



Nathaniel Lichfield  
& Partners

Planning. Design. Economics.



Canterbury City Council  
**Canterbury Development  
Requirements Study**

**Final Report**  
January 2012





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## **Non Technical Summary and Key Messages**

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This report presents the results of a study carried out by Nathaniel Lichfield and Partners (NLP) for Canterbury City Council (CCC) to identify the future development requirements of the District. Changes to the planning system, including the proposed abolition of Regional Strategies (including the South East Plan) mean that it is the responsibility of local authorities to determine the development requirements for their district, based on evidence and taking account of national policy.

The purpose of this study is to explore how much development is needed in Canterbury as a District over the period to 2026 and to 2031. This will identify the number of homes and amount of land for business premises required to support the future population and economy of the District. The study also assesses in broad terms some of the infrastructure required to support that growth. The work, which has been independently prepared using a tried and tested methodology, is intended to help inform the decisions the City Council needs to make in the Local Plan it is preparing. The report covers some complex issues and uses a wide range of data assumptions that are described in more detail in the report, the Glossary, and Appendices.

### **Demography, Economy and Housing in Canterbury**

#### **The population of Canterbury**

The District of Canterbury - which includes the City of Canterbury as well as the coastal settlements of Herne Bay, Whistable, and a rural hinterland - has an estimated population of 147,700 in 2011, in 61,775 households. The population has been growing over a sustained period, with the increase since 2001 accounting for 12,400 people. Because of the structure of Canterbury's population, this increase is down to net in-migration (i.e. more people moving into the District than moving out) without which the actual population would have shrunk.

People move to Canterbury from elsewhere in the UK (mainly elsewhere in Kent) and from overseas. People of all ages move into and out of Canterbury, but because of the University there is a greater proportion of those moving in who are aged 15-19. Conversely, there are many more who move out in their 20s and, to a lesser extent, 30s.

Fertility rates are lower in Canterbury than the national average, and have been falling, with each woman giving birth to an average of just 1.5 children. This fall compares with a rise nationally.

Although people of all ages live in Canterbury, compared with the wider South East, there are proportionately more of student age (15-24), fewer in their 30s, 40s and early 50s, and more aged 60 or over.

Reflecting a trend that is occurring across the country, the population of Canterbury is getting older. The number of people in the local labour force (which is mainly, but not exclusively, people aged 16-64) would decline in Canterbury were it not for the fact that more people of working age have been moving into the District. This is the case even taking into account reform of pension ages and the fact that people are likely to work longer in life than they do now. Because older people are more likely to live alone as they get older, the average household size (i.e. the number of people living in each household) has been reducing, moving from an average of 2.66 people per household in 1981 to 2.43 in 2008.

### **Housing Need**

According to government housing statistics (the HSSA), there are 3,290 people on the waiting list for 'affordable housing'<sup>1</sup> in Canterbury. Kent County Council operates a choice based lettings system for social housing and in August 2011 there were 2,352 applicants from within Canterbury who are 'in need' as defined by the Government.

The Strategic Housing Market Assessment (SHMA) prepared for the City Council in 2009 estimated that 77% of newly forming households in the District are unable to afford to buy or rent market housing. The SHMA estimated that the need for social housing in the District is 1,104 dwellings per year over ten years. Compared with this, on average, 22% of the 556 new homes built each year since 1990 have been 'affordable'. A step change in supply of new affordable homes would be needed to meet the need in the District for such accommodation.

### **The Canterbury Economy**

Precise estimates of the number of jobs in a local economy vary depending on the statistical methodology adopted. Office for National Statistics (ONS) data indicated that there were 62,900 jobs in the Canterbury economy in 2010. Other estimates (using different definitions) put the figure as high as 66,502 in 2011. Between 1998 and 2010, employment in the District increased by an average of 574 per annum. This rate of growth (1.2%) was greater than the Kent and South East averages, although it was harder hit by recession in 2008/9. Unemployment (using the International Labour Organisation definition) is currently estimated at 7.1%, compared with 6.0% in the South East, with the pre-recession average (2004-2007) being 4.6%. It is assumed that this 4.6% rate is a reasonable assumption for what unemployment might be once the economy has recovered.

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<sup>1</sup> 'Affordable housing' is a definition used by Government. It includes social rented, affordable rented and intermediate housing, provided to eligible households whose needs are not met by the market.

Three quarters (75.8%) of working age population in Canterbury are economically active, lower than the 79% in the South East suggesting there may be some scope to increase employment in the indigenous population through reduced unemployment and increase economic activity. An assumed improvement (based on Kent County Council's analysis) is factored into the analysis carried out as part of this study.

The economy of Canterbury saw decline in manufacturing jobs and an increase in the service sector and public sector between 1998 and 2008. Looking ahead, economic forecasts prepared by Experian envisage future increases in employment (albeit at a slower rate than in the past), particularly in sectors related to the visitor economy, transport and communications, and finance and business services. Between 2011 and 2026, employment is forecast to grow by 4.7%.

Although the number of jobs in the District in 2011 (66,502) is not hugely different to the number of people in the local labour force in work (72,427), not all jobs are occupied by residents of Canterbury and not all workers living in the District are employed there. 27% of workers living in the District are employed outside Canterbury, mostly in Swale, Thanet and Dover. Equally, about 26% of jobs in Canterbury are occupied by people who commute into the District.

In future, the changing structure of the population (with a growing proportion of older people) will mean that the size of the labour force in Canterbury will decrease markedly unless the amount of net in-migration increases to compensate. Fewer workers in Canterbury would either mean that local businesses find it harder to recruit or that more people need to commute into the District to work.

The ageing population means that the number of 'workers' per household in the District will decline, meaning that compared with the past, more homes will be required in the district to support even the same number of jobs in the District, even taking account of measures to reduce unemployment and improve economic activity rates.

## **Scenarios**

In order to inform the Council on what level of development it should adopt, a number of different scenarios for levels of population, housing and economic growth have been tested. These scenarios adopt a range of alternative assumptions about how the future may be different from the present. The intention is not to assume that a single scenario or set of assumptions is the 'best' to adopt. Rather, it is to use the scenarios to understand the likelihood and implications of different levels of change.

Ten scenarios of future change have been tested. They flow from attempts to answer different questions:

### **Policy and supply-led (Scenarios A, B, and C)**

- *“What are the implications - in terms of the number of people, households and jobs - of delivering a certain amount of development?”*
- These scenarios look at how many households and jobs could be supported by Canterbury in the event that it chose to develop **A**) only the existing allocated land or planning permissions for housing (e.g around 3,000 dwellings); or **B**) the amount of development that has been built each year in the past; or **C**) the South East Plan’s proposals for new development.

### **Economic-led Scenarios (Scenarios D, E, F, and G)**

- *“How much development is required to ensure forecasts of future employment change are supported by the local labour supply?”*
- These scenarios look at different assessments of future economic growth in the District based on work carried out by Experian for the City Council in its ‘Futures Study’. The three scenarios are based on modelling the demographic and household estimates of local economic and employment forecasts prepared by Experian associated with **D**) the East Kent Sustainable Community Strategy (3,600 additional jobs by 2031); **E**) the ‘preferred scenario’ arising from the Futures study (6,500 additional jobs); **F**) the Futures study’s “travel to work” scenario where more people in the District commute elsewhere for work (4,300 additional jobs); and **G**) a baseline economic forecast for the District (4,150 additional jobs).

### **Demographic Led (Scenarios H and I)**

- *“How much development is required to meet projected levels of population change?”*
- These two scenarios focus on demographic projections for the District based on **H**) an assumed zero-net migration (i.e. where the number of people moving into and out of the District each year is equal); and **I**) applying past trends of net-migration into the District for the period 2001/2 to 2008/9 as well as the assumptions used in the most recent CLG household projections.

### **Housing Led (Scenario J)**

- *“How much development is required to meet current and future needs for affordable housing?”*
- This scenario uses data from the Council’s Strategic Housing Market Assessment and housing waiting list to identify the level of need for affordable housing in the District and how much housing overall (both affordable and general market housing) would be required to support provision to meet this need.

Each scenario was modelled through a demographic model (PopGroup and Derived Forecast) which is widely used by Government and Local Authorities



across the country. For each scenario, this model identifies for the period between 2011 and 2026 and 2031:

- How will the population change in number and profile up to 2026 and 2031?;
- What proportion of that change will flow from natural change (e.g. births vs. deaths) and migration?;
- How many people of working age who are economically active will be available in the Canterbury labour force?;
- Taking into account the commuting flows (in and out) and unemployment, how many jobs in Canterbury would be associated with that level of development?;
- How much industrial and office space, and associated social, community infrastructure and open space would be required?;

### **Demography, homes and jobs**

The PopGroup and Derived Forecast model works with assumptions on the statistical relationship between variables for population, homes, labour force, and jobs, taking account of commuting flows in and out of the District. It does not in itself evidence causality between these factors: the provision of a certain number of homes or allocation of land identified by a scenario does not automatically lead to the creation of all of the jobs that the model suggests would be associated with that level of development. However:

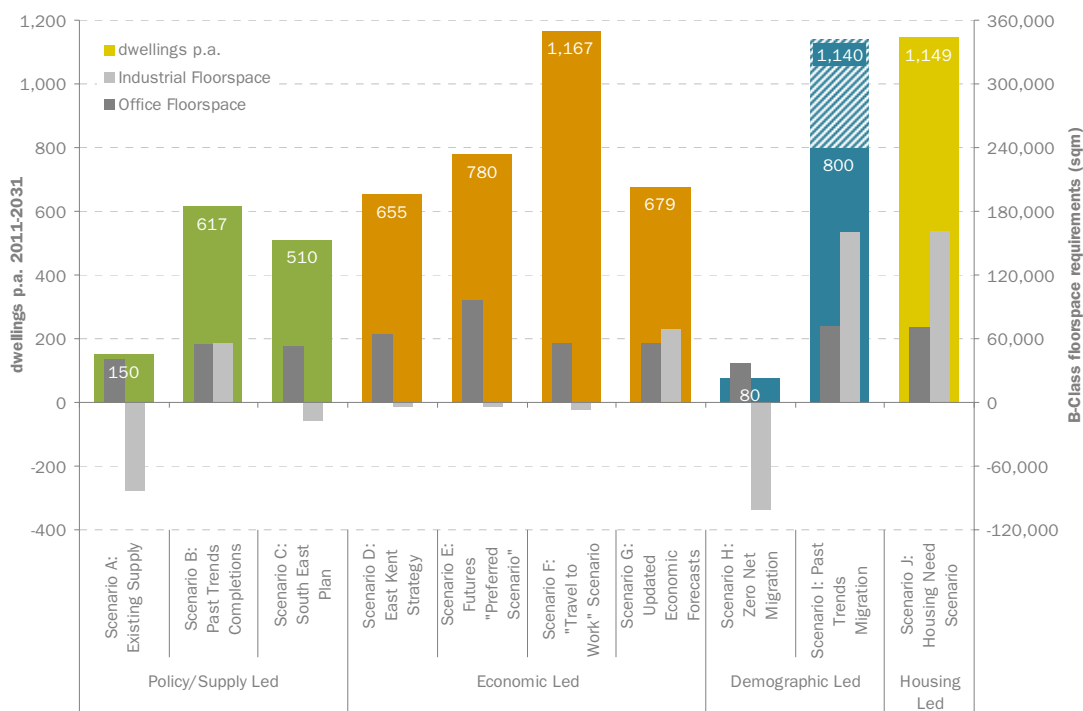
- 1 An insufficient number of homes or employment space acts as a barrier to achieving increases in local employment that might otherwise be sought; it makes recruitment more dependent on being able to attract in-commuters from neighbouring areas. So providing fewer homes would make it much less likely that the targeted number of jobs will be generated. Similarly, providing less suitable land for employment will make it more difficult to accommodate new and expanding businesses. Seeking to change commuting patterns (e.g. to reduce out-commuting and grow employment without the associated level of housing growth) is not something that can be planned for with any certainty.
- 2 Increases in the number of residents and workers has an economic benefit on the local economy through their spending on goods and services, sustaining the vitality and viability of centres, services and amenities. Residents who live in Canterbury but commute elsewhere make an important contribution to the local economy and in turn generate local employment.
- 3 The construction industry is a significant employer in Canterbury (7.2% of jobs) and the activity involved in development of new homes and business space has significant economic benefits in its own right through the safeguarding and retention of employment, alongside supply chain benefits.

### **Results of the analysis**

Each of the scenarios generates a number of different outputs in terms of dwellings, industrial and office floorspace required between 2011 and 2031. These are illustrated in the chart below, expressed as new homes and floorspace (industrial and office) per annum. The estimates are based on

modelling that uses assumptions on the relationship between people (as residents and workers in Canterbury) and accommodation (homes and workplaces). The assumptions are described in more detail in the main body of the report and in Appendix 1.

