through increased spend of residents on domestic goods and services.</p> <p>The construction of some 655 dwellings a year over a 20 year period will generate 985 construction jobs a year within the district (based on 1.5 direct construction employees per home). This may also have an indirect benefit to local suppliers to builders as well during this period.</p> <p>Given that development in this option will be largely driven by increases in service job growth it is assumed that the majority of development (some 47% of total development) will be located within or close proximity to Canterbury City, where these sectors are more prevalent. Therefore it is assumed that access to jobs and transport links will be good for these developments. Developments located within rural and coastal communities are likely to score</p> | <p>Under this scenario it is estimated that economic growth will average 0.472% per annum, which would support an additional 6,560 jobs to the district (an increase of 4.4% from 66,505 jobs in 2011). It is expected that this job growth will come from the service sector which will offset decreases in other sectors. This is highlighted by requirements for 16.5 ha of office employment land and a loss of 1 ha of industrial land.</p> <p>However, the proportion of the population that are of economically active will decrease (as a result of the demographic profile of people moving in and out of the district and the aging of the existing population leading to an increase in those of retirement age). In consequence, it is likely that a higher proportion of those of working age would be in employment, along with considerable in-commuting to the district to fill the new jobs created.</p> <p>It is also likely that the overall increase in population (increasing from 147,700 in 2011 to 173,201 in 2031, an increase of 17.3%) will benefit the local economy through increased spend of residents on domestic goods and services.</p> <p>The construction of some 780 dwellings per year will support approximately 1,170 construction workers a year (based on 1.5 direct construction employees per home). This will also have an indirect benefit to local suppliers to builders as well during this period.</p> <p>Given that development in this option will be largely driven by increases in service job growth it is assumed that the majority of development (some 55%) will be located within or close proximity to Canterbury City, where these sectors are more prevalent. Therefore it is assumed that access to jobs and transport links will be good for these developments. Developments located within rural and coastal communities are likely to score less well on access to jobs.</p> | <p>The increase in population under this scenario will be significant (rising from 149,100 in 2009 to a projected 192,502 in 2031). However given the increased proportion of residents who will be out-commuting (from 27% to 37%), the increase in job growth within the district will be at a far lower rate than the increase in employment (at 214 new jobs per annum).</p> <p>The increase in population will benefit the local economy through increased local spend on goods and services. However, benefit to the local economy in terms of permanent jobs would be considerably greater were it not for the high proportion of population out-commuting (approximately 37%) and the reduced provision of employment land within the district. There is some potential that over the longer term that some commuters may wish to change working patterns and chose to work from home and set up local businesses, however, this is not certain.</p> <p>It is assumed that developments under this scenario will be located within close proximity to transport links and therefore access to jobs in surrounding districts and London will be good.</p> <p>The construction of some 1167 dwellings per year will generate approximately 1,750 construction jobs a year (based on 1.5 direct construction employees per home) which will have a significantly positive impact for the district. Local suppliers to builders will also be positively affected during this period.</p> | <p>Under this scenario it is assumed that economic growth will average 0.304% per annum, which, following the economic forecasting used, (removing any demographic or policy constraints) will support an additional 4,159 jobs. Although the increase in jobs will benefit the local economy, it will not be at a scale that is considered significant (2.8% increase from 66,505 jobs in 2011).</p> <p>However, this scenario will demonstrate growth across both the service and industrial sectors, highlighted by requirements for both office and industrial land. This will help diversify jobs available and will provide jobs for industrial skills sets, contrary to current trends and other scenarios.</p> <p>The increase in population will be significant (rising by some 14%) which will benefit the local economy through increased spend by residents on domestic goods and services. However, this is unlikely to be of a scale that is considered significant.</p> <p>The construction of some 679 dwellings a year will generate approximately 1020 construction jobs within the district (based on 1.5 direct construction FTEs being generated per home). This will also have an indirect benefit to local suppliers to builders as well during this period.</p> <p>Given that this scenario is driven by employment growth and service job generation, it is assumed that development will occur predominantly within and around Canterbury City (49%) where these jobs are more prevalent. Therefore, it is assumed that the majority of development will be within good access to jobs. Developments located within rural and coastal communities are likely to score less well on access to jobs.</p> |

| Options SA Objectives | Scenario D East Kent Strategy | Scenario E Futures “Preferred Scenario” | Scenario F “Travel to work” | Scenario G Updated Economic Forecast |
|--|---|---|--|---|
| | less well regarding access to jobs. | | | |
| <p>2. Rural/Coastal Communities</p> <p>To sustain vibrant rural and coastal communities.</p> | <p>Although under this scenario a considerable proportion of development will occur within rural and coastal areas (57% of total development) the total number of affordable homes constructed under this scenario will fall short of total affordable housing demand. +</p> <p>The quantity of employment land provided under this scenario will provide a modest increase in jobs. However, the increase in jobs is considered to be mostly within the service sectors, which are likely to be predominately located within the city and better matched to skill sets found within the city. In addition as the overall increase in jobs is modest (2.4% increase compared to 2011), the increase in jobs for rural and coastal communities is not considered to be significant.</p> <p>However, the construction of 655 dwellings a year will provide some localised construction employment, which could be met by appropriately skilled workers living in coastal and rural communities. Similarly, there will be some indirect spend on services which could benefit the wider population.</p> | <p>The majority of housing developments under this scenario will be located within Canterbury City (55% of total development). The total number of affordable homes constructed within rural and coastal areas will fall short of the demand for affordable housing in those areas. +</p> <p>The quantity of employment land provided under this scenario will provide an increase in jobs. However, given that the increase in jobs is considered to be mostly within the service sectors, which are likely to be predominately located within the city and may not match skill sets within rural and coastal communities, it is not certain whether this will have a meaningful direct contribution to the coastal and rural economies and employment needs.</p> <p>There will be some localised employment created from constructing the 780 homes a year, which may provide jobs for appropriately skilled workers living in coastal and rural communities. Similarly, there will be some indirect spend on services which could benefit the wider population.</p> | <p>Although the total number of homes under this scenario is significant at 1167 homes a year, the majority of these homes will be located within Canterbury City (approximately 70%). The number of affordable homes constructed within rural and coastal areas will fall short of the demand for affordable housing in those areas. +</p> <p>The proportion and quantity of employment land is small relative to the increase in working population and is unlikely to meet the employment needs of the coastal and rural communities. It is arguable therefore whether the proposals make a meaningful direct contribution to ensuring coastal and rural communities remain vibrant and growing.</p> <p>However, there will be some localised employment created from constructing the 1,167 homes a year which maybe met by appropriately skilled workers living in the coastal and rural communities. Similarly, there will be some indirect spend on services which could benefit the wider population.</p> | <p>Under this scenario, a considerable proportion of development will occur within rural and coastal areas (51%). However, the total number of affordable homes constructed under this scenario will fall short of the demand for affordable housing in those areas. +</p> <p>The quantity of employment land provided under this scenario will provide a modest increase in jobs. This may provide job opportunities for rural and coastal communities, especially as there is expected to be provision of both office and industrial employment land, the jobs generated may match the skill sets of rural and coastal communities. However, given that the increase in jobs is modest (2.8% increase compared to 2011), the increase in jobs for rural and coastal communities is not considered to be significant.</p> <p>There will be some localised employment created from constructing the 679 homes a year which maybe met by appropriately skilled workers living in the coastal and rural communities. Similarly, there may be some indirect spend on services which could benefit the wider population.</p> |
| Protect and enhance the physical and natural environment | | | | |
| <p>3. Water Quality</p> <p>To protect and improve the quality of inland and coastal waters.</p> | <p>There is the potential for the construction of more than 13,000 dwellings over 20 years to negatively affect water quality through accidental discharges and uncontrolled runoff from the construction site. This will depend on the location of the developments, the proximity to water bodies and the prevailing quality of the water body. -</p> <p>It is assumed that there will be no development that will require diversion or modification of existing watercourses. However, if such measures are required, this could affect local water quality.</p> <p>Given that more land is required for constructing the developments than is currently committed for development, it may be necessary to build near sensitive</p> | <p>There is the potential for the construction of approximately 15,600 dwellings over 20 years to negatively affect water quality through accidental discharges and uncontrolled runoff from the construction site. This will depend on the location of the developments, the proximity to water bodies and the prevailing quality of the water body. -</p> <p>It is assumed that there will be no development that will require diversion or modification of existing watercourses. However, if such measures are required, this could affect local water quality.</p> <p>Given that more land is required for constructing the developments than is currently committed for development, it may be necessary to build near sensitive</p> | <p>Depending on the location of the developments, the proximity to water bodies and the prevailing quality of the water body, the construction of 23,334 new dwellings over 20 years has the potential to negatively affect water quality through accidental discharges and uncontrolled runoff from the construction site. -</p> <p>It is assumed that there will be no development that will require diversion or modification of existing watercourses. However, if such measures are required, this could affect local water quality.</p> <p>It may be necessary to build near sensitive areas around the Great Stour River and areas near Stodmarsh wetlands in which case extra precaution would be required to ensure any risks of</p> | <p>Depending on the location of the developments, the proximity to water bodies and the prevailing quality of the water body, the construction of nearly 13,600 new dwellings over 20 years has the potential to negatively affect water quality through accidental discharges and uncontrolled runoff from the construction site. -</p> <p>It is assumed that there will be no development that will require diversion or modification of existing watercourses. However, if such measures are required, this could affect local water quality.</p> <p>Given that more land is required for constructing the developments than is currently committed for development, it may be necessary to build near sensitive areas around the Great Stour</p> |

| Options SA Objectives | Scenario D East Kent Strategy | Scenario E Futures “Preferred Scenario” | Scenario F “Travel to work” | Scenario G Updated Economic Forecast |
|--|--|--|--|---|
| | <p>areas around the Great Stour River and areas near Stodmarsh wetlands. If this were the case, extra precaution would be required to ensure any risks of pollutant discharges (such as particulates or oil) are minimised and appropriately managed through site Construction Environmental Management Plans. It is assumed that the design of the development will include SUDS to ensure that all subsequent rainfall will infiltrate surfaces rather than exacerbate any downstream flood risks (which also have temporary effects on water quality).</p> | <p>areas around the Great Stour River and areas near Stodmarsh wetlands. If this were the case, extra precaution would be required to ensure any risks of pollutant discharges (such as particulates or oil) are minimised and appropriately managed through site Construction Environmental Management Plans. It is assumed that the design of the development will include SUDS to ensure that all subsequent rainfall will infiltrate surfaces rather than exacerbate any downstream flood risks (which also have temporary effects on water quality).</p> | <p>pollutant discharges (such as particulates or oil) are minimised and appropriately managed through site Construction Environmental Management Plans. It is assumed that the design of the development will include SUDS to ensure that all subsequent rainfall will infiltrate surfaces rather than exacerbate any downstream flood risks (which also have temporary effects on water quality).</p> | <p>River and areas near Stodmarsh wetlands. If this were the case, extra precaution would be required to ensure any risks of pollutant discharges (such as particulates or oil) are minimised and appropriately managed through site Construction Environmental Management Plans. It is assumed that the design of the development will include SUDS to ensure that all subsequent rainfall will infiltrate surfaces rather than exacerbate any downstream flood risks (which also have temporary effects on water quality).</p> |
| <p>4. Transport Reduce road traffic and its impacts, promoting more sustainable modes of transport.</p> | <p>The increase to the working age population and number of jobs in the area may increase the demand for transport during peak hours. This may increase congestion of roads, especially within the ring road and inner radial routes where congestion is already an issue. However, given that the scale of increase is small, the likelihood of it having a significant negative effect on existing congestion levels during peak hours is considered low. -</p> <p>There is a potential that levels of in commuting to the district may increase (as the number of jobs created is greater than the labour force for the area). This may increase reliance on cars and the distance travelled by workers but this is uncertain.</p> <p>Under this scenario, it is expected that 47% of developments will be located within Canterbury City with the remaining 53% within rural and coastal areas. It is expected that access to jobs and community facilities will be better within the City. Such services are more likely to be within walking or cycling distance or accessible by public transport reducing reliance on cars. However, rural and coastal areas are likely to have less good access which may increase overall reliance on cars in these areas and would score less well.</p> | <p>The significant increase to the working age population and number of jobs in the area is likely to increase the demand for transport during peak hours. This may increase congestion of roads, especially within the ring road where this is already a problem. However, given that the scale of increase is small, the likelihood of it having a significant negative effect on existing congestion levels during peak hours is considered low. -</p> <p>Although the level of out-commuting is projected to remain stable at approximately 27% under this scenario, the provision of employment land and job growth may encourage and increase levels of in-commuting to the district. This may further exacerbate congestion on principal routes.</p> <p>It is possible that an increase in the levels of home working could decrease the total demand for transport reducing congestion issues, however, this is uncertain.</p> <p>Given that some 55% of new development is likely to be within or near Canterbury City, it is likely that these developments will have good access to jobs and facilities. Therefore, there may be an opportunity to decrease the population’s reliance on cars and promote public transport and more sustainable transport methods such as walking and cycling. Developments within rural and coastal areas are likely to have less good access to jobs and facilities, possibly increasing reliance on cars which would score less well against this objective.</p> | <p>The increase in population and emphasis on commuting to work outside of the district in this scenario (approximately 37% of resident workers would commute out of the district compared to current levels of approximately 27%) is likely to significantly increase the demand for travel and transport. It is assumed that the majority of these additional journeys will be by car (although it is recognised that the high speed train will attract some commuters). This will put additional strain on the existing transport infrastructure especially during peak hours. This is especially important as congestion within Canterbury (especially within the ring road and inner radial routes) and overcrowding within trains to London are already issues. Developments to the south of Canterbury are likely to have easy access to the wider traffic network. However, any developments to the north of Canterbury would score less well as they would be further from the main transport corridor. --</p> <p>Given the scale of development and commuting anticipated, the levels of congestion experienced is likely to worsen with increasing number of people commuting to work. Although it is recognised that under this scenario there is likely to be investment into the transport infrastructure it is unlikely that it will be able to accommodate the increase in demand.</p> <p>The increase in outcommuting is likely to increase population’s reliance on cars and trains rather than more sustainable transport methods such as walking and</p> | <p>The increase to the working age population and number of jobs in the area may increase the demand for transport during peak hours. This may increase congestion of roads, especially within the ring road and inner radial routes, where this is already a problem. However, given the scale of increase is small; it is likely to be accommodated within existing transport infrastructure without significant negative effects. -</p> <p>There is a potential that levels of in commuting to the district may increase (as the number of jobs created is greater than the labour force for the area). This may increase reliance on cars and the distance travelled by workers but this is uncertain.</p> <p>It is possible that an increase in the levels of home working could decrease the total demand for transport reducing congestion issues, however, this is uncertain.</p> <p>Under this scenario it is expected that 49% of developments will be located within Canterbury City with the remaining 51% within rural and coastal areas. It is expected that access to jobs and community facilities will be better within the City. Such services are more likely to be within walking or cycling distance or accessible by public transport reducing reliance on cars. However, rural and coastal areas are likely to have less good access which may increase overall reliance on cars in these areas and would score less well.</p> |

| Options SA Objectives | Scenario D East Kent Strategy | Scenario E Futures “Preferred Scenario” | Scenario F “Travel to work” | Scenario G Updated Economic Forecast |
|--|--|---|---|--|
| | | | <p>cycling.</p> <p>The construction of 1,167 dwellings per year will require increased vehicle movements for materials, equipment and staff. This could further exacerbate traffic and congestion during periods of construction.</p> | |
| <p>5. Countryside and Historic Environment</p> <p>To protect and improve landscapes for both people and wildlife and to protect and maintain vulnerable assets (including built and historic)</p> | <p>The provision of approximately 13,100 dwellings by 2020 will require roughly 375 hectares of land. This is significantly greater than the 86 ha of currently committed land. Development on the additional sites (the majority of which will be greenfield) increases the likelihood that there will be some effects on natural or built landscapes and given that at this stage it is not known where the development would be located, there is potential for development to affect sensitive and important natural landscapes, significant for both residents and local wildlife. However, by giving preference to sites within landscapes which are less diverse and contain fewer features of interest, such as hedges, ditches or woodland, this would minimise negative impacts.</p> <p>Construction on greenfield sites may damage previously undiscovered archaeological features, with a potentially higher risk for greenfield land within urban areas, however this is uncertain.</p> <p style="text-align: right;">-/-</p> | <p>The construction of approximately 16,000 new dwellings will require almost 450 hectares of land. This is significantly greater than the 86ha of currently committed land. Development on the additional sites (the majority of which will be greenfield) increases the likelihood that there will be some effects on natural or built landscape.</p> <p>It is expected that the majority of new homes (55%) will be required around Canterbury City. This will result in a demand for land which is significantly greater than land used for development historically. Therefore it is assumed that development will need to proceed on the periphery of the city, using greenfield sites. This increases the likelihood of encroaching on locations with landscape designations, which would have a significantly negative effect on this objective. Although, given that at this stage it is not known where development would be located, this is not certain.</p> <p>Development of greenfield sites on the urban fringe of Canterbury could have a negative effect on the landscape for both the residents of Canterbury and local wildlife. For development locations on the southern fringe of Canterbury, the areas to the north of the main transport corridor are to an extent desensitised by the road, urban fringe and power lines.</p> <p>If any of the development impeded current views of the Cathedral or its setting, this would be a potentially significant negative effect, given the Cathedral’s World Heritage status.</p> <p>Construction on greenfield sites may damage previously undiscovered archaeological features, with a potentially higher risk for greenfield land within urban areas, however this is uncertain.</p> <p style="text-align: right;">-/-</p> | <p>The requirement for sites to accommodate 15,760 dwellings around Canterbury City (approximately 70% of the total of 23,334 homes built) is significantly greater than historic development trends. As a result, development under this scenario is likely to affect the character and setting of historical assets around the periphery of the city. Construction activities (particularly any vibration from demolition and/or piling) could have a negative effect on any vulnerable buildings or assets.</p> <p>If any of the development impeded current views of the Cathedral or its setting, this would be a potentially significant negative effect, given the Cathedral’s World Heritage status.</p> <p>For development locations on the southern fringe of Canterbury, the areas to the north of the main transport corridor are to an extent desensitised by the road, urban fringe and power lines.</p> <p>Construction on greenfield sites may damage previously undiscovered archaeological features, with a potentially higher risk for greenfield land within urban areas, however this is uncertain.</p> <p style="text-align: right;">--</p> | <p>The provision of approximately 13,600 dwellings by 2020 will require roughly 388 hectares of land. This is significantly greater than the 86 ha of currently committed land. Development on the additional sites (the majority of which will be greenfield) increases the likelihood that there will be some effects on natural or built landscapes and given that at this stage it is not known where the development would be located, there is potential for development to affect sensitive and important natural landscapes, significant for both residents and local wildlife. However, by giving preference to sites within landscapes which are less diverse and contain fewer features of interest, such as hedges, ditches or woodland, this would minimise negative impacts.</p> <p>Construction on greenfield sites may damage previously undiscovered archaeological features, with a potentially higher risk for greenfield land within urban areas, however this is uncertain.</p> <p style="text-align: right;">-/-</p> |

| Options SA Objectives | Scenario D East Kent Strategy | Scenario E Futures “Preferred Scenario” | Scenario F “Travel to work” | Scenario G Updated Economic Forecast |
|---|--|---|--|---|
| <p>6. Geology and Biodiversity</p> <p>To avoid damage to geological sites and improve biodiversity.</p> | <p>In order to construct the number of dwellings expected under this scenario approximately 375 ha of land will be required. This is significantly greater than the 86 ha of currently committed land and therefore additional land will be required to accommodate the additional housing. It is likely that the majority of these additional sites will be current open space or agricultural land. Development on greenfield land may have a negative effect on biodiversity, especially if key habitats or species are lost.</p> <p>It is uncertain whether any of these additional sites will be close to any of the designated conservation areas (such as the Blean Complex SAC, BAP priority habitats and species) and therefore whilst the effects of the development are considered to be negative against this objective, it is unknown at this stage whether such effects would be considered to have a significant effect</p> <p>The loss of green infrastructure for development will reduce connectivity for species between habitats and will have further negative effects on this objective.</p> <p>Dust, noise and vibrations generated during the construction period may negatively affect species in the short term.</p> <p>The soil of greenfield sites is likely to be of a higher quality than on previously developed land, therefore the loss of significant areas of greenfield land and topsoil is likely to have a significant adverse effect on soil quality.</p> | <p>In order to construct the number of dwellings expected under this scenario approximately 445 ha of land will be required. This is significantly greater than the 86ha of currently committed land and therefore additional land will be required to accommodate the housing. It is likely that the majority of these additional sites will be current open space or agricultural land. Development on greenfield land may have a negative effect on biodiversity, especially if key habitats or species are lost. The likelihood of development having a significantly negative effect on biodiversity will be greater within close proximity to Canterbury City where the demand for land will be significantly higher than historically (given that 55% of all development is expected to be located within this area).</p> <p>Development sites on the northern edge of Canterbury could have a significant negative effect against biodiversity due to the proximity to internationally important sites for wildlife. Planning powers should be used to ensure that there are not negative effects against these options. Similarly, if development is sited to south west (close to the Larkey Valley Wood SSSI and local nature reserve) the effects could also be significantly negative.</p> <p>The loss of green infrastructure for development will reduce connectivity for species between habitats and will have further negative effects on this objective.</p> <p>Dust, noise and vibrations generated during the construction period may negatively affect species in the short term.</p> | <p>In order to construct the number of dwellings expected under this scenario approximately 670 ha of land will be required. This significantly exceeds the 86ha of currently committed land and historic development trends. As a result, significant additional land will be required to accommodate this housing. It is likely that the majority of these additional sites will be current, open space agricultural land. Development on greenfield land of this scale may have a significantly negative effect on biodiversity, as key habitats or species are may be lost.</p> <p>Development sites on the northern edge of Canterbury could have a significant negative effect against biodiversity due to the proximity to internationally important sites for wildlife. Planning powers should be used to ensure that there are not negative effects against these options. Similarly, if development is sited to south west (close to the Larkey Valley Wood SSSI and local nature reserve) the effects could also be significantly negative.</p> <p>The loss of green infrastructure for development will reduce connectivity for species between habitats and will have further negative effects on this objective.</p> <p>Dust, noise and vibrations generated during the construction period may negatively affect species in the short term.</p> | <p>In order to construct the number of dwellings expected under this scenario approximately 390 ha of land will be required. This significantly exceeds the 86 ha of currently committed land. As a result, considerable greenfield land will be required to accommodate this housing. It is likely that the majority of these additional sites will be current open space or agricultural land. Development on greenfield land may have a negative effect on biodiversity, especially if key habitats or species are lost.</p> <p>It is uncertain whether any of these additional sites will be close to any of the designated conservation areas (such as the Blean Complex SAC, BAP priority habitats and species) and therefore whilst the effects of the development are considered to be negative against this objective, it is unknown at this stage whether such effects would be considered to have a significant effect</p> <p>The loss of green infrastructure for development will reduce connectivity for species between habitats and will have further negative effects on this objective.</p> <p>Dust, noise and vibrations generated during the construction period may negatively affect species in the short term.</p> |
| <p>7. Climate Change, Energy and Air Quality</p> <p>To reduce the causes and impacts of climate change, improve air quality and promote energy efficiency.</p> | <p>The significant population increase (in 2031 the population will have grown by approximately 13% compared to 2011) and the energy used during the construction and subsequent occupation of almost 13,100 new dwellings is likely to lead to a net increase in energy demand across the district. The extent to which it has an overall effect on carbon emissions will be dependent on the extent to which energy supply has been decarbonised by 2031.</p> | <p>The significant population increase (in 2031 the population will have grown by some 17% compared to 2011) and the energy used during the construction and subsequent occupation of almost 16,000 new dwellings is likely to lead to a net increase in energy demand across the district. The extent to which it has an overall effect on carbon emissions will be dependent on the extent to which energy supply has been decarbonised by 2031.</p> <p>Given the scale of the</p> | <p>The significant population increase and the energy used during the construction and subsequent occupation of the new dwellings are likely to lead to a net increase in energy demand across the district. The extent to which it has an overall effect on carbon emissions will be dependent on the extent to which energy supply has been decarbonised by 2031.</p> <p>Given the scale of the development proposed, there will be opportunities for the new homes to include low carbon</p> | <p>A significant population increase (by 2031, the population is projected to increase by 14% compared to 2011) and the energy used during the construction and subsequent occupation of almost 13,600 new dwellings is likely to lead to a net increase in energy demand across the district. The extent to which it has an overall effect on carbon emissions will be dependent on the extent to which energy supply has been decarbonised by 2031.</p> <p>Given the scale of the</p> |