Annual Housing Development Requirements and Total B-Class Floorspace Requirements (2011-2031)



Source: NLP Analysis

As might be expected, given the different basis and assumptions used in each scenario, the results are markedly diverse, ranging from as few as 80 new homes per annum (Scenario H) to as many as 1,167 new homes each year (Scenario F). To give some shape to the implications and range of choices available to the City Council, the scenario results have been grouped into four bands:

- 1 Lower end: 80-150 dwellings p.a. (Scenarios A and H)
- 2 Lower mid-range: 500-650 dwellings p.a. (Scenarios B, C, and D)
- 3 Upper mid-range: 650-800 dwellings p.a. (Scenarios E, G, and I)
- 4 Upper end: 1,100-1,200 dwellings p.a. (Scenarios F, J and I)

In terms of the amount of development, there is a marked jump between bands 1 and 2: this is because the scenarios were chosen for modelling based on their starting inputs and assumptions, rather than working backwards to provide an even range of different outputs. Scenario I (based on past trends migration) is two bands (3 and 4) because it generated a range of outputs depending on the migration trends used.

The implications and development outcomes associated with each band are summarised below.

### **Band 1: Lower end: 80-150 dwellings p.a. (Scenarios A and H)**

The lower end of development requirements associated with this band is based on scenarios that involved developing out only the land that is already allocated or has planning permission (Scenario A) or assumes that the number of people moving into and out of the District each year is equal (whereas in fact the number of people moving into the District has exceeded the number moving out in each of the past twelve years). In addition to a dwelling requirement of up to 3,000, the development associated with this band is equivalent to a modest requirement for office space (up to 6-7ha of land) but a marked reduction in industrial space (21-26ha of land).

This level of development would have a number of implications. The demographic trends explained earlier in this summary mean that providing low levels of development would be sufficient only to accommodate a falling population – there would be up to 7,000 fewer people in Canterbury by 2031, with the fall being among those of school and working age. This would mean around 4,100 fewer school places would be required, potentially leading to school closures. The labour force would also shrink by up to around 13,000, making it more difficult for local businesses to recruit. At existing rates of in and out commuting, around 11,000 jobs could be lost in the District. Alternatively, it would lead to more in-commuting into the District from elsewhere.

In land use terms, this band would require relatively little land for new development (as little as 26ha, including provision of open space) – in fact, the reduction in the amount of employment in the District would likely generate vacancy and surpluses in industrial and commercial space.

Being at a level below that associated with trend-based projections of population and household growth, planning for this level of development would cause displacement effects – local residents would be forced to move elsewhere. If the Local Planning Authority chose to adopt this level of development, it would need to demonstrate that neighbouring local authorities were planning to accommodate Canterbury's overspill.

### **Band 2: Lower mid-range: 500-650 dwellings p.a. (Scenarios B, C, and D)**

The scenarios underpinning this band are ones associated with what has occurred in the past (i.e. past trends), the South East Plan and the East Kent Strategy, respectively. They are therefore associated in different ways with the policy position adopted for Canterbury prior to the current Local Plan process and with a level of economic growth that is lower than that identified as 'preferred' by the Futures Study. Alongside up to 13,100 dwellings by 2031, this band is associated with a requirement for between 9 and 11ha of land for offices and - depending on the assumption used - up to 14ha of industrial land (albeit Scenario C envisages a reduction of over 4ha)

The implications of this level of development would see some modest growth in employment of up to 3,500 jobs (albeit the proposals of the South East Plan at

the bottom of this band would have equated to zero growth in employment). However, like Band 1, this scenario would not be sufficient to meet all housing need and demand in the District either in terms of affordable housing or projected population and household growth. This band does not reflect the current economic vision for the District as it is associated with a lower level of employment growth than the Futures Study suggests is capable of being achieved. The bottom end of this band (i.e. the South East Plan) would see a reduction in the number of school-age children (particularly of secondary school age) whilst the top end would see an increase of up to 650 children.

This level of development is considered to be eminently deliverable, being similar to existing development expectations and past achievements. However, being lower than projected demographic growth, adopting this band as the broad development requirement for the District would make it necessary to demonstrate that neighbouring authorities were planning to accommodate Canterbury's overspill.

### **Band 3: Upper mid-range: 650-800 dwellings p.a. (Scenarios E, G, and I CLG Projections)**

The scenarios under this band are associated with the prevailing view on the economic potential of Canterbury and of meeting the level of development associated with past trends of migration and demographic change generally in the District. Alongside a requirement for between 13,600 and 16,600 dwellings, this band would be associated with up to 16.5ha of land for offices and 17ha for industrial development in order to accommodate the employment growth of up to 6,600. This would require a land take (excluding open space) of between 400 and 500 ha in total.

The implications of adopting this band as the basis for plan making would be that it supports the more ambitious economic vision for the District that the Council has identified as 'preferred' in the Futures study, and would increase housing supply markedly to go some way to meeting needs and tackling affordability problems in the District. It would also require an increased rate of development in the District from that achieved in the past.

### **Band 4: Upper end: 1,100-1,200 dwellings p.a. (Scenarios F, J and I)**

This final, top, band is associated with the highest levels of development, based on respectively, the Futures Study 'travel to work' scenario (where Canterbury becomes more of a commuter town); the most recent trends of in-migration; and meeting the need for affordable housing (as defined by the housing waiting list and future households in need) in full.

These scenarios are associated with around 23,000 additional homes and (with the exception of the 'travel to work' scenario F) with a significant requirement for up to 53ha of employment land (much of it for industrial development). This band would generate a significant increase in the size of the local labour force which would support ambitious economic objectives or the transformation of Canterbury into more of a commuter town. The scale of

growth would require a significant land-take (up to 700ha excluding open space) and place pressures on physical and community infrastructure. Representing a significant increase over what level of development has been built in the past, there would be inevitable questions over whether such a scale of development is achievable.

## Implications for plan-making and development

It is not the purpose of this report to define the policy or approach for Canterbury District in its Core Strategy/Local Plan. Rather, it aims to provide an objective evidence base to inform the Council's plan-making, taking account of factors that are not considered in the work so far. In considering this report, the Council will need to reflect upon its policy objectives, but also the latest evidence on land supply, and assessing which parts of the district have the greatest need, capacity for, or constraints to development. As well as consulting its residents and other stakeholders, it will also need to consider what neighbouring districts are planning to do, in line with the new statutory duty to cooperate. At the current time, there is no evidence that neighbouring districts (Shepway, Dover, Thanet, Ashford and Swale) are, in aggregate, aiming to achieve more residential development than might be required to meet their own needs, although this is a function of a mixed picture – Shepway, Thanet and Swale are planning for below the rate of household growth of the CLG Projections whilst Dover and Ashford are providing more and may be able to accommodate some displaced growth if they maintain their existing approach.

In general terms, a starting point for considering the spatial implications of development is that, based on a number of indicators, all parts of the District would make some contribution to accommodating development requirements but that Canterbury City, followed by Herne Bay and Whitstable would be the main locations for development.

However, the Council will need to carry out further assessment on the infrastructure and environmental capacity of the District, as well as land supply in arriving at conclusions on the amount and distribution of development.

In determining the way forward, the Council will need to align its development requirements with the wider strategic policy aims and objectives that it has set itself and which are also shaped by central Government. NLP has therefore assessed each scenario (and the four bands) against a series of policy aspirations, based on the pledges in the Canterbury City Council Corporate Plan 2011-12013 and the requirements of national policy. The assessment uses a colour coding 'traffic light' approach to judge whether the level of development substantially meets the objective (**green**), goes some way to meeting the objective (**amber**) or wholly fails to meet the objective (**red**). It is summarised below:

Alignment with Key Policy Objectives

Dwellings per annum 2010-2031	Lower end		Lower-mid		Upper-mid			Upper end		
	80 d.p.a.	150 d.p.a.	510 d.p.a.	617 d.p.a.	655 d.p.a.	679 d.p.a.	780 d.p.a.	1,140 d.p.a.	1,149 d.p.a.	1,167 d.p.a.
Scenario	H	A	C	B	D	G	E	I	J	F
Will housing delivery <b>meet the need and demand</b> for housing across Canterbury District? <b>Corporate Plan Pledge 8:</b> We will plan for the right type and number of homes in the right place to create sustainable communities in the future	N	N	N	N	N	N	○	Y	Y	Y
Will level of development lead to <b>adverse social outcomes</b> (e.g. housing overcrowding, unfulfilled housing aspirations)? <b>Corporate Plan Pledge 2:</b> We will tackle disadvantage within our district	Y	Y	○	○	○	○	N	N	N	N
Will the level of development mean <b>more jobs</b> can be supported and delivered in the District? <b>Corporate Plan Pledge 1:</b> We will support the growth of our economy and the number of people in work.	N	N	○	○	○	Y	Y	Y	Y	○
Will level of development <b>improve affordability</b> and increase supply to make it easier to access housing? <b>Corporate Plan Pledge 8:</b> We will plan for the right type and number of homes in the right place to create sustainable communities in the future	N	N	N	○	○	○	○	Y	Y	Y
Will development requirements necessitate additional development sites (including <b>greenfield sites</b> ) to be identified? <b>Corporate Plan Pledge 6:</b> We will make our district cleaner and greener and lead by example on environmental issues	N	N	○	Y	Y	Y	Y	Y	Y	Y
Can the development requirements be <b>realistically delivered</b> given market capacity and demand?	Y	Y	Y	Y	○	○	○	N	N	N

Source: NLP Analysis, National Planning Policy and CCC Corporate Plan 2011-2016

This assessment shows that all levels of development requirement have strengths and weaknesses. At lower levels of development, scenarios score well on deliverability and having a lower impact on the environment, but give rise to significant negative implications for social outcomes, access to housing, and the local economy. At the highest levels of development, the scenarios score well in terms of housing supply and improving access to housing, as well as supporting the local economy, but give rise to questions over the ability of the market to bring forward such a scale of development. The City Council will need to consider how important each factor is in balancing these different factors.

### Towards defining a strategy for development

Based on the analysis contained within this study, it seems fairly clear that it would not be credible to plan for the lowest band of development (equivalent to up to 150 new dwellings per annum): it would have a substantial adverse impact on the population structure, shrink the economic potential of the District, and limit the access people have to housing. The reasons for this can be traced to the underlying demographic, housing and economic pressures facing the district, as set out earlier in this summary. The pressures are such that even under the proposals of the South East Plan (510 new dwellings per annum), the District would have seen a reduction in its labour force and no increase in employment – this runs counter to the District’s stated Corporate

pledges. At the same time, the highest levels of growth appear to raise questions over deliverability and impact which, although not assessed in detail in this study, do appear to represent a significant challenge and a step-change from what has occurred previously.

A dwelling requirement of between 600 and 700 dwellings per annum (with associated provision for employment land) would appear to represent a balance accommodating the majority of need for housing arising out of projected population change based on recent trends and Government projections. It would also maintain a local labour force sufficient to support the existing number of jobs in the district and that identified as 'preferred' in the Futures Study. This would also go some way to meeting the estimates of need for affordable housing in the District.

However, this is not the end of the story; this Study is just one part of the jigsaw and a number of factors will be relevant to the Council in defining its development requirement and may require further consideration:

- The wider policy objectives for the District, taking account of national policy and the implications of the statutory 'duty to cooperate' in terms of what is planned in neighbouring authorities;
- The implications of constraining housing delivery on meeting *local* need for housing, including the implications for different household types and on the local economy;
- The constraints to housing delivery and other development, including assessments of infrastructure capacity, land supply, environmental capacity, and development viability;
- Housing need at a sub-district level alongside other spatial policy objectives, capacity and constraints to development in different parts of the district;
- How future levels of housing delivery can support relevant economic strategy objectives to maintain and enhance Canterbury's economy, including for local businesses and providing local employment choices for residents;
- The need to give further consideration to some of the questions that remain over the portfolio of employment space requirement to meet the economic and business needs of the district; and
- The views of local residents and other stakeholders as identified through both polling work being carried out by Ipsos MORI and other consultation exercises.





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## Glossary

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### **PopGroup**

Industry standard demographic modelling software which utilises Microsoft Excel. Along with the 'Derived Forecast' software module for projecting household and labour force changes, PopGroup is used to undertake all demographic modelling within this study. More information can be found here: <http://www.ccsr.ac.uk/popgroup/>

### **HEaDROOM**

NLP's methodological framework for assessing future housing needs which takes account of Housing Economic and Demographic factors as well as policy and delivery matters to set out future housing requirements.

### **Fertility**

Fertility is a measure of the rate of births in the population. For modelling purposes, this study uses the Total Fertility Rate (TFR) which is the average number of children that would be born to a woman over her lifetime if she were to survive from birth to the end of her productive life.

### **Mortality**

Mortality is a measure of the rate of deaths in the population. For modelling purposes, this study uses age-specific mortality rates (ASMR) which is the number of deaths per 1,000 population each year by single year of age.