| Options SA Objectives | Scenario D East Kent Strategy | Scenario E Futures “Preferred Scenario” | Scenario F “Travel to work” | Scenario G Updated Economic Forecast |
|-----------------------|--|--|--|---|
| | <p>Given the scale of the development proposed, there will be opportunities for the new homes to include low carbon technologies with their design and to use low carbon materials within their construction. The potential to which this is realised will depend on whether ambitious sustainability targets (such as those that exceed the Code for Sustainable Homes are used).</p> <p>The significant increase in population may increase the total car use, which would increase emissions. However, the increase in working age population is modest and therefore, it is not expected that there will be a significant increase in car use. In consequence, it is not expected that there will be any exacerbation of current levels of congestion and that current air quality is unlikely to deteriorate.</p> <p>Effects of construction traffic would be localised and of intermittent frequency (although would last for the duration of the plan) and as such is not anticipated to significantly effect this objective.</p> <p>Climate change is forecast to increase the incidence and frequency of periods of low precipitation in the South East (compared to present). This could affect the recharge and availability of local water supplies. This issue combined with the considerable increase in demand from the increased population from this scenario could lead to an increase in the use of drought emergency measures during summer months. This may be mitigated in part by the installation of water saving appliances into new builds as standard.</p> <p>The incidence and frequency of periods of heavy precipitation and sea levels are also projected to increase compared to present. This may further exacerbate the risks of flooding and coastal inundation as described under objective 8.</p> | <p>development proposed, there will be opportunities for the new homes to include low carbon technologies with their design and to use low carbon materials within their construction. In particular, CHP will be viable for a number of the developments. The potential to which this is realised will depend on whether ambitious sustainability targets (such as those that exceed the Code for Sustainable Homes are used).</p> <p>The significant increase in the population across all age groups will increase the total number of car journeys, especially during peak hours, which could increase congestion and emissions.</p> <p>Effects of construction on local traffic would be localised and of intermittent frequency (although would last for duration of the plan) and as such is not anticipated to significantly effect this objective.</p> <p>Climate change is forecast to increase the incidence and frequency of periods of low precipitation in the South East (compared to present). This could affect the recharge and availability of local water supplies. This issue combined with the considerable increase in demand from this scenario could lead to an increase in the use of drought emergency measures during summer months. This may be mitigated in part by the installation of water saving appliances into new builds as standard.</p> <p>The incidence and frequency of periods of heavy precipitation and sea levels are also projected to increase compared to present. This may further exacerbate the risks of flooding and/or coastal inundation as described under objective 8.</p> | <p>technologies with their design and to use low carbon materials within their construction. In particular, CHP will be viable for a number of the developments. The potential to which this is realised will depend on whether ambitious sustainability targets (such as those that exceed the Code for Sustainable Homes are used).</p> <p>The substantial increase in out-commuting, particularly by car and congestion will increase emissions considerably worsening air quality and contributing to climate change.</p> <p>There is currently one AQMA in the district which is in Canterbury. An increase in the number of cars within the city could have effects on air quality objectives.</p> <p>The construction of 1,167 dwellings per year will require a significant increase to vehicle movements for materials, equipment and staff. This may further exacerbate traffic and congestion which would further increase emissions and worsen air quality.</p> <p>Climate change is forecast to increase the incidence and frequency of periods of low precipitation in the South East (compared to present). This could affect the recharge and availability of local water supplies. This issue combined with the substantial increase in demand from the increased population from this scenario could lead to a significant increase in the use of drought emergency measures during summer months.</p> <p>The incidence and frequency of periods of heavy precipitation and sea levels are also projected to increase compared to present. This may further exacerbate the risks of flooding and/or coastal inundation as described under objective 8.</p> | <p>development proposed, there will be opportunities for the new homes to include low carbon technologies with their design and to use low carbon materials within their construction. The potential to which this is realised will depend on whether ambitious sustainability targets (such as those that exceed the Code for Sustainable Homes are used).</p> <p>The significant increase in population is likely to increase the total car use, which will increase emissions. However, the increase in working age population is modest and therefore, it is not expected that there will be a significant increase in car use during peak hours when congestion is most likely. In consequence, it is not expected that there will be any exacerbation of current levels of congestion and that current air quality is unlikely to deteriorate.</p> <p>Effects of construction traffic would be localised and of intermittent frequency (although would last for duration of the plan) and as such is not anticipated to significantly effect this objective.</p> <p>Climate change is forecast to increase the incidence and frequency of periods of low precipitation in the South East (compared to present). This could affect the recharge and availability of local water supplies. This issue combined with the considerable increase in demand from the increased population from this scenario could lead to an increase in the use of drought emergency measures during summer months. This may be mitigated in part by the installation of water saving appliances into new builds as standard.</p> <p>The incidence and frequency of periods of heavy precipitation and sea levels are also projected to increase compared to present. This may further exacerbate the risks of flooding and/or coastal inundation as described under objective 8.</p> |

| Options SA Objectives | Scenario D East Kent Strategy | Scenario E Futures "Preferred Scenario" | Scenario F "Travel to work" | Scenario G Updated Economic Forecast |
|---|---|---|---|---|
| <p>8. Flood Risk and Coastal Erosion</p> <p>To reduce the risk of flooding and coastal erosion which would be detrimental to the public well-being, the economy and the environment.</p> | <p>An estimated 375 ha will be required for the development of approximately 13,100 homes over 20 years (assuming an average density of 35 dwellings per hectare).</p> <p>This scenario requires development over considerable areas of greenfield land. This could reduce infiltration of precipitation, increasing surface runoff and the risk of flooding. However, to manage this risk, any development should be compliant with the requirements in the NPPF and achieve runoff rates consistent with existing greenfield runoff rates. This can be achieved through the use of SUDS techniques.</p> | <p>An estimated 445 ha of land will be required for the development of approximately 15,600 homes over 20 years (assuming an average density of 35 dwellings per hectare).</p> <p>This scenario requires development over considerable areas of greenfield land. This could reduce infiltration of precipitation, increasing surface runoff and the risk of flooding. However, to manage this risk, any development should be compliant with the requirements in the NPPF and associated technical guidance and achieve runoff rates consistent with existing greenfield runoff rates. This can be achieved through the use of SUDS techniques.</p> | <p>An estimated 670 ha of land will be required for development. This is significantly above the area of land which is currently committed and historical trends of development. This need to find additional land to accommodate the additional dwellings increases the potential of building in areas at risk of flooding and/or coastal inundation</p> <p>This scenario requires development over significant areas of greenfield land. This could reduce infiltration of precipitation, increasing surface runoff and the risk of flooding. However, to manage this risk, any development should be compliant with the requirements in the NPPF and achieve runoff rates consistent with existing greenfield runoff rates. This can be achieved through the use of SUDS techniques.</p> | <p>An estimated 390 ha will be required for the development of approximately 13,600 homes over 20 years (assuming an average density of 35 dwellings per hectare).</p> <p>This scenario requires development over considerable areas of greenfield land. This could reduce infiltration of precipitation, increasing surface runoff and the risk of flooding. However, to manage this risk, any development should be compliant with the requirements in the NPPF and achieve runoff rates consistent with existing greenfield runoff rates. This can be achieved through the use of SUDS techniques.</p> |
| Just society that promotes social inclusion, sustainable communities and personal wellbeing | | | | |
| <p>9. Access to Services</p> <p>Share access to services and benefits of prosperity fairly and improve wellbeing of everyone.</p> | <p>The significant increase in population (by approximately 13% compared to 2011) will create an increased demand for services, such as schools, doctors, hospitals, recreational facilities and open space. As part of the development options, it is assumed that provision will be made to ensure that community infrastructure requirements will be met.</p> | <p>Under this scenario there will be a significant increase in population (by approximately 17% compared to 2011) which will result in increased demand for services, such as schools, doctors, hospitals, recreational facilities and open space. However, it is assumed that the development options will include provision of services ensuring that community infrastructure requirements are met.</p> | <p>The significant increase in population (by approximately 29% compared to 2011) will create an increased demand for services, such as schools, doctors, hospitals, recreational facilities and open space. As part of the development options, it is assumed that provision will be made to ensure that community infrastructure requirements will be met.</p> <p>Within rural and coastal areas there is expected to be less access to community facilities and these areas may have additional strain compared to other areas near the City where existing access to services is expected to be better.</p> | <p>The significant increase in population (by approximately 14% compared to 2011) will create an increased demand for services, such as schools, doctors, hospitals, recreational facilities and open space. As part of the development options, it is assumed that provision will be made to ensure that community infrastructure requirements will be met.</p> <p>Within rural and coastal areas there is expected to be less access to community facilities and these areas may have additional strain compared to other areas near the City where existing access to services is expected to be better.</p> |
| <p>10. Sustainable Living and Revitalisation</p> <p>To revitalise town and rural centres and to promote sustainable living.</p> | <p>An increasing population may have a positive impact for shops and services, affecting the viability and vitality of town centres. An increase in population, economic activity and developer contributions could also increase local government receipts which could positively affect the level to which the public sector can invest in the local area to stimulate local community centres.</p> <p>It is assumed under this scenario that the spatial provision of homes (and ancillary community facilities) will follow existing</p> | <p>An increasing population may have a positive impact for shops and services, affecting the viability and vitality of town centres. An increase in population, economic activity and developer contributions could also increase local government receipts which could positively affect the level to which the public sector can invest in the local area to stimulate local community centres.</p> <p>By constructing a high proportion of a development within the urban fringe of Canterbury (55%) but still maintaining a reasonable</p> | <p>An increasing population may have a positive impact for shops and services, affecting the viability and vitality of town centres. An increase in population, economic activity and developer contributions could also increase local government receipts which could positively affect the level to which the public sector can invest in the local area to stimulate local community centres.</p> <p>Given the focus of development on Canterbury (with 70% of the development assumed to be within or close proximity</p> | <p>An increasing population may have a positive impact for shops and services, affecting the viability and vitality of town centres. An increase in population, economic activity and developer contributions could also increase local government receipts which could positively affect the level to which the public sector can invest in the local area to stimulate local community centres.</p> <p>It is assumed under this scenario that the spatial provision of homes (and ancillary community facilities) will follow existing</p> |

| Options SA Objectives | Scenario D East Kent Strategy | Scenario E Futures “Preferred Scenario” | Scenario F “Travel to work” | Scenario G Updated Economic Forecast |
|--|---|--|--|---|
| | patterns to be fairly well matched to population demand. As a result the funds available for community infrastructure should also be divided accordingly to best match need (with a fair share to rural and coastal communities). | proportion to rural and coastal areas there will be a minor positive effect on this objective. | Canterbury City) however, there maybe negative effects on rural and coastal communities, which may exacerbate rural/urban, divide on access to community services. | patterns to be fairly well matched to population demand. As a result the funds available for community infrastructure should also be divided accordingly to best match need (with a fair share to rural and coastal communities). |
| 11. High Quality Design and Sustainability To encourage sustainable design and practice. | The scale of developments (especially within Canterbury City and its urban fringes) offers the opportunity, if design guidance is applied to have a positive effect on the sustainable design objective. + | Development within City centre and around the urban fringe of the scale expected under this scenario may offer an opportunity to build larger sustainable developments. If design guidance is applied, there is potential for positive effect on the sustainable design objective. + | Development dispersed around the urban fringe of Canterbury in sizable designated areas gives the developer the opportunity to build larger more sustainable developments taking advantage of resource efficiencies and use of technologies such as CHP as well as design elements (such as working to work). In consequence, there is the potential, if design guidance is applied to have a positive effect on the sustainable design objective. Adherence to design codes and guidelines should ensure that this option scores highly against this objective. ++ | The scale of developments (especially within Canterbury City and its urban fringes) offers the opportunity, if design guidance is applied to have a positive effect on the sustainable design objective. + |
| 12. Housing To make suitable housing available and affordable to everyone. | Although the provision of 655 dwellings a year falls short of the CLG projected need for 828 dwellings per annum, this demand estimate is based on net in-migration which is higher than would be expected under this scenario, therefore the provision of homes should meet the majority of overall need. - However, given the current legacy need for affordable homes within the district, the need for affordable housing will not be met (based upon a requirement for 35% of homes to be classed as affordable). This will lead to worsening affordability. This would occur throughout all areas of the district, but would be especially prevalent in Canterbury City where housing need is the greatest. | Although the provision of 780 dwellings a year falls slightly short of the CLG projected need for 828 dwellings per annum, this is based on net in-migration which is higher than would be expected under this scenario; therefore the provision of homes should meet the overall need. - However, given the current legacy need for affordable homes within the district, the need for affordable housing will not be met (based upon a requirement for 35% of homes to be classed as affordable). This will lead to worsening affordability and may increase the levels of homelessness in the district. | This scenario will significantly increase the number of houses built per annum (by 1,167 per year). Assuming that the proportion of affordable homes remains at 35% (consistent with current Canterbury policy), this level of housing would reach the need for affordable housing and thus have a significant positive effect on this objective. + | Although the provision of 655 dwellings a year falls short of the CLG projected need for 828 dwellings per annum, this estimate of demand is based on net in-migration which is higher than would be expected under this scenario, therefore the provision of homes should meet the overall need. - However, given the current legacy need for affordable homes within the district, the need for affordable housing will not be met (based upon a requirement for 35% of homes to be classed as affordable). This would occur throughout all areas of the district, but would be especially prevalent in Canterbury City where housing need is the greatest. |
| 13. Quality of Life To improve the quality of life for those living and working in the District. | Within Canterbury City, the scale of development may offer the opportunity to design out crime within the new developments. Within rural and coastal areas it is not clear how levels of crime will be affected but invigoration of town centres should help improve vibrancy. + | Concentrating development on the city should have a positive effect with facilities being improved in the area of the district which is most accessible. However, a more targeted approach across the district could result in a better distribution of resource. + The development of large urban extensions will not help to solve existing crime levels but will provide the opportunity to design | Concentrating development on the urban fringe of Canterbury will not help promote use of community facilities per se unless larger centres are developed associated with these developments. For the purposes of this appraisal this has assumed to be the case. + It is anticipated that a dispersed approach to development would create a greater number of satellite areas where access to | Within Canterbury City, the scale of development may offer the opportunity to design out crime within the new developments. Within rural and coastal areas it is not clear how levels of crime will be affected but invigoration of town centres should help improve vibrancy. + |

| Options SA Objectives | Scenario D East Kent Strategy | Scenario E Futures "Preferred Scenario" | Scenario F "Travel to work" | Scenario G Updated Economic Forecast |
|--|---|---|---|---|
| | | out crime in the new developments. | the city centre and facilities was sub-optimal. For those developments closer to the city centre this would be more positive. The development of large urban extensions will not help to solve existing crime levels but will provide the opportunity to design out crime in the new developments. | |
| Use resources as efficiently as possible | | | | |
| 14. Use of Land To deliver more sustainable use of land in more sustainable location patterns. | An estimated 375 ha will be required for development of 13,100 homes. This scale of development will utilise all available brownfield and greenfield sites. The remaining development should be accommodated on greenfield land mostly located on the urban fringes. The loss of significant areas of greenfield land and topsoil is likely to have a significant adverse effect on soil quality.  | An estimated 445 ha will be required for development of 15,593 homes. This scale of development will utilise all available brownfield and greenfield sites and will require additional land. The remaining development should be accommodated on greenfield land mostly located on the urban fringes. The loss of significant areas of greenfield land and topsoil, is likely to have a significant adverse effect on soil quality. It is expected that the majority of new homes (55%) will be required around Canterbury City. This will result in a demand for land which is significantly greater than land used for development historically. Therefore it is assumed that development will need to proceed on the periphery of the city, using greenfield sites. This increases the likelihood of encroaching on locations with landscape designations, which would have a significantly negative effect on this objective. Although, given that at this stage it is not known where development would be located, this is not certain  | An estimated 670 ha will be required for development of 22,517 homes. This scale of development will utilise all available brownfield and greenfield sites and will require significantly more land than historic development trends. The remaining development should be accommodated on greenfield land mostly located on the urban fringes. The loss of significant areas of greenfield land and topsoil is likely to have a significant adverse effect on soil quality.  | An estimated 388 ha will be required for development of 13,600 homes. This scale of development will utilise all available brownfield and greenfield sites. The remaining development should be accommodated on greenfield land located on the urban fringes and within rural and coastal areas. The loss of significant areas of greenfield land and topsoil is likely to have a significant adverse effect on soil quality.  |
| 15. Natural Resources To ensure the prudent use of natural resources and the sustainable management of existing resources. | The provision of 655 dwellings a year will require raw materials (aggregates, steels and timber). However, given the opportunity to enhance the reuse and recycling of construction materials, it is considered that this would not have a significantly negative effect. Development on greenfield land will be required, as the stock of PDL within the district is insufficient to meet the demand for land. The irreversible loss of this land to development could be significant depending on its existing value and use. The increase in population by some 13% by 2031 (compared to  | Given the need for a high number of dwellings under this scenario (780 dwellings a year) it will require significant volumes of raw materials. However, there are opportunities through the use of sustainable design and construction techniques to enhance the reuse and recycling of construction materials. Development on greenfield land will be required, as the stock of PDL within the district is insufficient to meet the demand for land, especially within and around Canterbury City where the demand for land will be significantly greater than historic development trends. The irreversible loss of this land to  | Given the need for a high number of dwellings under this scenario (1170 dwellings a year) it will require high volumes of raw materials. However, there are opportunities through the use of sustainable design and construction techniques to enhance the reuse and recycling of construction materials. The demand for land (some 670 ha) is significantly greater than the current stock of PDL and historic development trends, therefore significant areas of greenfield land will be required to accommodate this provision of housing. Developing on greenfield land (of  | The provision of 679 dwellings a year will require raw materials. However, given the opportunity to enhance the reuse and recycling of construction materials, it is considered that this would not have a significantly negative effect. Development on greenfield land will be required, as the stock of PDL within the district is insufficient to meet the demand for land. The irreversible loss of this land to development could be significant depending on its existing value and use. The increase in population by  |