### **Natural Change**

The difference (in any given time period) between the number of births and the number of deaths.

### **Migration**

The movement of people across defined borders, in this instance the Local Authority boundary. Internal Migration is to/from a local authority area in another part of UK, whilst international migration is that to/from another country overseas.

### **Age Specific Migration Rate**

Age Specific Migration Rate (ASMigR) is the average number of migrants per 1,000 people by year of age (or by 5-year cohort of age).

### **Household Headship Rate**

A headship rate is the proportion of a population who form a head of a household. For modelling purposes, this is expressed as % of each age group split by different household types using CLG's household classifications.

### **Concealed Households**

A household that neither owns nor rents the dwelling within which they reside AND which wants to move into their own accommodation and form a separate household.

### **Working Age Population**

Working age population is the number or proportion of the total population who are older than compulsory education age but younger than statutory retirement age. This section of a population forms the bulk of potential labour force.

### **Economic Activity**

The proportion of population (both employed and unemployed) that constitutes the manpower supply of the labour market. The economic activity rate is the proportion of population (either wholly, or split by age/gender) that is employed or available to enter employment.

### **Labour Force**

The labour force is the total number of people in any given area who are economically active. 'Indigenous labour force' is used to describe those workers (both employed and unemployed) who live within the Borough. The labour force may include people who are younger or older than working age.

### **Labour Force Ratio**

The LF Ratio is a factor for conversion of number of workers to number of jobs in any given area. The LF Ratio takes account of the balance of commuting (net-commuting rates) and is calculated by dividing the indigenous labour force in employment in an area by the total employment/jobs in an area.

### **Sub-National Population Projections (SNPP)**

The Office for National Statistics' (ONS) estimates of future population change for each local authority within the country. These include projections of migration, mortality and fertility at a District level. Updated every two years, the most recent SNPP is the 2008-based round of projections, published in 2010.



## 1.0 Introduction

### Background and Scope of Study

- 1.1 Nathaniel Lichfield & Partners (NLP) was appointed by Canterbury City Council (CCC) to undertake a study into the future development requirements in Canterbury District.
- 1.2 The purpose of this study is to explore the potential scale of future housing and employment development in Canterbury District in order to support the future population and the continued economic change in the District. The future need for development is based upon a range of housing, economic and demographic factors. The analysis in this Study provides an assessment of the overall scale of need for new development in the District to support CCC in establishing local strategic policies on the quantum of development, including a local housing target. The study also assesses in broad terms some of the infrastructure requirements associated with supporting future housing and employment development.
- 1.3 This report presents the outputs of the application of NLP's bespoke framework for identifying locally generated housing and employment requirements. However, the study does not provide a review of all factors that will be relevant to CCC in determining how much housing and employment space should be planned for within the District. Crucially, it does not seek to reconcile underlying need and demand factors against the full range of potential constraints to delivery (such as land supply, viability or environmental constraints) nor against any future vision for the District or policy opportunities open to CCC.
- 1.4 This study does, however, assimilate the existing evidence and potential outcomes for Canterbury District to provide a platform for developing a strategy for the future growth of the District. As such there will be a need for consideration and potential further evidence and analysis in a range of other key areas to inform the final strategy for development that CCC promote.

### Structure of Report

- 1.5 The analysis in the report is set out under the following headings:
- **Approach to Defining Development Requirements** (Section 2.0) – this outlines the context and rationale for identifying local development requirements and the methodology for undertaking the assessment;
  - **Context and Past Trends** (Section 3.0) – this reviews what has occurred previously in Canterbury District and what the current position is, providing the baseline upon which to develop and test scenarios for future development;

- **Evidence for Housing Requirements** (Section 4.0) – this outlines the scenarios for possible future change in Canterbury District and the implications for required development based upon a range of economic and demographic factors, including presenting some of the outcomes for these factors;
- **Evidence for Employment Requirements** (Section 5.0) – identifies the potential employment space requirements in Canterbury arising from the scenarios, in terms of B-class employment uses (offices and industrial);
- **Evidence for Community Infrastructure Requirements** (Section 6.0) – this provides an assessment of the scale of community infrastructure requirements associated with each scenario, focussing on health, education and open space requirements;
- **Development Delivery and Implications** (Section 7.0) – this outlines the implications of the above scenarios for the potential distribution of development across the District, the implications of potential environmental and infrastructure constraints as well as a review of the alignment of each scenario with a range of policy objectives, including the economic, social and environmental implications of each scenario;
- **Conclusions** (Section 8.0) – this draws together the evidence to identify the potential development requirements and outlines the further work which may be necessary in building upon this technical work to arrive at a final strategy for development in Canterbury District, including a local housing target and provision of land for employment, based upon robust evidence.

1.6

The appendices set out the relevant assumptions used for the demographic and economic modelling, providing a guide as to the inputs and approach adopted, and also present the outputs of the modelling for each scenario.

## 2.0 **Approach to Defining Development Requirements**

### **Reform of the Planning System**

- 2.1 The Coalition Government is currently implementing significant reform of the planning system to deliver on localism. This presents a major opportunity for local authorities to shape the agenda for their localities, but with it comes new responsibilities that run in tandem with an unprecedented tightening of public spending and a sluggish domestic economy.
- 2.2 On 6 July 2010, the Secretary of State (SoS) for Communities and Local Government revoked the Regional Strategies (RS) with the intention that they no longer form part of the statutory development plan. Following a legal challenge by CALA Homes, on 10 November 2010 the Chief Planning Officer confirmed that RS are re-instated as part of the development plan, but that the Government intended to abolish these in line with the then proposed Localism Bill (now the Localism Act 2010).
- 2.3 The implication of the eventual removal of the housing requirements and job targets centrally-imposed by Regional Strategies (through the RSS and RES documents), is that responsibility for establishing local development requirements, including housing and employment land targets, in Local Development Frameworks falls to local councils. The Government has indicated that, despite the further significant changes to the planning system coming forward through the Localism Act and emerging National Planning Policy Framework (NPPF), local planning authorities should continue with Core Strategies (or Local Plans), continue to demonstrate a 5-year housing land supply and be prepared to evidence and defend these local housing requirements (and other development requirements) at Examination.
- 2.4 Consequently, the evidence for Canterbury City Council's Core Strategy will need to be tested to establish a balanced view on the localised drivers of development and the localised benefits and impacts of development.
- 2.5 As noted in the Planning Officers' Society's note, 'Planning post RS revocation' (October 2010), the Chief Planner's letter addresses the possibility that authorities might seek to move to what it refers to as the 'Option 1' figures (for housing). However, the Note stresses that this is not a prescription, and that it is for local authorities to decide what their housing target should be, subject to the necessary supporting evidence. Importantly, local housing requirements must be tested against the provisions of PPS3 (re-issued in 2010 by the Coalition Government), including paragraph 33 which references evidence of need and demand, including with regard to local economic growth forecasts.
- 2.6 The role of 'predict and provide' in developing strategies for growth is also echoed in the Draft NPPF published for consultation in July 2011. The NPPF, once adopted, will replace the current national Planning Policy Statements

(PPS's). The draft particularly identifies that local planning authorities should have a clear understanding of housing requirements and business needs in their area. This highlights the need to ensure alignment in the planning of future development requirements for both housing, employment and community uses.

- 2.7 It is important to stress that the Coalition Government's policy still seeks to promote housing development even if the mechanism (local fiscal incentives instead of regional targets) is different and with a greater emphasis on the importance of localities aiming for their own housing solutions. The link through to employment targets becomes more important with this local focus.

## Methodology

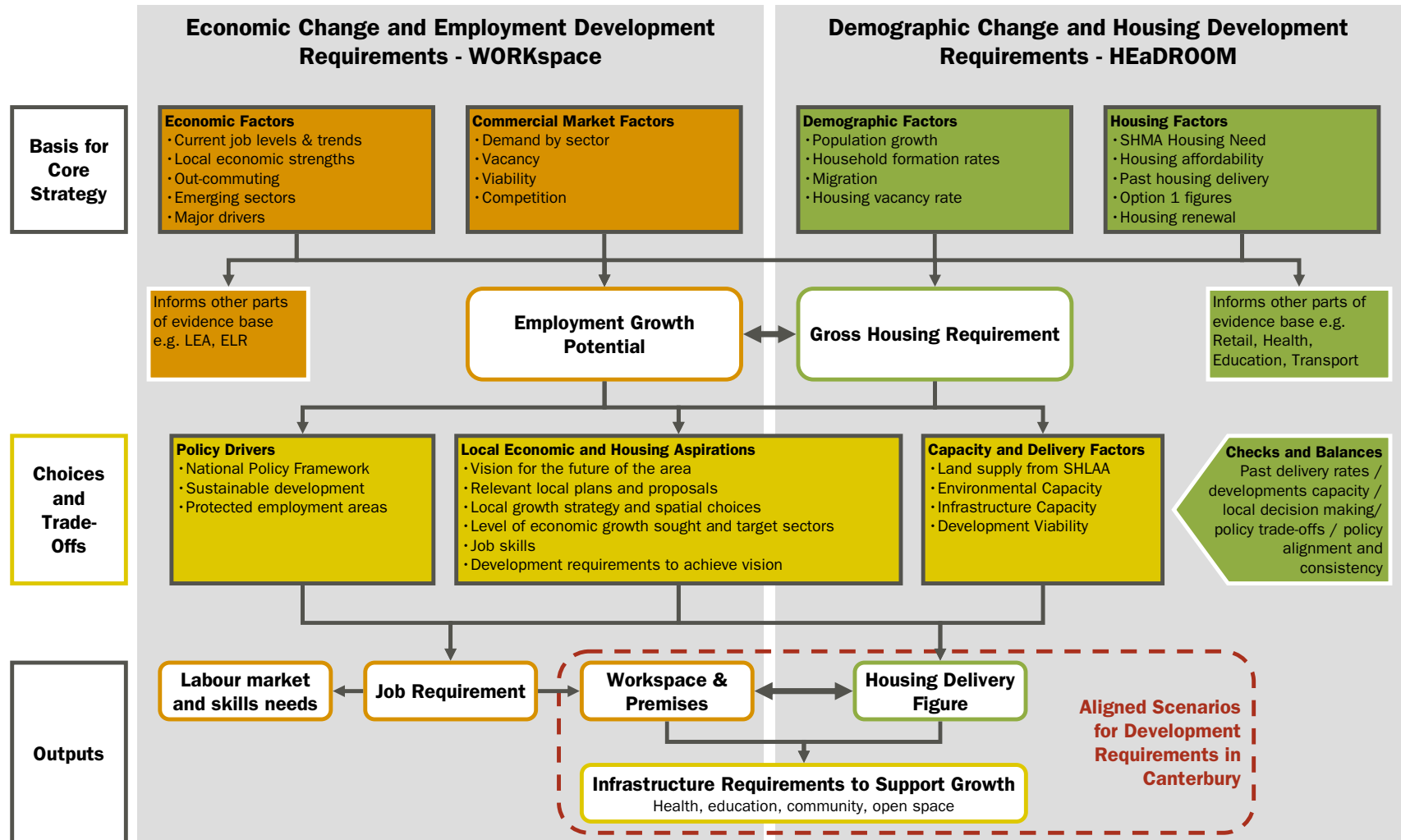
### Conceptual Framework

- 2.8 In response to the need to generate locally derived requirements for growth, NLP has developed conceptual frameworks for identifying local housing and employment requirements providing a robust basis for planning through Local Development Frameworks. A hybrid of NLP's HEaDROOM framework (so-called given its focus on the Housing, Economic and Demographic factors underpinning the need for housing in a locality) and NLP's WORKspace framework (so-called given its approach to defining the need for employment generating floorspace and land) has been applied in this study. This approach acknowledges the common drivers for development of housing and employment units and the alignment between them.
- 2.9 The framework has been tailored to help identify local housing requirements in Canterbury, assessing the possible role of the District in meeting the needs of the current and future population, whilst taking into account local housing and economic objectives and well-being and the capacity of the District to accommodate development.
- 2.10 This methodological framework, which forms the basis of NLP's approach for assessing development requirements, is illustrated in Figure 2.1. The approach adopted consistent with the methodology set out by Kent County Council (KCC) within their final report to the Kent Planning Officer Group on '*how to determine dwelling numbers in Local Development Frameworks*'<sup>2</sup> incorporating much the same evidence and judgements within the methodology for arriving at a development requirements. The methodology is therefore in-line with the approach KCC have adopted for the work they have been undertaking on behalf of all the Kent local planning authorities, and NLP and KCC have worked together in defining the parameters and approach to the modelling within this study.