| Options SA Objectives | Scenario D East Kent Strategy | Scenario E Futures “Preferred Scenario” | Scenario F “Travel to work” | Scenario G Updated Economic Forecast |
|---|---|--|---|--|
| | <p>2011 levels) may increase the strain on water resources; however, the opportunity for increasing water efficiency within homes will reduce the likelihood of significantly affecting the current strain on water resources.</p> | <p>development is likely to be significant, however given that the exact location of development and the existing value and use of land is not known this is not certain.</p> <p>Although it is recognised there is an opportunity to increase water efficiency in the new homes, the increase in population by some 25,500 people by 2031 (17% increase compared to population in 2011) will put additional strain on water resources in the district which may be significant (depending upon per capita consumption patterns, the use of domestic water efficiencies measures and other demand management techniques).</p> | <p>the scale anticipated) would not score well against this objective.</p> <p>This scenario seeks to provide a pattern of development that accommodates significant growth through promoting greater levels of out-commuting. Assuming that the majority of this additional demand for transport is from private car, such an approach is also likely to lead to a substantial increase in resource demand.</p> <p>Although it is recognised there is an opportunity to increase water efficiency in the new homes, the increase in population by some 43,400 people by 2031 will put additional strain on water resources in the district.</p> | <p>some 14% compared to 2011 levels may increase the strain on water resources, however, the opportunity for increasing water efficiency within homes, will reduce the likelihood of significantly affecting the current strain on water resources.</p> |
| <p>16. Waste</p> <p>To reduce generation and disposal of waste, and achieve sustainable management of waste.</p> | <p>Construction of 655 new homes every year could considerably increase the volume of construction waste generated in the district. However, such effects could be mitigated if sustainable design and construction techniques are employed and exacting targets adopted through Site Waste Management Plans. </p> <p>Every effort should be taken to use any waste generated during construction on the site. In addition, in order to further mitigate waste effects the guidelines in the Sustainable Construction SPD should be followed.</p> <p>The significant increase in population (in 2031 the population will have increased by 13% compared to the population in 2011) will significantly increase household waste generation in the district, especially within Canterbury City. This is likely to become a major issue in the long term as population increase further and landfill space runs out.</p> | <p>Construction of 780 new homes every year could considerably increase construction waste generation. However, such effects could be mitigated if sustainable design and construction techniques are employed and exacting targets adopted through Site Waste Management Plans. </p> <p>Every effort should be taken to use any waste generated during construction on the site. In addition, in order to further mitigate waste effects the guidelines in the Sustainable Construction SPD should be followed.</p> <p>The significant increase in population (in 2031 the population will have increased by 17% compared to the population in 2011) will significantly increase household waste generation in the district, especially within Canterbury City. This is likely to become a major issue in the long term as population increase further and landfill space runs out.</p> | <p>Construction of 1,167 new homes every year could considerably increase construction waste generation. However, such effects could be mitigated if sustainable design and construction techniques are employed and exacting targets adopted through Site Waste Management Plans. In addition the scale of the development envisaged for the large urban extensions required to deliver this scenario may also afford opportunities for significant material recycling and reuse on site. </p> <p>Every effort should be taken to use any waste generated during construction on the site. In addition, in order to further mitigate waste effects the guidelines in the Sustainable Construction SPD should be followed.</p> <p>The significant increase in population (in 2031 the population will have increased by 29% compared to the population in 2011) will significantly increase household waste generation in the district, especially within the Canterbury City area. This is likely to become a major issue in the long term as population increase further and landfill space runs out.</p> | <p>Construction of 679 new homes every year could considerably increase construction waste generation. However, such effects could be mitigated if sustainable design and construction techniques are employed and exacting targets adopted through Site Waste Management Plans. </p> <p>Every effort should be taken to use any waste generated during construction on the site. In addition, in order to further mitigate waste effects the guidelines in the Sustainable Construction SPD should be followed.</p> <p>The significant increase in population (in 2031 the population will have increased by 13% compared to the population in 2011) will significantly increase household waste generation in the district, especially within Canterbury City. This is likely to become a major issue in the long term as population increase further and landfill space runs out.</p> |

Demographic and Housing Led Scenarios

| Options SA Objectives | Scenario H Zero Net Migration | Scenario I Past Trends Demographic Led | Scenario J Housing Need |
|--|--|--|--|
| Sustainable innovative and productive economy that delivers high levels of employment | | | |
| <p>1. Economy and Employment To achieve a strong and stable economy which offers rewarding and well located employment opportunities to everyone.</p> | <p>Under this scenario the levels of in-migration will match levels of out-migration resulting in zero net migration. As a result changes in the population will be driven by natural change, which given the aging population will decrease total population by some 4.7%. This will reduce the indigenous labour force by over 13,200, reflecting the proportion of the population reaching retirement age.</p> <p>The scenario anticipates a loss of 10,855 jobs from the district (a reduction by 7.3% compared to 2011 jobs) and reflects a contracting economy and decline in the labour force. Much of this decrease will come from within the industrial sector, reflected in the loss of some 26 hectares of employment land.</p> <p>It is possible to lessen the total decrease in number of jobs that can be supported if proposals to increase the age of retirement are brought forward, although this is highly uncertain given the artificial nature of the scenario.</p> <p>As there will be zero net migration, the population change will be entirely driven by natural change. The scenario envisages that there will be a greater number of deaths than births, leading to a decline of almost 7000 in the population (4.7% decrease). This decrease in the population will lead to a decreased spend on domestic goods and services.</p> <p>Although the overall population will decrease, given the trend for smaller household sizes, there will still be a need for construction of new housing, albeit only 80 dwellings a year, which would generate some construction jobs. However, given the small scale of construction and the temporary nature of construction jobs this will be very small and insignificant compared to the total number of jobs lost due to a declining population.</p> | <p>Combining past migration trends and including natural change leads to a significant increase in population under this scenario of some 40,600 people by 2031 (a 27.5% increase compared to 2011). Given the levels of in migration of people of all age cohorts there will be an increase across each of the age groups.</p> <p>There will therefore be a significant increase in the district labour force and more than 14,700 additional jobs will be supported in the district (an increase of 9.9% compared to jobs in 2011). Job growth is expected across all sectors, highlighted by a requirement for both office and industrial employment land. This would have a significantly positive impact on the local economy, far surpassing past and forecast economic growth in the district, and reduces reliance on the service sector.</p> <p>The local economy will also benefit a significant increase in local spend from the increased population of residents on domestic goods and services.</p> <p>The construction of 1,100 dwellings per annum will generate approximately 1,650 construction jobs (based on 1.5 direct construction FTE per home). This would provide significant employment for the district. Local suppliers to builders will also be positively affected during this period.</p> <p>It is expected under this scenario that the spatial distribution of development will broadly follow existing patterns, with 44% of the developments within Canterbury City area and the remaining 56% across rural and coastal locations. It is expected that developments within close proximity to the City will have better access to jobs, especially service sector jobs which are mostly located in this area. Other developments are likely to have less good access, but this will depend partly on the location of new employment land.</p> | <p>Under this scenario, the population will increase by some 42,840 people by 2031 (a 29% increase compared to 2011) driven by immigration to fill new dwellings. Given the levels of in migration of people of all age cohorts there will be an increase across each of the age groups.</p> <p>There will therefore be a significant increase in the district labour force and more than 15,000 additional jobs will be supported in the district (an increase of 10.2% compared to jobs in 2011). Job growth is expected across all sectors, highlighted by a requirement for both office and industrial employment land. This would have a significantly positive impact on the local economy, far surpassing past and forecast economic growth in the district, and reduces reliance on the service sector.</p> <p>The local economy will also benefit a significant increase in local spend from the increased population of residents on domestic goods and services.</p> <p>The construction of 1,149 dwellings per annum will generate approximately 1,725 construction jobs (based on 1.5 direct construction FTE per home). Local suppliers to builders will also be positively affected during this period.</p> <p>It is expected under this scenario that the spatial distribution of development will broadly follow existing patterns, with 44% of the developments within Canterbury City area and the remaining 56% across rural and coastal locations. It is expected that developments within close proximity to the City will have better access to jobs, especially service sector jobs which are mostly located in this area. Other developments are likely to have less good access, but this will depend partly on the location of new employment land.</p> |
| <p>2. Rural/Coastal Communities To sustain vibrant rural and coastal communities.</p> | <p>The provision of 80 dwellings a year will be dramatically under the need for housing and affordable housing within the district, including rural and coastal communities. This will have significantly negative effects on this objective, such as overcrowding and worsening affordability. This will especially be a problem within Herne Bay where need for affordable housing is already high.</p> <p>The scenario anticipates a loss of 10,855 jobs from the district (a reduction by 7.3% compared to 2011 jobs). Therefore, it is expected that under this scenario there will be significantly negative effects on the rural</p> | <p>Under this scenario the provision of 1,100 homes a year with approximately 56% of these homes to be built within rural and coastal communities, should come close to meeting the demand for affordable housing within rural and coastal communities.</p> <p>The jobs supported through the provision of employment land will be greater than the increase in labour force generated from immigration. Given that significant areas of both office and industrial land are expected to be provided under this scenario, the likelihood of the required skill sets for the new jobs matching the skill sets of rural</p> | <p>Under this scenario the provision of 1,149 homes a year with approximately 56% of these homes to be built within rural and coastal communities, will meet the demand for affordable housing within rural and coastal communities.</p> <p>The jobs supported through the provision of employment land will be greater than the increase in labour force generated from immigration. Given that significant areas of both office and industrial land are expected to be provided under this scenario, the likelihood of the required skill sets for the new jobs matching the skill sets of rural and</p> |

| Options SA Objectives | Scenario H Zero Net Migration | Scenario I Past Trends Demographic Led | Scenario J Housing Need |
|--|--|--|--|
| | <p>economy.</p> <p>Although there is likely to be some localised employment for construction of the homes, which could be provided from appropriately skilled workers within rural and coastal communities, given the scale of construction, the temporary nature of construction jobs, the total number of jobs is considered to be very small and insignificant when compared to the total jobs lost due to out-migration.</p> | <p>and coastal communities are higher than options where only office employment land is provided. It is expected that that this scenario will make a meaningful contribution to the diversification and growth of rural communities and should ensure that employment needs in these areas are met. Although this will depend partly on the location of the new employment land.</p> <p>Furthermore, the construction of some 1,100 homes a year will provide some localised employment which may be met by appropriately skilled workers living in the coastal and rural communities. Similarly, there will be some indirect spend on services which could benefit the wider population.</p> | <p>coastal communities are higher than options where only office employment land is provided. It is expected that that this scenario will make a meaningful contribution to the diversification and growth of rural communities and should ensure that employment needs in these areas are met. Although this will depend partly on the location of the new employment land.</p> <p>Furthermore, the construction of some 1,149 homes a year will provide some localised employment which may be met by appropriately skilled workers living in the coastal and rural communities. Similarly, there will be some indirect spend on services which could benefit the wider population.</p> |
| Protect and enhance the physical and natural environment | | | |
| <p>3. Water Quality To protect and improve the quality of inland and coastal waters.</p> | <p>As is the case with any construction project, the construction of 1591 new dwellings over 20 years has the potential to negatively affect water quality through accidental discharges and uncontrolled runoff from the construction site particularly if the site includes (or is adjacent to) any surface water bodies of good quality.</p> <p>However, the risks of negatively affecting this objective are low given the small scale of construction and that sustainable construction techniques will be used. For example, it is assumed that the design of the development will include SUDS to ensure that all subsequent rainfall will infiltrate surfaces rather than exacerbate any downstream flood risks (which also have temporary effects on water quality).</p> <p>Furthermore, given that all the developments will be constructed on committed land it is assumed that construction will not take place in sensitive areas, such as those around Great Stour River or near the Stodmarsh wetlands.</p> | <p>Depending on the location of the developments, the proximity to water bodies and the prevailing quality of the water body, the construction of nearly 22,000 new dwellings over 20 years has the potential to negatively affect water quality through accidental discharges and uncontrolled runoff from the construction site. Given the large scale of construction required this risk is considered to be higher than for scenarios which require less construction, however, this risk is still considered to be low.</p> <p>It is assumed that there will be no development that will require diversion or modification of existing watercourses. However, if such measures are required, this could affect local water quality.</p> <p>It may be necessary to build near sensitive areas around the Great Stour River and areas near Stodmarsh wetlands in which case extra precaution would be required to ensure any risks of pollutant discharges (such as sediment or oil) are minimised and appropriately managed through site Construction Environmental Management Plans. It is assumed that the design of the development will include SUDS to ensure that all subsequent rainfall will infiltrate surfaces rather than exacerbate any downstream flood risks (which also have temporary effects on water quality).</p> | <p>Depending on the location of the developments, the proximity to water bodies and the prevailing quality of the water body, the construction of nearly 23,000 new dwellings over 20 years has the potential to negatively affect water quality through accidental discharges and uncontrolled runoff from the construction site. Given the large scale of construction required this risk is considered to be higher than for scenarios which require less construction, however, this risk is still considered to be low.</p> <p>It is assumed that there will be no development that will require diversion or modification of existing watercourses. However, if such measures are required, this could affect local water quality.</p> <p>It may be necessary to build near sensitive areas around the Great Stour River and areas near Stodmarsh wetlands in which case extra precaution would be required to ensure any risks of pollutant discharges (such as sediment or oil) are minimised and appropriately managed through site Construction Environmental Management Plans. It is assumed that the design of the development will include SUDS to ensure that all subsequent rainfall will infiltrate surfaces rather than exacerbate any downstream flood risks (which also have temporary effects on water quality).</p> |
| <p>4. Transport Reduce road traffic and its impacts, promoting more sustainable modes of transport.</p> | <p>The decrease in population (of 4.7% compared to 2011 values), especially amongst those of working age, will decrease the total demand for transport, especially during commuting periods, which may help to ease existing congestion problems within the ring road.</p> <p>There maybe still some commuting despite the substantial reduction in jobs, although there may be more workers travelling to positions outside the district. However, when compared to the reduction in the overall population such changes are considered to be trivial.</p> | <p>The projected increase in population across all age groups (overall increase by 27.5% compared to population in 2011) is likely to significantly increase the demand for transport. It is assumed that the majority of these additional journeys will be by car (although it is recognised that the high speed train will attract some commuters) which will put additional strain on the existing transport infrastructure especially during peak hours. This is especially important as congestion within Canterbury (especially within the ring road and inner radial routes) and overcrowding within trains to London are</p> | <p>The projected increase in population across all age groups (overall increase by 29% compared to population in 2011) is likely to significantly increase the demand for transport. It is assumed that the majority of these additional journeys will be by car (although it is recognised that the high speed train will attract some commuters) which will put additional strain on the existing transport infrastructure especially during peak hours. This is especially important as congestion within Canterbury (especially within the ring road and inner radial routes) and overcrowding within trains to London are</p> |

| Options SA Objectives | Scenario H Zero Net Migration | Scenario I Past Trends Demographic Led | Scenario J Housing Need |
|---|--|--|--|
| | <p>Given that the population is likely to be of increasing age, it is likely that there would be a growing reliance on public transport (particularly bus services to provide access to services). This may increase overall use of such transport options. However, the use of other more sustainable transport options, such as cycling and walking, will depend on perceptions of ease and safety as well as proximity to the desired services.</p> <p>However, with a decreasing population across the district, it is possible that investment in transport may decrease, and this could affect the effectiveness of the existing infrastructure for example the reliability and frequency of bus services which is currently considered limited, especially during evenings and within rural areas.</p> | <p>already issues.</p> <p>The location of developments will impact on this objective; developments to the south of Canterbury are likely to have easier access to the wider traffic network provided access to the A2 is improved. On the other hand, any developments to the north of Canterbury would score less well as they would be further from the main transport corridor. However, under this scenario it is assumed that some 56% of development will occur within rural and coastal areas, which will be less well linked to transport network and depending on location of employment land may increase the distance for commute to work.</p> <p>There is the potential for in-commuting to the district to increase, as the numbers of jobs created are greater than the increase to labour force, which could exacerbate total congestion. However, this difference is relatively small so unlikely to be significant.</p> <p>It is possible that an increase in the levels of home working could decrease the total demand for transport reducing congestion issues, however, this is uncertain.</p> <p>Under this scenario it is expected that 46% of developments will be located within Canterbury City with the remaining 54% within rural and coastal areas. It is expected that access to jobs and community facilities will be better within the City and more likely to be within walking or cycling distance or accessible by public transport reducing reliance on cars and would score highly relative to this objective. However, rural and coastal areas are likely to have fewer public transport options which may increase overall reliance on cars in these areas.</p> <p>The construction of 1,100 dwellings per year will require increased vehicle movements for materials, equipment and staff. This could further exacerbate traffic and congestion during periods of construction.</p> | <p>already issues.</p> <p>The location of developments will impact on this objective; developments to the south of Canterbury are likely to have easy access to the wider traffic network. On the other hand, any developments to the north of Canterbury would score less well as they would be further from the main transport corridor. However, under this scenario it is assumed that some 56% of development will occur within rural and coastal areas, which will be less well linked to transport network and depending on location of employment land may increase the distance for commute to work.</p> <p>There is the potential for in-commuting to the district to increase, as the numbers of jobs created are greater than the increase to labour force, which could exacerbate total congestion. However, this difference is relatively small so unlikely to be significant.</p> <p>It is possible that an increase in the levels of home working could decrease the total demand for transport reducing congestion issues, however, this is uncertain.</p> <p>Under this scenario it is expected that 46% of developments will be located within Canterbury City with the remaining 54% within rural and coastal areas. It is expected that access to jobs and community facilities will be better within the City and more likely to be within walking or cycling distance or accessible by public transport reducing reliance on cars and would score highly relative to this objective. However, rural and coastal areas are likely to have fewer public transport options which may increase overall reliance on cars in these areas.</p> <p>The construction of 1,149 dwellings per year will require increased vehicle movements for materials, equipment and staff. This could further exacerbate traffic and congestion during periods of construction.</p> |
| <p>5. Countryside and Historic Environment To protect and improve landscapes for both people and wildlife and to protect and maintain vulnerable assets (including built and historic)</p> | <p>Under this scenario it is assumed that the entire provision of 80 homes a year will be delivered on land which is currently committed for development by way of land allocation or permission. On this basis it is assumed that landscape effects on both built and natural landscape will have been duly considered, including proximity to sensitive and important sites (such as the Downs AONB or Lampen Stream Conservation Area) and that any negative effects will be minor and easily mitigated, for example, via screening.</p> <p>It is assumed that any construction activities with a potential for negatively affecting cultural important buildings or their setting, such as piling or demolition, through generation of dust, noise and vibration, will be significantly far away from vulnerable buildings or buildings of cultural</p> <p style="text-align: right;">0</p> | <p>The requirement of almost 630 ha for approximately 22,000 homes (based on 35 homes per hectare) will use significantly more land than is currently committed to development and historical development trends.</p> <p>Almost 9,600 dwellings will be required within or around Canterbury City. Given that there is currently not enough infill space in the city it will be located around the city periphery. Proposed development could therefore affect local character and setting. Furthermore, construction activities, such as vibration from demolition/piling, could have a negative effect on any vulnerable buildings or assets.</p> <p>If any of the development impeded current views of the Cathedral or its setting, this would be a potentially significant negative</p> <p style="text-align: right;">--</p> | <p>The requirement of almost 660 ha for approximately 23,000 homes (based on 35 homes per hectare) will use significantly more land than is currently committed to development and historical development trends</p> <p>Almost 10,000 dwellings will be required within or around Canterbury City; this will require development on considerable areas of greenfield. Given that there is currently not enough infill space in the city it will be located around the city periphery. Proposed development could therefore affect local character and setting, such as within Harbledown Conservation Area. Furthermore, construction activities, such as vibration from demolition/piling, could have a negative effect on any vulnerable buildings or assets.</p> <p>If any of the development impeded current</p> <p style="text-align: right;">--</p> |

| Options SA Objectives | Scenario H Zero Net Migration | Scenario I Past Trends Demographic Led | Scenario J Housing Need |
|---|--|--|--|
| | <p>importance, such as Canterbury Cathedral, so as not to impact on this objective.</p> <p>Development on greenfield land is minimised under this scenario and therefore any risks of damaging any previously undiscovered archaeological features are also minimised.</p> <p>Under this scenario, not all of the committed land will be used, this may allow additional greenfield land to be saved, this will help to minimise the risk of damaging any previously undiscovered archaeological features and will ensure that the majority of Canterbury's green infrastructure will remain intact. However, if the remaining committed land is derelict or unused there is a potential for a negative visual impact.</p> <p>Minimising development on greenfield will also ensure that the majority of Canterbury's green infrastructure and open space will remain intact.</p> | <p>effect, given the Cathedral's World Heritage status.</p> <p>Within rural and coastal areas, the high demand for land above historic development trends is likely to increase the risk of affecting the setting or causing a visual intrusion to the countryside landscape. This would be particularly significant if it affected areas of landscape designation such as Kent Downs Area of Outstanding Natural Beauty (AONB).</p> <p>Development locations on the southern fringe of Canterbury and in particular, the areas to the north of the main transport corridor are to an extent desensitised by the road, urban fringe and power lines and so may prove suitable to accommodate the development sites from a landscape perspective.</p> <p>Construction on greenfield sites may damage previously undiscovered archaeological features, with a potentially higher risk for greenfield land within urban areas, however this is uncertain.</p> | <p>views of the Cathedral or its setting, this would be a potentially significant negative effect, given the Cathedral's World Heritage status.</p> <p>Within rural and coastal areas, the high demand for land above historic development trends is likely to increase the risk of affecting the setting or causing a visual intrusion to the countryside landscape. This would be particularly significant if it affected areas of landscape designation such as Kent Downs Area of Outstanding Natural Beauty (AONB).</p> <p>Development locations on the southern fringe of Canterbury and in particular, the areas to the north of the main transport corridor are to an extent desensitised by the road, urban fringe and power lines and so may prove suitable to accommodate the development sites from a landscape perspective.</p> <p>Construction on greenfield sites may damage previously undiscovered archaeological features, with a potentially higher risk for greenfield land within urban areas, however this is uncertain.</p> |
| <p>6. Geology and Biodiversity To avoid damage to geological sites and improve biodiversity.</p> | <p>Under this scenario approximately 46 ha of land will be required to deliver 1600 dwellings within 20 years. It is assumed that this can be delivered within land already committed to development by way of land allocation or permission. 0</p> <p>On this basis it is assumed that impacts on geology and biodiversity will have been duly considered, including proximity on effects on sensitive sites and species (such as the Blean Complex SAC, BAP priority habitats and species) and that any impacts will be minor and easily mitigated.</p> <p>It is assumed that all developments will be sufficiently far from sensitive sites such as the Blean Complex so that disturbance generated during construction (including noise, vibration, and dust) will not impact on this objective.</p> <p>Under this scenario the area of land take from greenfield land is minimised. This will ensure that much of the existing green infrastructure remains intact, ensuring connectivity for species between habitats is not adversely affected.</p> <p>Although some land take and removal of topsoil is inevitable, given that planning permission has already been granted, it is assumed that greenfield land used will not include land of the highest soil quality or biodiversity level.</p> <p>There is also the potential to use the remaining land as enhancements to biodiversity, by habitat creation in the unused land, but this is uncertain.</p> | <p>In order to construct the number of dwellings expected under this scenario approximately 630 ha of land will be required, with a further 52 ha of employment land required. This significantly exceeds land currently committed for development and historic development trends. As a result, considerable greenfield land will be required to accommodate this. --</p> <p>Development on greenfield land may have a significantly negative effect on biodiversity, especially if key habitats or species are lost.</p> <p>Given that the requirements for land are greater than historical development trends it is assumed that some of the developments is likely to require land with high biodiversity or geological value, which would score significantly negative against this objective.</p> <p>There are a number of locations where development could have a significant negative effect against biodiversity due to the proximity to internationally important sites for wildlife; such as Blean Complex SSSI North to Canterbury City, Thanet Coast and the Swale RAMSAR sites in coastal locations, and Stodmarsh SAC within the Rural North. Planning powers should be used to ensure that there are not negative effects against these options. Similarly, if development is sited to south west of Canterbury (close to the Larkey Valley Wood SSSI and local nature reserve) the effects could also be significantly negative.</p> <p>The loss of green infrastructure throughout each of the 5 sub-areas of Canterbury for development will reduce connectivity for species between habitats and will have further negative effects on this objective.</p> | <p>In order to construct the number of dwellings expected under this scenario approximately 660 ha of land will be required, with a further 53 ha of employment land required. Land currently committed for development and historic development trends As a result, considerable greenfield land will be required to accommodate this. --</p> <p>Development on greenfield land may have a significantly negative effect on biodiversity, especially if key habitats or species are lost.</p> <p>Given that the requirements for land are greater than historical development trends it is assumed that some of the developments will require land with high biodiversity or geological value, which would score significantly negative against this objective.</p> <p>There are a number of locations where development could have a significant negative effect against biodiversity due to the proximity to internationally important sites for wildlife; such as Blean Complex SSSI North to Canterbury City, Thanet Coast and the Swale RAMSAR sites in coastal locations, and Stodmarsh SAC within the Rural North. Planning powers should be used to ensure that there are not negative effects against these options. Similarly, if development is sited to south west of Canterbury (close to the Larkey Valley Wood SSSI and local nature reserve) the effects could also be significantly negative.</p> <p>The loss of green infrastructure throughout each of the 5 sub-areas of Canterbury for development will reduce connectivity for species between habitats and will have further negative effects on this objective.</p> <p>Dust, noise and vibrations generated</p> |