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<sup>2</sup> How to Determine Dwelling Numbers in Local Development Frameworks, Kent County Council, June 2011

Figure 2.1 Development Requirements Methodological Framework



Source: NLP



- 2.11 In essence, the approach adopted is to derive a series of scenarios based on housing, economic and demographic factors, and identify what would be the potential housing and employment growth needs arising within the parameters of that given scenario. The implications of these are then considered against a series of choices and trade-offs particularly around the implications for land supply, infrastructure capacity and policy/vision objectives, alongside consideration a series of checks and balances for the level of development, including the plans of contiguous authorities.

### **Assessing Development Requirements**

- 2.12 The study's objective is to identify the housing, employment and infrastructure development requirements in Canterbury District. These take the form of a number of scenarios, the basis for which is set out in the relevant sections of the report. For each scenario, NLP has modelled the implications using demographic modelling and forecasting tool PopGroup to model future trends in demography. This is then converted to household and dwelling estimates and also labour force and employment estimates using the Derived Forecast add-on tool. The PopGroup software (including Derived Forecast) was updated in January 2011 to take account of the then newly published CLG 2008-based household estimates. The software is used by numerous local authorities and public bodies, including Kent County Council, and is a de-facto industry standard. The assumptions utilised are set out in Appendix 1.

- 2.13 Each element of development requirement is assessed using the following approach:

### **Assessing Future Housing Requirements**

- 2.14 Where the scenario is not dwelling-led (i.e. based upon a particular level of housing delivery or grounded in factors such as housing need from other evidence sources such as the SHMA) NLP has assessed the housing requirements arising out of each scenario.
- 2.15 This is undertaken using PopGroup modelling which underpins the analysis of the scenarios, providing outputs on the projected population and number of households within that population, using CLG household headship rates. Using an estimate of the second home and vacancy rate amongst the dwelling stock, this is converted to a number of dwellings necessary to cater for these households, allowing an annual rate of dwelling change necessary to be calculated. This dwelling requirement reflects the number of necessary dwellings, all things being equal, that will be necessary to support a given population or given economic position in the future.

### **Assessing Future Employment Space Requirements**

- 2.16 Where the scenario is not employment-led (i.e. based upon a particular level of employment growth such as those coming from the Canterbury Futures Study and economic growth forecasts) estimates of future employment levels by

broad sector have been made for each of the scenarios. This is similarly undertaken using PopGroup to estimate the housing/demographic outputs that would result from each scenario using the model.

2.17 From this, the economically active resident labour supply that would result from this level of households/dwellings is estimated using economic activity rates. The proportion of resident workers that would require B Class jobs and non B-Class uses in the area is assessed, using current rates of commuting and the current and projected proportions of District employment by sector.

2.18 Where the scenarios are employment-led, job forecasts for the District are used to estimate the necessary population and housing to support this level of growth, appreciating the dynamics between housing and jobs.

2.19 Within each scenario, the job projections are translated into requirements for B class and some other types of employment generating (non-B) space are estimated by:

- applying appropriate job/floorspace ratios for each sector to obtain an initial net floorspace requirement;
- adding allowances for vacancy, future losses of land and delays in sites coming forward (a safety margin); and
- applying suitable plot ratios to estimate land requirements.

### **Assessing Community Infrastructure Requirements**

2.20 In addition to housing and employment requirements, the study broadly assesses the need for community infrastructure to support the population. This is based upon a range of published ratios and benchmarks, including those contained within the Canterbury Developer Contributions SPD and those used by KCC. Through consideration of the changing demographics under each scenario, an estimate of the need and demand for supporting community infrastructure is undertaken.

2.21 This provides headline requirements in terms of health requirements (primary and secondary care in terms of GP Surgeries and Hospitals), education requirements (primary and secondary school provision – particularly derived from the projected number of school age children) and open space/outdoor sports provision. Each of these infrastructure themes will necessitate planning for their development requirements.

2.22 It should be noted that this assessment is a high level review of the infrastructure development requirements necessary to support the identified housing and employment development requirements. It is not, nor intended to be, a full infrastructure analysis and has not been generated cognisant of any site specific basis, nor utilising KCC's infrastructure model toolkit.



## Outputs

- 2.23 This report presents the findings of NLP's analysis and modelling of the demographic and employment factors to provide an analytical review of the level of development requirements within Canterbury District.
- 2.24 The main outputs of the study are identified as total and annualised figures for the period 2011 to 2026 and the period 2011 to 2031. The modelling uses a base year of 2011 for the demographic projections, however, this 2011 base is built up from a 2001 Census population base using data provided by Kent County Council. Annualised figures allow for ease of comparison across different data strands and scenarios. All outputs of the modelling are identified as annual changes and therefore the outputs, which are contained within the appendices for each scenario, can be assessed across varying time periods up to 2031, as necessary to reflect the relevant CCC planning period.
- 2.25 Although sub-district modelling has not been undertaken, due to the limited availability and margins or error in small area statistics, consideration of the spatial implications for development of the current demographic make-up, past trends and likely future development pressures within each of the sub-areas within the District will allow CCC to consider where development pressures could be met.
- 2.26 It is important to note that the outputs of the modelling in this study are dependent upon the availability of a wide range of existing sources. Many of the inputs and assumptions applied to the analysis contained within this report take account of datasets that are updated annually. It also relies on a number of older datasets which, due to reporting periods and data availability, represent the most recently available and/or most appropriate and robust data to use. It will be important to keep the analysis under review and to take account of updated information as it becomes available.

3.0

## Context and Past Trends

3.1

To assess the future demographic and economic pressures Canterbury District will face, it is important to take account of past trends, understand what has been driving these trends, and the extent to which they may continue in the future, taking into account current circumstances. This provides the context for what may reasonably occur in the future. However, whilst past trends can inform the development and testing of a number of scenarios, it is important to acknowledge that those trends may themselves have been shaped by previous policy positions (e.g. migration associated with the scale of delivery of new housing) and therefore, whilst a reasonable starting point, they may not reflect the implications of changing policy or other factors at national or local level.

### Demographic Trends

3.2

A key driver of the requirements for development within any given area is population change. Greater levels of population drive the need for housing to accommodate it and jobs to support it, alongside the full range of community and commercial services which people need and utilise. Therefore, one of the main drivers in planning for future development, particularly in terms of the requirement for housing, will be projections of how the population will change.

3.3

The Office for National Statistics (ONS) produce a wide range of demographic datasets which are useful for setting the context of demographic change within Canterbury District. Although the ONS datasets provide a mutually consistent set of estimates, using a consistent methodology for local authority areas across the country, Canterbury City Council (CCC) and Kent County Council (KCC) have expressed concerns about the validity of ONS' population data at a localised level for Canterbury District. This is linked principally to the issue of migration flows relating to overseas students, which is set out in more detail below. Notwithstanding, this section examines some of the ONS produced demographic data and provides the context for assessing local development requirements, identifying where alternative approaches to demographic data is necessary.

### Population and Household Change

3.4

Population in Canterbury District has risen steadily over the previous three decades. ONS mid-year population estimates identify an increase in population of 25.4% since 1981, a level of growth greater than the 17.7% seen by the wider South East region over the same period. Population change has been generally upwards throughout the whole period, albeit with a slight flattening of growth, and even decline, in the early 1990's. However, the fastest rate of population increase identified by ONS' mid-year estimates has been experienced most recently in the 2000s, with an average rate of increase of 1.2% per annum, compared with 0.36% in the 1990s and 0.73% in the 2000s. This illustrates that the rate of population growth estimated by ONS in Canterbury has been increasing, with the recently published 2010 mid-year

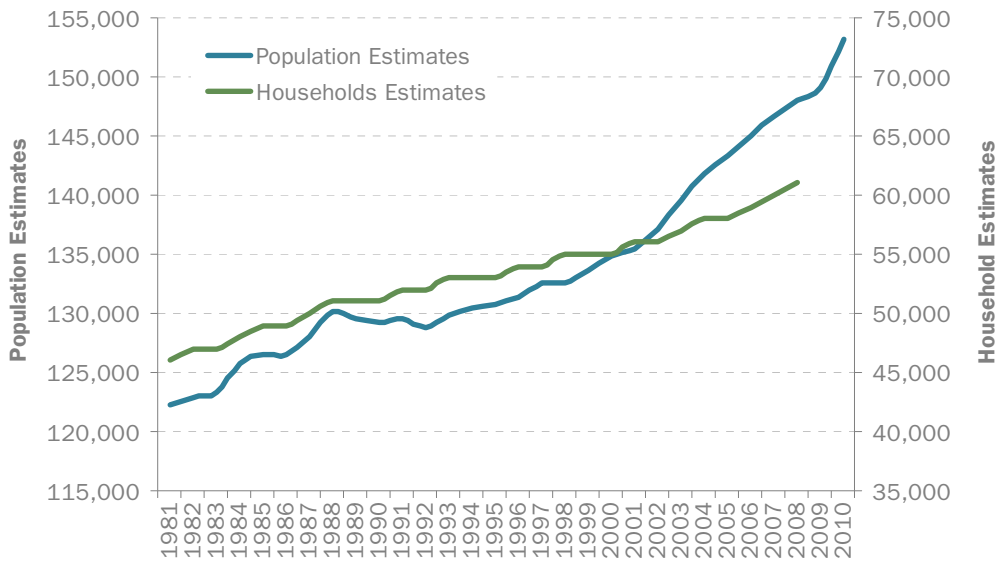
population estimates showing a previously unprecedented annual growth of 2.68%, the drivers of which are not clear.

- 3.5 Although ONS mid-year estimates provide one methodology of estimating current population and past change, for Canterbury there is considered to have been past margins of error in this data. Notably, the mid-year estimates for 2001 on a rolled forward basis (i.e. rolled forward using the annual mid-year estimates from 1991 to 2000) would have been 6.1% higher than the 2001 Census based mid-year estimate of 135,300.<sup>3</sup> This highlights that in the intervening period between the 1991 Census and the 2001 Census, mid-year estimates for Canterbury had overestimated population by over 8,250 persons. This is speculated by KCC and CCC to be, at least in part, driven by the student population of Canterbury District and the use of GP registration and de-registration data within the mid-year estimates for estimating migration. Many students fail to re-register with their GP for some years after having left university, creating a lag effect in the migration estimates. Similarly, and more critically, many international students fail to de-register with their GP altogether when leaving the UK to return home, and thus, in statistical terms, remain part of the resident population in Canterbury, when in-fact they are not.
- 3.6 This common trend appears to have contributed towards a perceived overestimate in the population of Canterbury within the mid-year estimates. Both Canterbury City Council and Kent County Council consider the high levels of population growth estimated between 2001 and 2010, similar to the estimates between 1991 and 2000, to be an overestimate. Notwithstanding, the changes in population from the mid-year estimates provide useful context for past trends.

---

<sup>3</sup> ONS Comparison between rolled forward and published Mid-2001 Population Estimates:  
[http://www.statistics.gov.uk/populationestimates/downloads/Differences\\_by\\_Age\\_and\\_Sex\\_at\\_LA\\_level.xls](http://www.statistics.gov.uk/populationestimates/downloads/Differences_by_Age_and_Sex_at_LA_level.xls)

Figure 3.1 Population and Household Growth in Canterbury 1981-2010

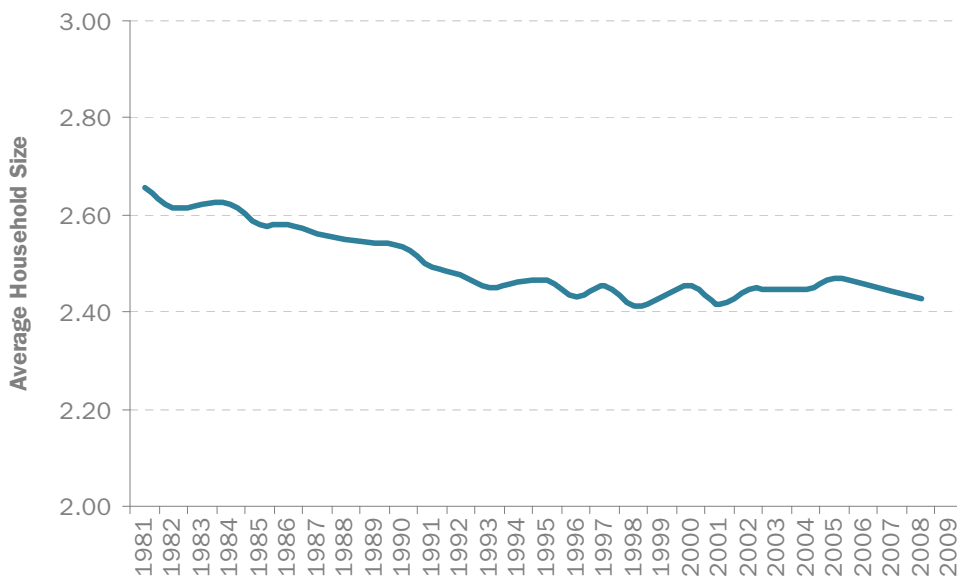


Source: ONS Mid-Year Population Estimates and CLG Household Estimates (Live Table 406)

3.7 The number of households has also been increasing, and at a faster rate, with average household size in Canterbury District declining from 2.66 in 1981 to 2.43 in 2008, reflecting national trends towards smaller household sizes (and similar to the regional average, the equivalent figure in 2008 was 2.4). Household sizes in Canterbury have, however, been relative static since the mid-1990s, which is distinct from trends seen more widely and may be representative of the housing pressures households in Canterbury face.