| Options SA Objectives | Scenario H Zero Net Migration | Scenario I Past Trends Demographic Led | Scenario J Housing Need |
|--|--|---|---|
| | | Dust, noise and vibrations generated during the construction period may negatively affect species in the short term. | during the construction period may negatively affect species in the short term. |
| <p>7. Climate Change, Energy and Air Quality To reduce the causes and impacts of climate change, improve air quality and promote energy efficiency.</p> | <p>The decrease in population by almost 7,000 people over 20 years is likely to result in a net decrease in energy use and demand by residents across the district. +</p> <p>Although there is some opportunity for providing energy efficient homes with low carbon technologies within new homes, given the small scale of development (80 homes per annum), this is not considered to have a significant effect on this objective. Furthermore, the small scale of development means that many low carbon technologies will not be viable, such as CHP.</p> <p>There is likely to be a decreased demand in transport, especially during peak hours, as the population ages and the number of people commuting to work decreases. This may reduce total car use and congestion, leading to a reduction in emissions, affecting the district's contribution to climate change and potential improving local air quality. This could lead to changes within the future action plans for the existing AQMA in Canterbury, however, this is uncertain.</p> <p>The decrease in population is likely to reduce water demand, thereby decreasing the district's vulnerability to droughts. However, the change to population is not expected to be of a level that will significantly decrease the use of drought emergency measures during summer months.</p> | <p>The significant population increase (by 2031 population will have increased by 27.5% compared to in 2011) and the energy used during the construction and subsequent occupation of the new dwellings is likely to lead to a net increase in energy demand across the district. The extent to which it has an overall effect on carbon emissions will be dependent on the extent to which energy supply has been decarbonised by 2031. --</p> <p>Given the scale of the development proposed, there will be opportunities for the new homes to include low carbon technologies with their design and to use low carbon materials within their construction. In particular, CHP will be viable for a number of the developments. The potential to which this is realised will depend on whether ambitious sustainability targets (such as those that exceed the Code for Sustainable Homes) are used.</p> <p>Following the significant population increase amongst all age groups, the demand for transport will increase, particularly by car and resulting congestion will increase emissions considerably worsening air quality and contributing to climate change. Depending on the location of employment land, there may also be an increase in the distance travelled by workers within the district. For example, if the majority of jobs were within the City but 56% of housing developments were within rural and coastal areas, there would be an increase in the number of people needing to travel from these areas to Canterbury City.</p> <p>There is currently one AQMA in the district which is in Canterbury. An increase in the number of cars within the city could have effects on air quality objectives.</p> <p>The construction of 1,100 dwellings per year will require increased vehicle movements for materials, equipment and staff. This may further exacerbate traffic and congestion which would further increase emissions and worsen air quality.</p> <p>Climate change is forecast to increase the incidence and frequency of periods of low precipitation in the South East (compared to present). This could affect the recharge and availability of local water supplies. This issue combined with the substantial increase in demand from the increased population from this scenario could lead to a significant increase in the use of drought emergency measures during summer months.</p> <p>The incidence and frequency of periods of heavy precipitation and sea levels are also projected to increase compared to present. This may further exacerbate the risks of flooding and/or coastal inundation as</p> | <p>The significant population increase (by 2031 population will have increased by 29% compared to in 2011) and the energy used during the construction and subsequent occupation of the new dwellings is likely to lead to a net increase in energy demand across the district. The extent to which it has an overall effect on carbon emissions will be dependent on the extent to which energy supply has been decarbonised by 2031. --</p> <p>Given the scale of the development proposed, there will be opportunities for the new homes to include low carbon technologies with their design and to use low carbon materials within their construction. In particular, CHP will be viable for a number of the developments. The potential to which this is realised will depend on whether ambitious sustainability targets (such as those that exceed the Code for Sustainable Homes) are used.</p> <p>Following the significant population increase amongst all age groups, the demand for transport will increase, particularly by car and resulting congestion will increase emissions considerably worsening air quality and contributing to climate change. Depending on the location of employment land, there may also be an increase in the distance travelled by workers within the district, for example, if the majority of jobs were within the City but 56% of housing developments were within rural and coastal areas, there would be an increase in the number of people needing to travel from these areas to Canterbury City.</p> <p>There is currently one AQMA in the district which is in Canterbury. An increase in the number of cars within the city could have effects on air quality objectives.</p> <p>The construction of 1,149 dwellings per year will require increased vehicle movements for materials, equipment and staff. This may further exacerbate traffic and congestion which would further increase emissions and worsen air quality.</p> <p>Climate change is forecast to increase the incidence and frequency of periods of low precipitation in the South East (compared to present). This could affect the recharge and availability of local water supplies. This issue combined with the substantial increase in demand from the increased population from this scenario could lead to a significant increase in the use of drought emergency measures during summer months.</p> <p>The incidence and frequency of periods of heavy precipitation and sea levels are also projected to increase compared to present. This may further exacerbate the risks of flooding and/or coastal inundation as</p> |

| Options SA Objectives | Scenario H Zero Net Migration | Scenario I Past Trends Demographic Led | Scenario J Housing Need |
|--|---|--|---|
| | | described under objective 8 potentially reducing the resilience of development to flooding. | described under objective 8 potentially reducing the resilience of development to flooding. |
| <p>8. Flood Risk and Coastal Erosion To reduce the risk of flooding and coastal erosion which would be detrimental to the public well-being, the economy and the environment.</p> | <p>Under this scenario it is assumed that the provision of 80 homes a year will be delivered on land which is currently committed for development by way of land allocation or permission. In the process of committing land for development the council have consulted with the Environment Agency and will continue to consult during the design process to ensure developments are appropriately designed. As a result it is considered that the risk of flooding within these areas will be very low and high risk areas such as those on the Great Stour floodplain and at risk areas on the coast are avoided.</p> <p>Furthermore under this scenario there will actually be some committed land which is not used. In order to score well on this objective, those sites with the lowest risks of flooding should be utilised first. Therefore, this option will maximise the retention of greenfield land and should maintain existing runoff rates reducing the risk of future flooding.</p> <p>There is potential to introduce new green space within the unused committed land which could further increase infiltration reducing run off and vulnerability to future flooding in the face of increasing winter precipitation under climate change, however this is uncertain.</p> | <p>The land requirement to deliver approximately 22,000 new homes over 20 years will require approximately 630 ha of land across the district.</p> <p>As it is expected that spatial split of these homes will broadly follow existing patterns the land required will be greater than current land available across each of the sub areas. This will increase the likelihood of homes being constructed in flood risk zones such as the along the Great Stour near Canterbury City or within areas at risk of flooding and coastal inundation within Whitstable and Herne Bay, although any development sites will be subject to the requirements in the NPPF with regards to flood risk and have taken into account the views of the Environment Agency.</p> <p>This scenario requires development over significant areas of Greenfield land. This could reduce infiltration of precipitation, increasing surface runoff and the risk of flooding. However, to manage this risk, any development should be compliant with the requirements in the NPPF and achieve runoff rates consistent with existing greenfield runoff rates. This can be used through the use of SUDS techniques.</p> | <p>The land requirement to deliver approximately 23,000 new homes over 20 years will require approximately 660 ha of land across the district.</p> <p>As it is expected that spatial split of these homes will broadly following existing patterns the land required will be greater than current land available across each of the 5 sub areas. This will increase the likelihood of homes being constructed in flood risk zones such as the along the Great Stour near Canterbury City or within areas at risk of flooding and coastal inundation within Whitstable and Herne Bay, however the current flood and coastal defence safeguards in place will reduce likelihood of flooding and coastal inundation.</p> <p>This scenario requires development over significant areas of Greenfield land. This could reduce infiltration of precipitation, increasing surface runoff and the risk of flooding. However, to manage this risk, any development should be compliant with the requirements in the NPPF and achieve runoff rates consistent with existing Greenfield runoff rates. This can be used through the use of SUDS techniques.</p> |
| Just society that promotes social inclusion, sustainable communities and personal wellbeing | | | |
| <p>9. Access to Services Share access to services and benefits of prosperity fairly and improve wellbeing of everyone.</p> | <p>The decline in population (by approximately 5% in 2031 compared to 2011) will decrease the demand for many local services, such as schools. However, it is possible that an aging population may increase pressure on existing health services.</p> <p>A declining population, especially within those of a working age, may have negative impacts for shops and services, making it less viable for them to remain open, worsening local access, especially within rural areas. This may be further exacerbated through decreased investment to services within the area from businesses.</p> | <p>The significant increase in population (by approximately 28 % compared to 2011) will create an increased demand for services, such as schools, doctors, hospitals, recreational facilities and open space. As part of the development options, it is assumed that provision will be made to ensure that community infrastructure requirements will be met.</p> | <p>The significant increase in population (by approximately 29% compared to 2011) will create an increased demand for services, such as schools, doctors, hospitals, recreational facilities and open space. As part of the development options, it is assumed that provision will be made to ensure that community infrastructure requirements will be met.</p> |
| <p>10. Sustainable Living and Revitalisation To revitalise town and rural centres and to promote sustainable living.</p> | <p>A declining population, especially within those of a working age, may have negative impacts for shops and services, affecting the viability and vitality of town centres. A reduction in population and economy may also affect local government receipts which may affect the level to which the public sector can invest in the local area to stimulate local community centres. The opportunity to improve community facilities and encourage sustainable behaviour,</p> | <p>A growing population may have a positive impact for shops and services, affecting the viability and vitality of town centres. An increase in population, economic activity and developer contributions could also increase local government receipts which could positively affect the level to which the public sector can invest in the local area to stimulate local community centres.</p> <p>It is assumed under this scenario that the spatial provision of homes will follow</p> | <p>A growing population may have a positive impact for shops and services, affecting the viability and vitality of town centres. An increase in population, economic activity and developer contributions could also increase local government receipts which could positively affect the level to which the public sector can invest in the local area to stimulate local community centres.</p> <p>It is assumed under this scenario that the spatial provision of homes will follow</p> |