3.8 There were some 46,000 households in 1981; by 2008 this had grown to 61,000; an average increase of some 555 households per annum, which is substantially below the 800 p.a. by 2033 indicated by the CLG 2008-based Household Projections.

Figure 3.2 Average Household Size in Canterbury District 1981 to 2008



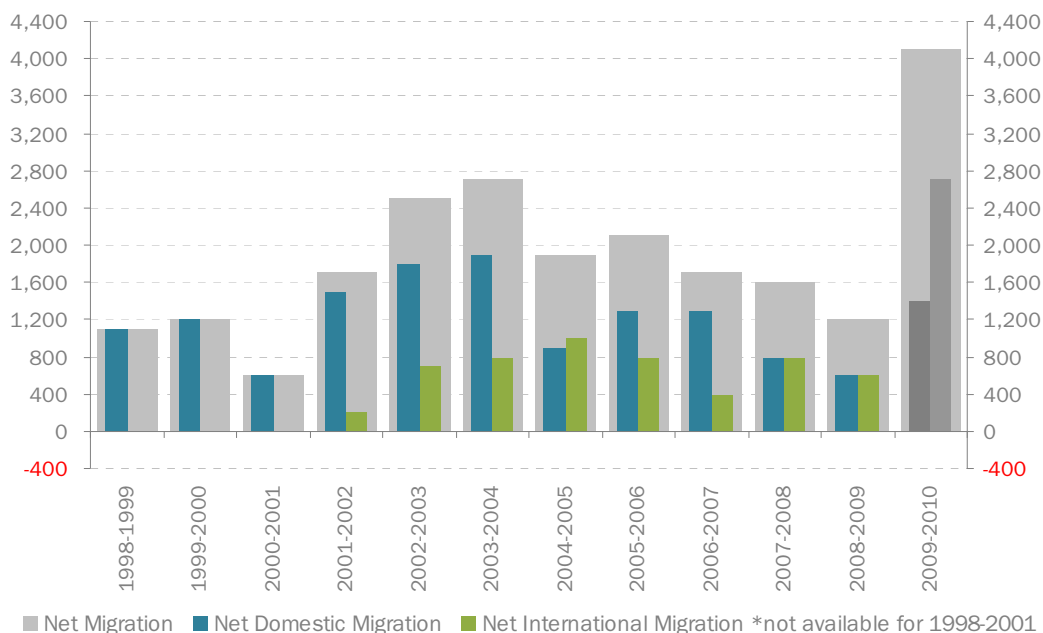
Source: ONS Mid-Year Population Estimates and CLG Household Estimates (Live Table 406)

## Migration

3.9 Migration patterns have remained relatively consistent over the past 12 years, albeit the picture is not complete with data on international migration flows not available before 2001. Figure 3.3 illustrates past trends in net migration for Canterbury, highlighting that the District has faced significant pressures from net in-migration, particularly domestic migration, but also more recently international migration.

3.10 Since 2001 (the period for which data on both domestic and international migration is available), ONS data on migration, which also underpins the mid-year population estimates, identifies that Canterbury District has been a net importer of population, averaging net in-migration 2,167 people p.a. Levels of net in-migration had been falling since a peak in 2003-04. However, data from the ONS 2010 mid-year estimates suggests recent migration to Canterbury District in the past year has spiked, with international net in-migration recorded by ONS at an unprecedented level. Again, there is concern from CCC and KCC around the reliability of this data, particularly given the perceived dynamic around international migration (with students moving out being undercounted, leading to higher levels of net-migration). Notwithstanding, there are no more robust and comprehensive data sets on migration available, and it is reasonable to use these as an indicator of past trends, accepting there may be inherent margins of error to consider.

Figure 3.3 Net Internal and International Migration in Canterbury 1998-2010



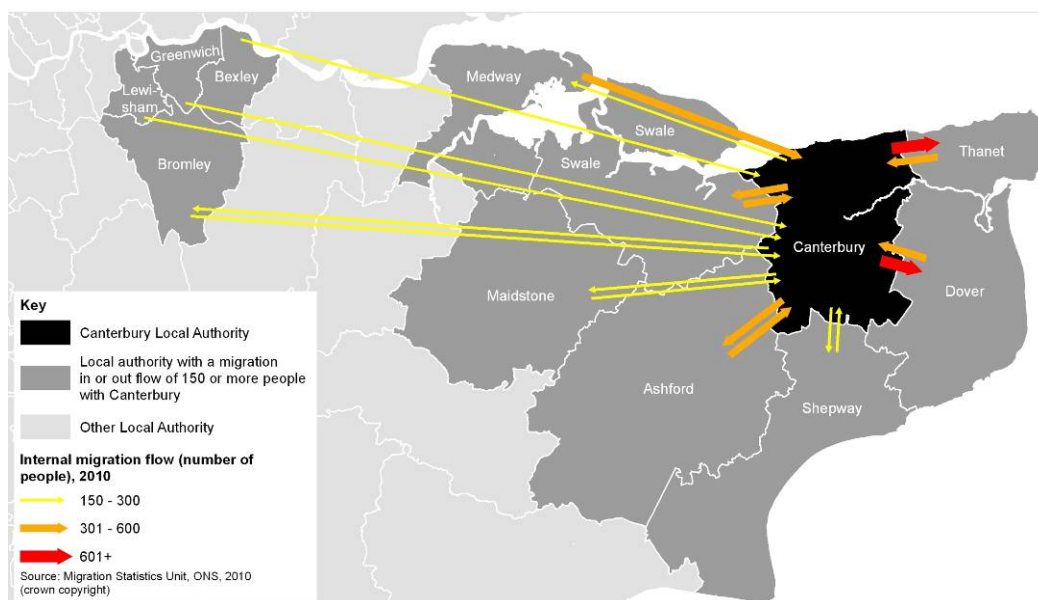
Source: ONS Migration Statistics - Note: 2009/10 Data is from the June 2011 published mid-year population estimates – there is some concern over the accuracy of this data.

3.11 In general terms, past population growth recorded by ONS of 19,500 in the District since 1999 has been wholly driven by net in-migration which totalled 22,400 over this period. This reflects trends in natural change which appears to have contributed to a contraction in population over this period (i.e. deaths

exceeding births), reducing the impacts on population growth of this in-migration.

3.12 In looking at migration trends and considering the implications for development requirements in Canterbury, it is important to take account of the origin and destination of migrants, particularly in the context of considering other local authorities plans and strategies, which could impact upon the ability of other areas to absorb out-migration from Canterbury or increase in-migration to Canterbury. This is pertinent given the new ‘duty to cooperate’ between local authorities, to ensure joined up strategies and approaches to areas. Figure 3.4 below illustrates the origin and destination of domestic migration in 2010 showing the strongest relationships (particularly for out-migrants) are with the adjoining areas of Thanet, Dover, Ashford and Swale.

Figure 3.4 Internal domestic migration flows to and from Canterbury District, 2010



Source: ONS / NLP analysis

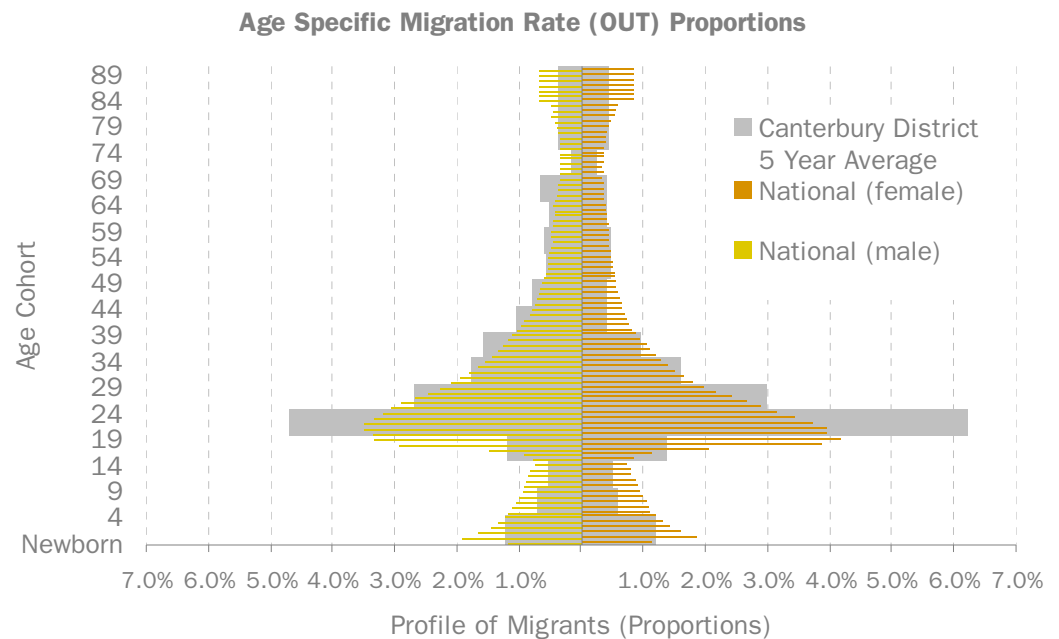
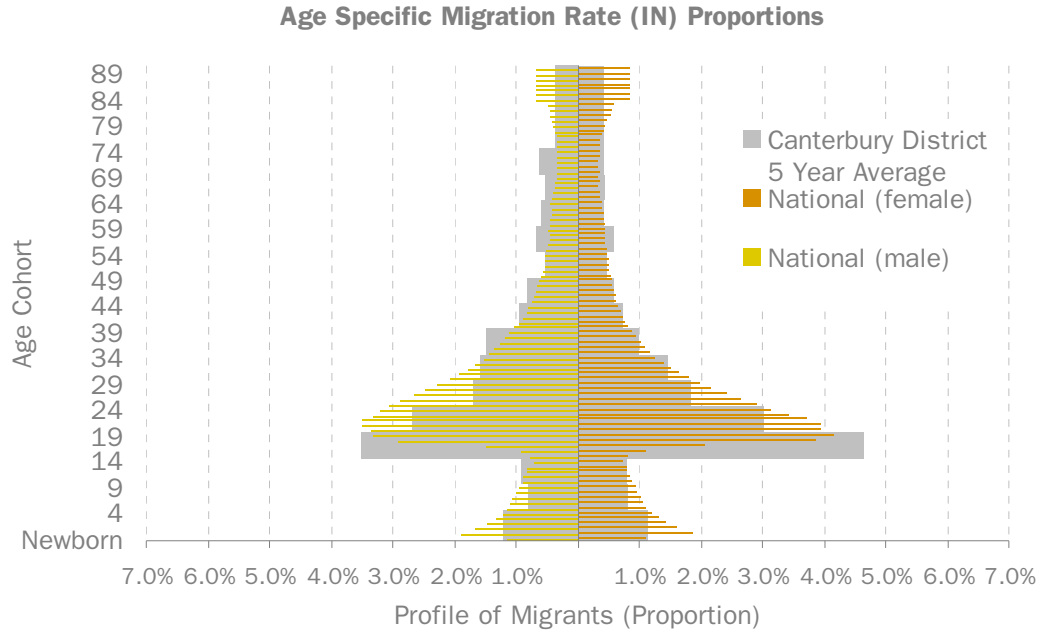
3.13 But migration does not just have an impact in total population terms, it affects the make-up of the population. People have different propensities to migrate at different ages, and, combined with a Canterbury-specific propensity to migrate, even a balanced net-position (e.g. where in and out-migration is broadly equal) can have a significant knock on effect on the rates of fertility, mortality and household formation across the whole population.

3.14 Looking at domestic migration only, and the gross flows of people moving out of Canterbury District to elsewhere in the UK or moving into Canterbury District from elsewhere in the UK, we can look at the propensities of different age groups to migrate either into or out of Canterbury.

3.15 Figure 3.5 shows that the trends based age profile of domestic migration for Canterbury is similar to the national picture, with a higher propensity to migrate among age cohorts in their 20’s and early 30’s, meaning that the majority of in and out-migration has come from these age groupings. One difference is the proportion of migration out of Canterbury attributable to people in their early

20's, which is much higher than nationally, potentially reflecting Canterbury District's role as a place of higher education with many of people this age leaving the District for elsewhere in the UK having completed their studies.