| Options SA Objectives | Scenario H Zero Net Migration | Scenario I Past Trends Demographic Led | Scenario J Housing Need |
|---|---|---|---|
| | especially within rural and coastal areas may also be affected. | existing patterns to be fairly well matched to population demand. As a result the funds available for community infrastructure should also be divided accordingly to best match need (with a fair share to rural and coastal communities). Furthermore, developments within rural and coastal communities should be of sufficient size to support the delivery of new community facilities and transport links. | existing patterns to be fairly well matched to population demand. As a result the funds available for community infrastructure should also be divided accordingly to best match need (with a fair share to rural and coastal communities). Furthermore, developments within rural and coastal communities should be of sufficient size to support the delivery of new community facilities and transport links. |
| 11. High Quality Design and Sustainability To encourage sustainable design and practice. | Development of the scale proposed under this scenario is unlikely to give opportunity for sustainable design at a level that will impact the district. 0 | Given the scale of this development there is some opportunity to build larger sustainable developments across urban fringes and potentially within coastal regions. If design guidance is applied this could have a positive effect against sustainable design. Adherence to design codes and guidelines should ensure this scenario scores highly against this objective. + However, given that a high proportion of development under this scenario will take place outside of Canterbury City (56%) the amount of homes within walking distances of facilities and amenities may be decreased compared to development within the city. | Given the scale of this development there is some opportunity to build larger sustainable developments across urban fringes and potentially within coastal regions. If design guidance is applied this could have a positive effect against sustainable design. Adherence to design codes and guidelines should ensure this scenario scores highly against this objective. + However, given that a high proportion of development under this scenario will take place outside of Canterbury City (56%) the amount of homes within walking distances of facilities and amenities may be decreased compared to development within the city. |
| 12. Housing To make suitable housing available and affordable to everyone. | The provision of 150 homes per year will mean that the district population will not be able to accommodate themselves. This will lead to increased overcrowding, unfulfilled location and tenure aspirations and out-migration (as people will need to move to another district to find a home). -- Even if the proportion of affordable homes were to increase significantly, the need for affordable housing targets will not be met, which will worsen the affordability and increase the levels of homelessness in the district. This would occur throughout all areas of the district, but would be especially prevalent in Canterbury City where housing need is the greatest. | This scenario will significantly increase the number of houses built per annum (by 1,100 per year). Assuming that the proportion of affordable homes remains at 35% (consistent with current Canterbury policy), this level of housing would reach the need for affordable housing and thus have a significant positive effect on this objective. ++ It is assumed under this scenario that spatial split of development would follow existing patterns of population, which largely matches affordable housing need (although it may be better matched if some of the homes within the rural north were distributed to other areas with greater need), | This scenario will significantly increase the number of houses built per annum (by 1,149 per year). Assuming that the proportion of affordable homes remains at 35% (consistent with current Canterbury policy), this level of housing would reach the need for affordable housing and thus have a significant positive effect on this objective. ++ It is assumed under this scenario that spatial split of development would follow existing patterns of population, which largely matches affordable housing need (although it may be better matched if some of the homes within the rural north were distributed to other areas with greater need), |
| 13. Quality of Life To improve the quality of life for those living and working in the District. | A lack of investment to the area, following a declining workforce, may influence on provision of services and shops, worsening access for those residents in the area. - There is a potential for levels of crime to increase as deprivation worsens, especially driven by loss of workforce and economic decline. | It is anticipated that a dispersed approach to development would create a greater number of satellite areas where access to the city centre and facilities was sub-optimal. For those developments closer to the city centre this would be more positive. + The large scale of development will offer an opportunity to design out crime within new developments across each of the 5 sub-areas. There would be a significant provision of homes within rural areas, close to open space and areas of recreation, including high quality countryside. However, depending on the location of employment land and facilities (both existing and those to be added as part of the developments) relative to new developments there may | It is anticipated that a dispersed approach to development would create a greater number of satellite areas where access to the city centre and facilities was sub-optimal. For those developments closer to the city centre this would be more positive. + The large scale of development will offer an opportunity to design out crime within new developments across each of the 5 sub-areas. There would be a significant provision of homes within rural areas, close to open space and areas of recreation, including high quality countryside. However, depending on the location of employment land and facilities (both existing and those to be added as part of the developments) relative to new developments there may |

| Options SA Objectives | Scenario H Zero Net Migration | Scenario I Past Trends Demographic Led | Scenario J Housing Need |
|--|--|---|---|
| | | not be enough local jobs and facilities to sufficiently reduce commuting to promote walking and cycling. | not be enough local jobs and facilities to sufficiently reduce commuting to promote walking and cycling. |
| Use resources as efficiently as possible | | | |
| <p>14. Use of Land To deliver more sustainable use of land in more sustainable location patterns.</p> | <p>Under this scenario there is a requirement for approximately 46 ha of land for provision of 80 dwellings a year. This will result in 40 ha of land currently committed for development as unused.</p> <p>The impact this will have on this objective will depend on the nature of the unused land. If this land is greenfield and thereby reducing the overall loss of greenfield this would have a positive on this objective. However, if this land were derelict or unused this could have a negative effect on this objective.</p> <p>Reducing flexibility to only build on land that is currently available may result in missed opportunity to build on land that becomes available over the 20 year period. For example, closure of industry following out-migration of the population may result in new land becoming available. This could potentially increase the amount of derelict and underused land within the district; however, this is not certain. Although if it was clear that development on new available land would offer significant regeneration or community benefits they may be opportunities for the council to apply for grants to develop these areas, however, acceptance of these grants is also uncertain.</p> | <p>An estimated 630 ha will be required for development of 22,000 homes. This scale of development will utilise all available brownfield and greenfield sites and will require additional land above historic development trends. These additional sites lead to a significant loss of greenfield land. This would be a significantly negative effect.</p> <p>The soil of greenfield sites is likely to be of a higher quality than on previously developed land, therefore the loss of significant areas of greenfield land and topsoil is likely to have a significant adverse effect on soil quality.</p> | <p>An estimated 660 ha will be required for development of 23,000 homes. This scale of development will utilise all available brownfield and greenfield sites and will require additional land above historic development trends. These additional sites lead to a significant loss of greenfield land. This would be a significantly negative effect.</p> <p>The soil of greenfield sites is likely to be of a higher quality than on previously developed land, therefore the loss of significant areas of greenfield land and topsoil is likely to have a significant adverse effect on soil quality, will be required to also take these factors into consideration).</p> |
| <p>15. Natural Resources To ensure the prudent use of natural resources and the sustainable management of existing resources.</p> | <p>Although some raw material will be required for construction of 80 dwellings a year, given the small scale of construction and the opportunity to enhance the reuse and recycling of construction materials, it is considered that this would only a very minor effect.</p> <p>Minimal use of greenfield land and removal of topsoil will be required, minimising any potential negative effects.</p> <p>The 7% decrease in population by 2031 (compared to the population in 2011); will decrease the total demand for water resources, reducing strain on water resources.</p> | <p>Given the need for a high number of dwellings under this scenario it will require high volumes of raw materials. However, there are opportunities through the use of sustainable design and construction techniques to enhance the reuse and recycling of construction materials.</p> <p>Significant development on greenfield land will be required, as the stock of PDL within the district is much lower than the demand for land for development. The irreversible loss of land of this scale would score significantly negative against this objective.</p> <p>Although it is recognised there is an opportunity to increase water efficiency in the new homes, the increase in population by some 40,650 people by 2031 will put additional strain on water resources in the district.</p> | <p>Given the need for a high number of dwellings under this scenario it will require high volumes of raw materials. However, there are opportunities through the use of sustainable design and construction techniques to enhance the reuse and recycling of construction materials.</p> <p>Significant development on greenfield land will be required, as the stock of PDL within the district is much lower than the demand for land for development. The irreversible loss of land of this scale would score significantly negative against this objective.</p> <p>Although it is recognised there is an opportunity to increase water efficiency in the new homes, the increase in population by some 42,800 people by 2031 will put additional strain on water resources in the district.</p> |
| <p>16. Waste To reduce generation and disposal of waste, and achieve sustainable management of waste.</p> | <p>Although the construction of 80 new homes every year will increase waste generation, given the small scale of development it is not considered to have a negative effect on this objective. Mitigation measures such as sustainable design and construction techniques and the use of Site Waste Management Plans</p> | <p>Construction of 1,100 new homes every year could considerably increase construction waste generation. However, such effects could be mitigated if sustainable design and construction techniques are employed and exacting targets adopted through Site Waste Management Plans. Although there will be</p> | <p>Construction of 1,149 new homes every year could considerably increase construction waste generation. However, such effects could be mitigated if sustainable design and construction techniques are employed and exacting targets adopted through Site Waste Management Plans. Although there will be</p> |

| Options SA Objectives | Scenario H Zero Net Migration | Scenario I Past Trends Demographic Led | Scenario J Housing Need |
|-----------------------|---|--|--|
| | <p>(SWMP), and following other guidelines within the Sustainable Construction SPD, would further minimize negative effect.</p> <p>The decrease in the population (a 7% decrease in population by 2031 compared to population in 2011) is likely to decrease the total household waste generation in the district. This may increase the length of time until landfill space reaches its capacity.</p> | <p>opportunity for recycling and reuse on site, given that the developments are dispersed throughout the district there may be less opportunities for significant material recycling and reuse on site compared to construction which is focused predominantly in one area.</p> <p>Every effort should be taken to use any waste generated during construction on the site. In addition, in order to further mitigate waste effects the guidelines in the Sustainable Construction SPD should be followed.</p> <p>The significant increase in population (in 2031 the population will have increased by 28% compared to the population in 2011) will significantly increase household waste generation in the district, within urban, rural and coastal areas throughout the district. This is likely to become a major issue in the long term as population increase further and landfill space runs out.</p> | <p>opportunity for recycling and reuse on site, given that the developments are dispersed throughout the district there may be less opportunities for significant material recycling and reuse on site compared to construction which is focused predominantly in one area.</p> <p>Every effort should be taken to use any waste generated during construction on the site. In addition, in order to further mitigate waste effects the guidelines in the Sustainable Construction SPD should be followed.</p> <p>The significant increase in population (in 2031 the population will have increased by 29% compared to the population in 2011) will significantly increase household waste generation in the district, within urban, rural and coastal areas throughout the district. This is likely to become a major issue in the long term as population increase further and landfill space runs out.</p> |