Figure 3.5 Age Profile of Migrants for Canterbury (5 year trend)

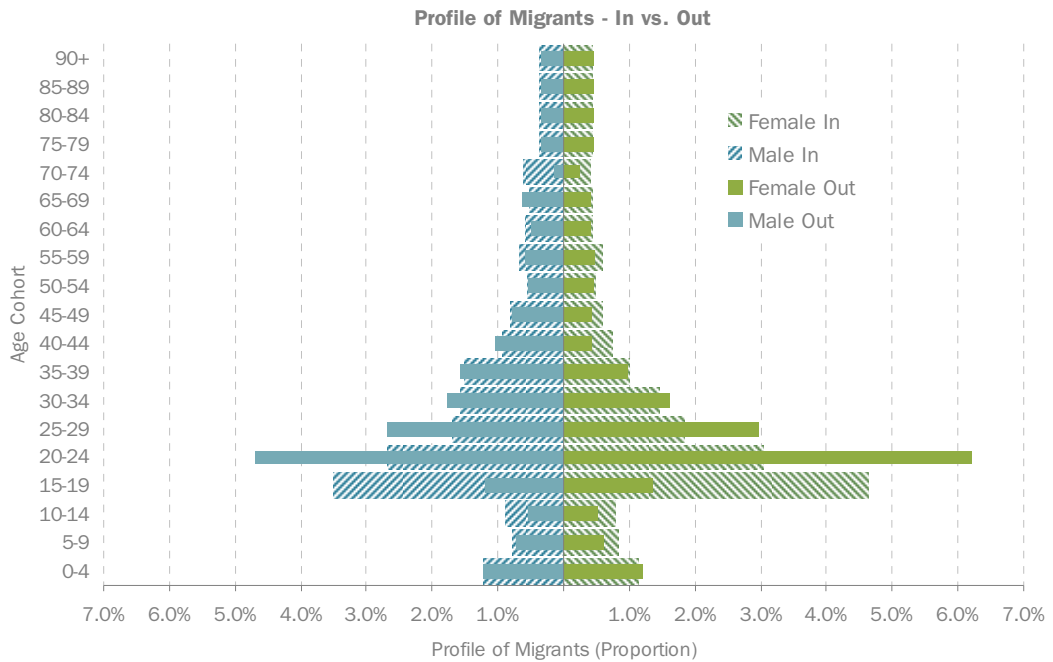


Source: ONS 2006-2010 Domestic Migration Data

3.16

These population churn dynamics are illustrated in Figure 3.6 which combines the age profile of domestic migrants coming into the District and the age profile of those moving out (split by gender) for the previous 5 years. This demonstrates the extent to which recent migration patterns may have helped to shape the structure of the local population.

Figure 3.6 Profile of Domestic Migrants in and out of Canterbury District



Source: ONS Migration Statistics 2006-2010

3.17

One distinct difference in the age profile of those moving in to Canterbury District as compared to those moving out is that a much higher proportion of in-migrants are in the 15-19 age band. Proportionally more young adults (20-29), move out than move in. This suggests a dynamic driven by the student population, with many students moving in during their late teenage years and then leaving when they complete studies during their 20's. Among the elderly population the proportion of migration accounted for by these age groups is much less. However, during later working life stages, and beyond, from 55 to 74 the proportion of people moving into Canterbury District is generally greater than the proportion moving out in these age groups. This suggests a dynamic of in-migration of retirement age persons, highlighting the role that Canterbury District has in attracting such types of households.

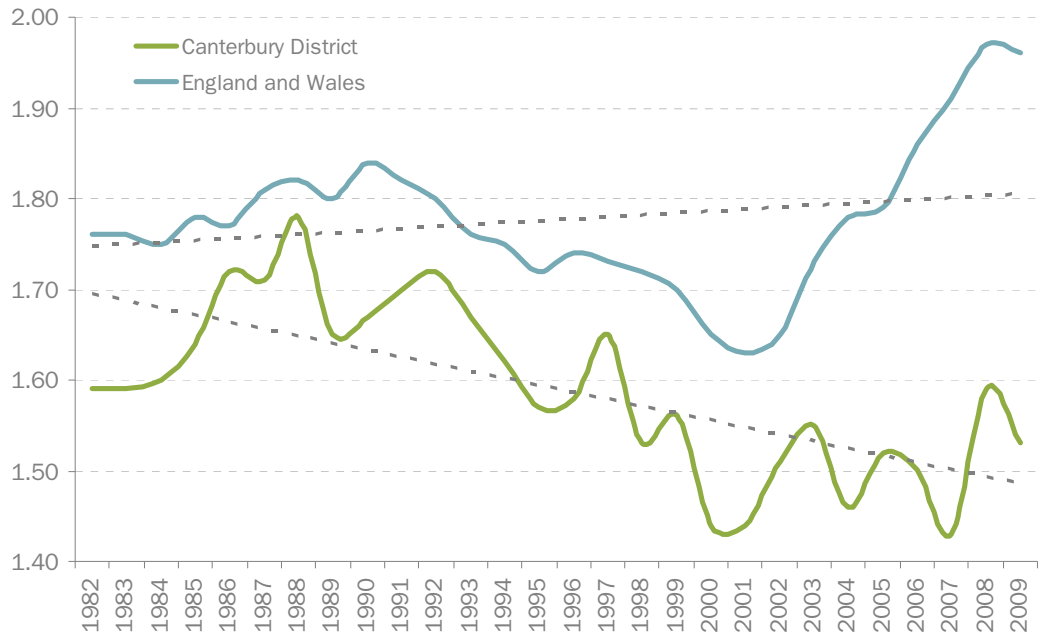
### Natural Change – Mortality and Fertility

3.18

ONS statistics show that the Total Fertility Rate (TFR) – the average number of children that a woman would have over her lifetime if she were to live to the end of her productive period – in Canterbury has been substantially different to that seen nationally. Whilst overall national trends have been towards a higher TFR (i.e. more children per individual female) trends in Canterbury have been negative over the past two decades, with fertility rates much lower and decreasing over this period (Figure 3.7).



Figure 3.7 Total Fertility Rate 1982-2009

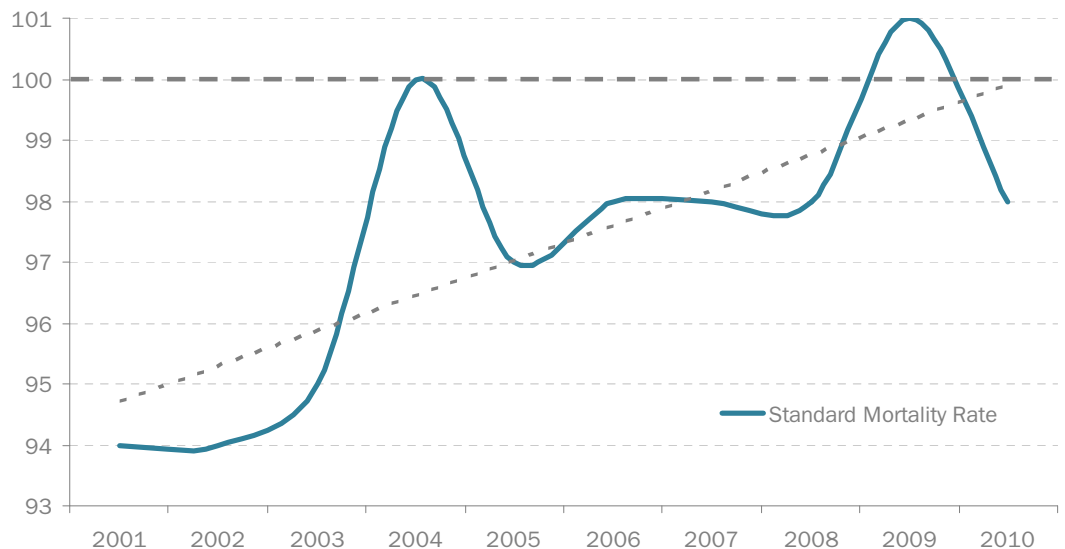


Source: ONS Mortality and Fertility Statistics

3.19

The Standard Mortality Rate (SMR) – a comparison of the number of the observed deaths in a population with the number of expected deaths if the age-specific death rates were the same as a standard population, expressed at a rate/index with 100 being the standard/national average – in Canterbury district has shown convergence with the national mortality rate, which itself has seen falling mortality rates and trends towards longer life expectancy (Figure 3.8).

Figure 3.8 Standard Mortality Rate for Canterbury District 2001-2010



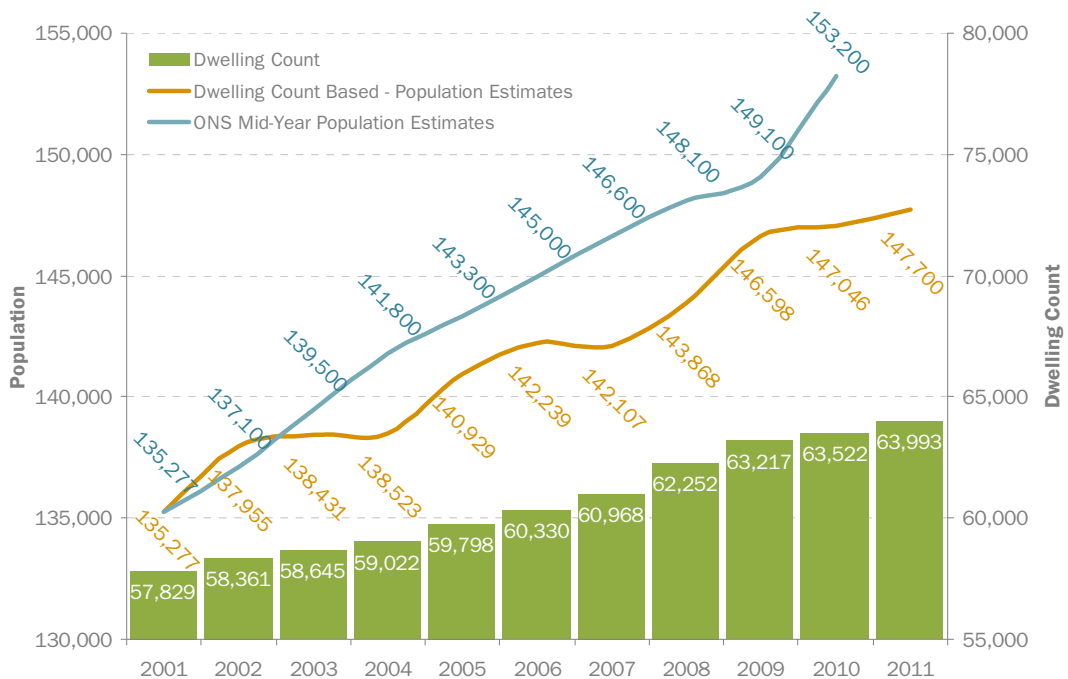
Source: ONS Vital Statistics (VS1) Series

## Current Population

3.20 Taking account of CCC and KCC’s concerns over the accuracy of the ONS mid-year estimates for Canterbury District, the 2011 base population for the modelling has been derived from the dwelling count. KCC have provided dwelling count data using the 2001 Census data as the base and adding annual completions recorded through the Housing Information Audit to provide annual updates to a 2011 dwelling count.

3.21 This has been modelled as a constraint to the demographic changes within the model between 2001 and 2011, meaning that the population growth in these years is a factor of the change in dwelling stock. The inference of this approach is that, based upon KCC’s dwelling data, a lower level of population growth has been estimated between 2001 and 2011 than that seen in ONS’ mid-year estimates. This approach helps to overcome the concerns CCC and KCC have over potential over-estimation of the population in Canterbury within the ONS mid-year estimates. The difference over this time period is shown in Figure 3.9

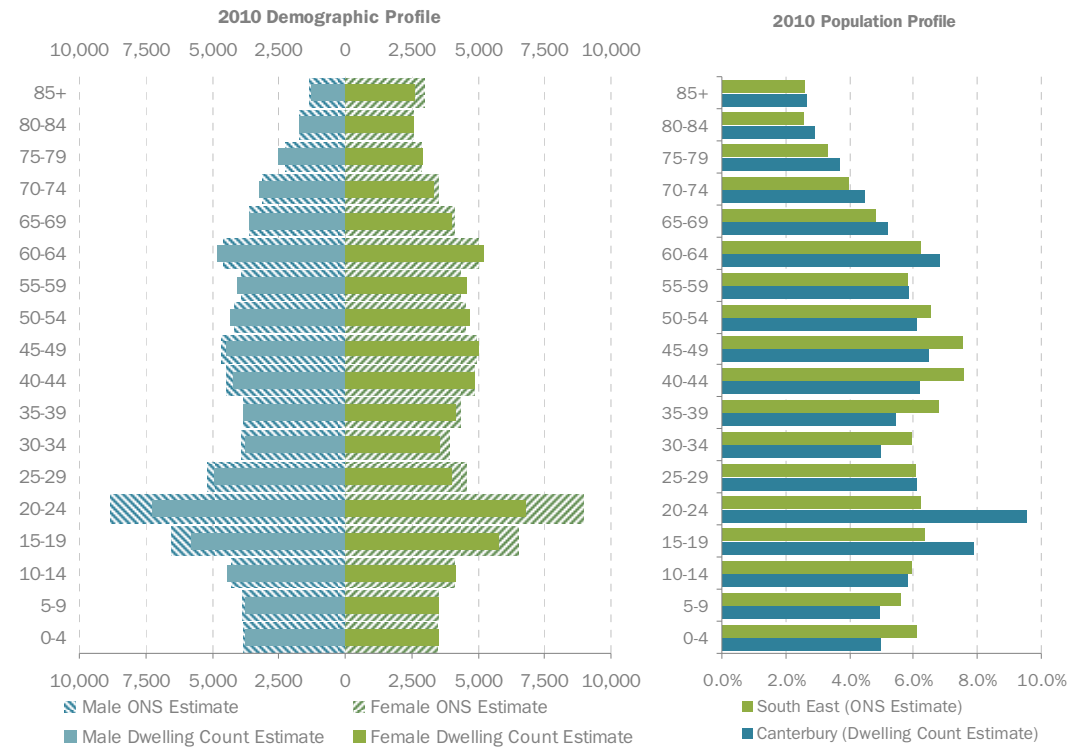
Figure 3.9 Change in Population: ONS MYE and KCC Dwelling Led Estimates



Source: KCC, CCC and NLP analysis

3.22 As illustrated in Figure 3.10, the difference between these two approaches to estimating the current population is minimal for the majority of age cohorts, albeit the dwelling led estimates arrive at a smaller population for younger adults. This corresponds accordingly with the perceived overestimation of the number of students within Canterbury District, which stems from the way migration trends and patterns are estimated using GP registration data.

Figure 3.10 Comparison Demographic Profile from ONS MYE and KCC Dwelling Count Estimate



Source: KCC, CCC and NLP Analysis

3.23 The dwelling count based estimate of population for 2011 is used as the base for the modelling carried out in this study. As illustrated by Figure 3.10 Canterbury has a population profile with larger proportions of young people (aged 15-24) and also a greater proportion of elderly population (65+) than seen in the wider South East. This reflects Canterbury’s role as a university city with many students in the population. Correspondingly, Canterbury has a much lower proportion of younger working age population, with a significantly smaller proportion of people aged 30 to 49 than the wider South East.

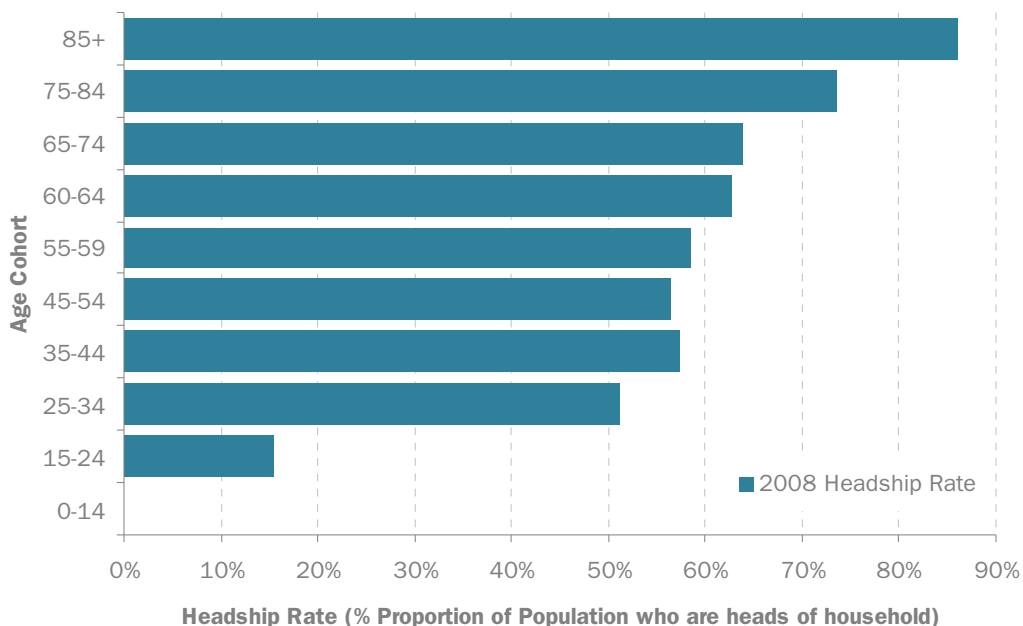
## Housing Trends

3.24 As identified above, average household sizes within Canterbury District have been decreasing and were estimated to be 2.43 persons per household in 2008 using ONS population and CLG household estimates. Rates of household formation drive the need for housing, but must be treated with caution as they themselves can be constrained by the availability of housing.

3.25 The CLG-2008 based household projections include estimated headship rates for the period 2001 to 2008 for Canterbury District (as well as using projected rates for the period to 2033) broken down by gender, age group and household category. Figure 3.11 shows the headship rate – the proportion of population who form heads of household – broken down for each age cohort as estimated by CLG for Canterbury District in 2008. This illustrates that headship rates are generally higher as age increases, with circa 86% of the population aged 85+

being heads of household (e.g. elderly widows/widowers) whilst only circa 51% of the population aged 25-34 are heads of household.

Figure 3.11 Estimated 2008 Headship Rates and Headship Rate Change 2001-2008 for Canterbury District



Source: CLG 2008-based Household Estimates

3.26 Looking at the estimated shift in headship rates for Canterbury District between 2001 and 2008 shows that headship rates among young age cohorts between 25 and 34 years old has been increasing in Canterbury, potentially due to more or smaller households forming in these age groups. Similarly headship rates among age cohorts between 55 and 64 have been increasing. Conversely headship rates decreased slightly in Canterbury District for age cohorts between 65 and 84 years old, potentially reflecting increases in life expectancy and more elderly couples cohabiting. Overall, the ageing structure of the population, and the greater propensity of these older age groups to form a head of household (e.g. single person and couple elderly households), is leading to smaller average household sizes.

3.27 Housing vacancy rates also have an impact on the ability of the housing stock to meet the need from households. CLG collect housing vacancy and second home rates using data provided from local authority council tax registers. CLG HSSA data showed that in 2010 Canterbury District had a total vacant dwelling rate of 3.02% of stock, up from a 2.32% vacant dwelling rate in 2005.<sup>4</sup> Over this past 5 year period, total housing vacancy has averaged 2.66% of total stock. Data from the 2001 Census also showed 0.9% of dwellings in Canterbury District were second homes/holiday homes. Although this may

<sup>4</sup> Based on Housing Strategy Statistical Appendix (HSSA) data collated on total dwellings and total vacancies by CLG

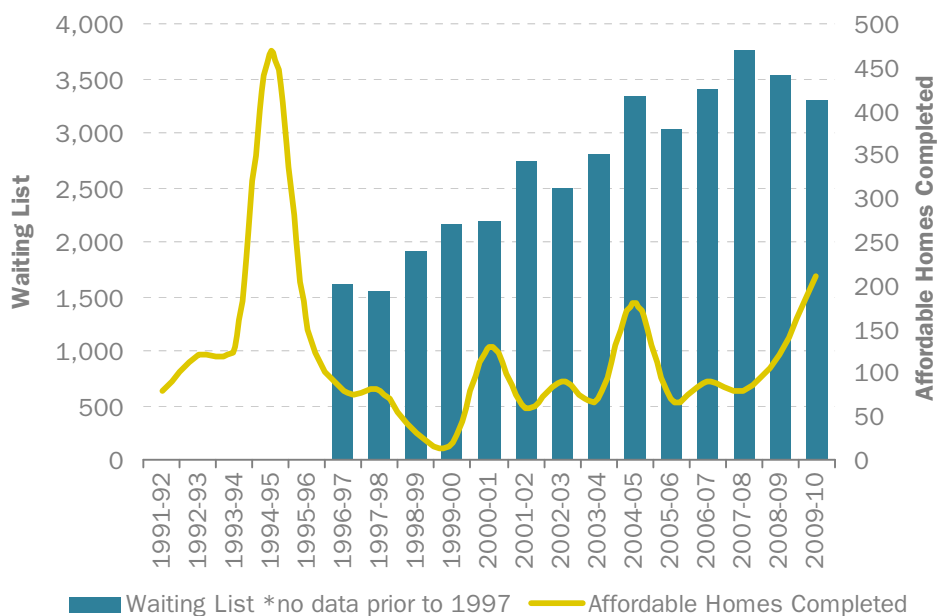
have changed since 2001, particularly given factors such as the renaissance of Whitstable, it remains the most robust estimate available.

### Local Housing Need and Demand for Affordable Housing

3.28 Affordable housing need is distinct from the wider need and demand for housing, being need which relates only to those tenures defined as affordable housing including social (e.g. socially rented) and intermediate (e.g. shared equity) housing, which is prioritised for those unable to obtain housing in the private market. Such affordable housing need is a relevant consideration to be taken into account in setting the local housing requirement.

3.29 Housing Register and HSSA data shows that over time the Housing Waiting list has gradually increased, alongside some significant year-by-year fluctuations, most recently 2009-10, when the list increased from 2,600 to 3,290.<sup>5</sup> This has been accompanied by a generally low level of affordable housing supply (based on CLG data, which often differs from that collected by AMRs), which has averaged around 120 homes p.a. and was as low as just 20 p.a. in the late 90's. This rate of provision has equated to approximately 22% of the annual level of household growth since 1990 (which averaged 556 p.a). The extent to which this has kept pace with the affordable housing need of newly arising households and the existing population will need to be considered, taking account of social re-lets and re-supply of intermediate tenures which is not included in the completions data. However, it appears unlikely that it has been sufficient to address the backlog of need represented by the waiting list.

Figure 3.12 Waiting List and Affordable Housing Completions 1991-2010



Source: HSSA / CLG / NLP analysis

<sup>5</sup> Based on HSSA data collated by CLG

- 3.30 Data from Kent Home Choice (the choice based lettings system for the whole of Kent) identifies that as of August 2011 there were 3,642 applicants from Canterbury District on the housing waiting list. Of this only 2,352 (64.6%) applicants are within Bands 1 to 3, which broadly equates to those defined as 'in need' by the CLG guidance, with the remainder in Bands 4 and 5 which accords with those with lower or no priority.<sup>6</sup> As an estimate of higher priority need 1,264 applicants (34.7%) are within Bands 1 and 2. This highlights that actual need for affordable housing locally is lower than the total demand suggested by the waiting list.<sup>7</sup>
- 3.31 Furthermore, data from Moat Housing, the Zone Agent which covers Canterbury District (and more widely Kent, Sussex and Essex) for shared ownership housing, identifies there are currently 281 active applications for property in Canterbury, of which 181 can demonstrate a local connection to Canterbury District by virtue of currently living there.
- 3.32 The East Kent Strategic Housing Market Assessment (2009) (the SHMA) contains the most recent full assessment of affordable housing need for Canterbury District. The SHMA estimates that 77% of newly forming households in the District are unable to access market housing (either to buy or rent) and that total newly forming need (both from existing households and those projected by the Kent County Council population projections based on the South East Plan strategy) will total 1,276 per annum between 2006-2010. Taking into account the backlog of existing need (to be addressed over an assumed 5-year period) and social re-lets, the SHMA estimates the social housing need for the District at 1,473 dwellings per annum between 2006 and 2010.<sup>8</sup> This is reduced to 1,104 dwellings per annum when looking at a 10 year period for addressing backlog.
- 3.33 In the context of overall previous delivery of affordable housing, such levels as necessitated by the scale of housing need have not been achieved in the District, and as such a step-change in affordable housing delivery would be necessary to meet newly arising need and the backlog of need.

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<sup>6</sup> See CLG SHMA Guidance and Canterbury Lettings Policy and Housing Need Register Information Booklet:  
<http://www.canterbury.gov.uk/assets/housing/hnrinformationbooklet2007.pdf>

<sup>7</sup> It should be noted that the choice based lettings system allows all applicants on the register to bid for housing. Applicants outside of Canterbury District may bid for housing within it and those in Canterbury District may bid for housing elsewhere. Areas of preference are not recorded on the CBL system and therefore it is assumed broadly that affordable housing need in Canterbury District broadly equates to people who are currently registered from an address in Canterbury District.

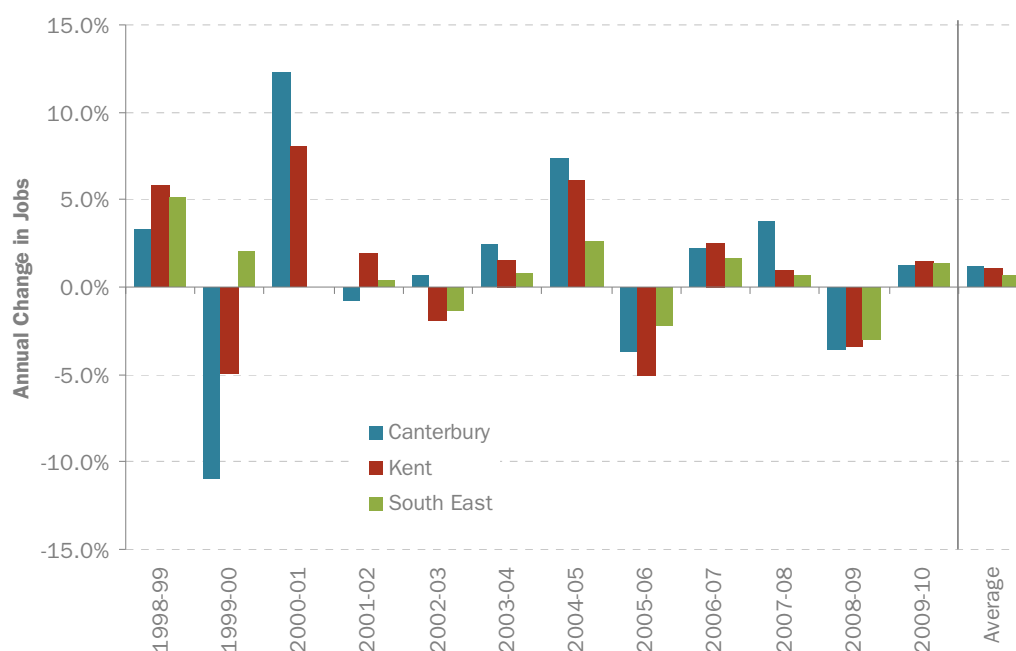
<sup>8</sup> East Kent SHMA (2009) Table 12.7

## Economic Trends

3.34

The number of workplace jobs located within Canterbury District was estimated by ONS at 59,600 in 2010.<sup>9</sup> This is an increase of almost 6,900 jobs over the figure recorded twelve years earlier. Average employment growth within the district totalled 574 jobs per annum over 1998-2010 an average growth of 1.2%, compared with 1.1% for Kent and 0.7% for the South East over the same period. Although Canterbury experienced good growth up until the recession, in 2008/09 the number of workplace jobs contracted by 3.6% in the District, compared with 3.4% in Kent and 3% in the wider South East, suggesting that Canterbury District economy was hit proportionally harder by the recession. This is illustrated in Figure 3.13.

Figure 3.13 Annual Job Growth (%) 1998-2009



Source: ONS Annual Business Inquiry (ABI) / ONS Business Register & Employment Survey (BRES)

3.35

Claimant unemployment is currently estimated at 2,273 people claiming Job Seekers Allowance, or 2.3% of the working-age population<sup>10</sup> (below the South East average of 2.5%). However, the ONS model-based unemployment rate, which is a wider and arguably more realistic measure of unemployment based upon the International Labour Organisation (ILO) definition which includes all those looking for work and not just those claiming benefit, indicates that unemployment is higher at around 7.1%, much higher than the regional rate for

<sup>9</sup> ONS BRES employee (workplace jobs) data – total employment in Canterbury (i.e. jobs + working proprietors) is estimated at 62,900

<sup>10</sup> ONS Job Seekers Allowance Claimant Count, July 2011

this measure (6.0%).<sup>11</sup> Past model based unemployment trends show a pre-recession average (January 04 to December 07) of 4.6% and it is reasonable to assume this may reduce to a comparable level again as the economy stabilises and grows in the future. This is therefore used as a nominal level of unemployment to achieve in order to maximise labour supply.

3.36 Economic activity rates in Canterbury are also lower than for the wider South East standing at 75.8% of working age population, compared with 79.3% in the South East.<sup>12</sup> Both of these suggest there may be scope to support some level of employment growth through the existing indigenous population in Canterbury, through reducing unemployment and increasing economic activity, particularly against the backdrop of future changes to the statutory pension age. In this regard, KCC has produced forecasts of economic activity for each District within the County, which apply assumptions about growth in national activity rates and the implications, to local level age and gender specific economic activity rates. These KCC projections of economic activity are applied within the model to reflect likely future changes.

3.37 These factors provide an economic backdrop for continued job growth in Canterbury as the country grows out of recession, albeit this may be sluggish in the short term.

### **Future Economic Growth**

3.38 Over the last decade, Canterbury has achieved higher job growth (17%) than Kent (14.8%) and the South East region (9.7%). Within this trend, significant decline in Canterbury's relatively small manufacturing base has been offset by strong public sector growth but only moderate growth in financial/business services (Figure 3.14). Challenges will come from future reductions in public sector jobs and an uncertain picture for the financial sector, which have provided much of this earlier growth.

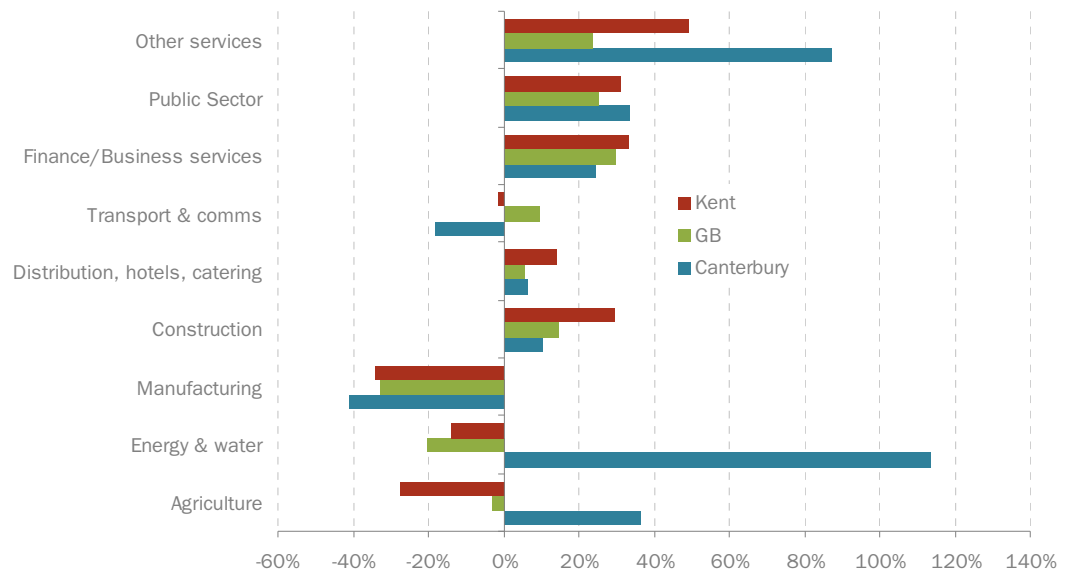
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<sup>11</sup> ONS Annual Population Survey - Nomis

<sup>12</sup> ONS Annual Population Survey (Dec 2010) - Nomis



Figure 3.14 Job change in Canterbury by main sectors, 1998-2008



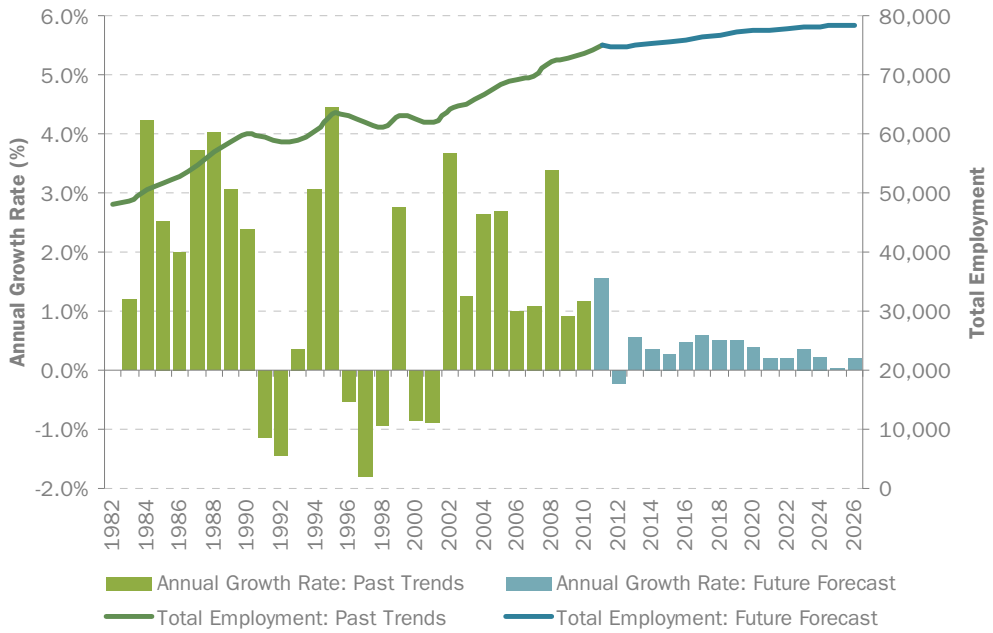
Source: ONS Annual Business Inquiry (ABI)

- 3.39 There have been a number of earlier studies aimed at defining future economic growth scenarios for Canterbury and examining the quality, availability and deliverability of land to accommodate such growth – the Canterbury Futures Study<sup>13</sup> and the Savills Employment Land Review<sup>14</sup>. There is now much greater national emphasis on fostering economic growth but also less prescription on how it is planned for.
- 3.40 Baseline economic forecasts from Experian obtained to inform this study (September 2011) provide an estimate of future employment growth in Canterbury based on a projection of past trends in different sectors and unconstrained of other future factors, such as the application of policy. Figure 3.15 shows that in the medium term employment growth in Canterbury is forecast to continue, albeit at much lower rates than experienced previously.

<sup>13</sup> At a Crossroads: Canterbury Futures Study, Experian, October 2006 (and updated forecasts for the study from Experian in January 2011 and September 2011)

<sup>14</sup> An assessment of Employment Land in Canterbury District, Savills, May 2008

Figure 3.15 Past Trends and Future Forecasts of Total Employment in Canterbury (1982-2026)

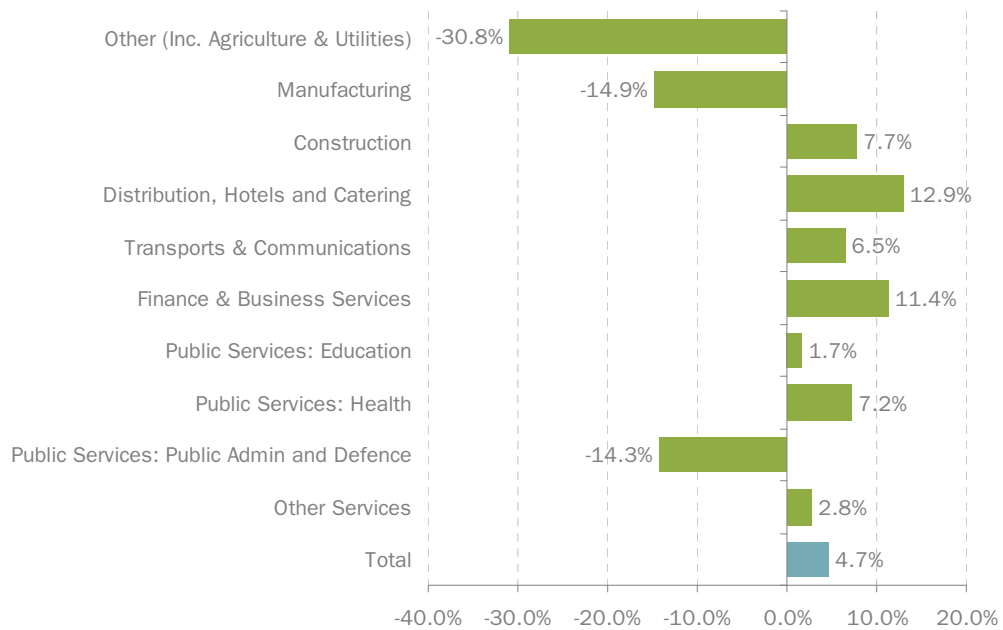


Source: Experian Baseline Forecast, September 2011 (Note: Total Employment is an Experian estimate and is different from both the ONS estimate from BRES and the KCC based estimate derived through the demographic modelling)

3.41

Looking at the sectoral breakdown of forecast change between 2011 and 2026, Figure 3.16 shows that whilst there is forecast to be declining in employment in a number of sectors, particularly manufacturing and public admin/defence (note: 'other' accounts for only a small proportion of jobs in Canterbury), this is set to be more than offset by growth in other sectors, with overall growth in employment of 4.7% forecast for this period (averaging 0.304% per annum).

Figure 3.16 Forecast Employment Change By Sector 2011-2026



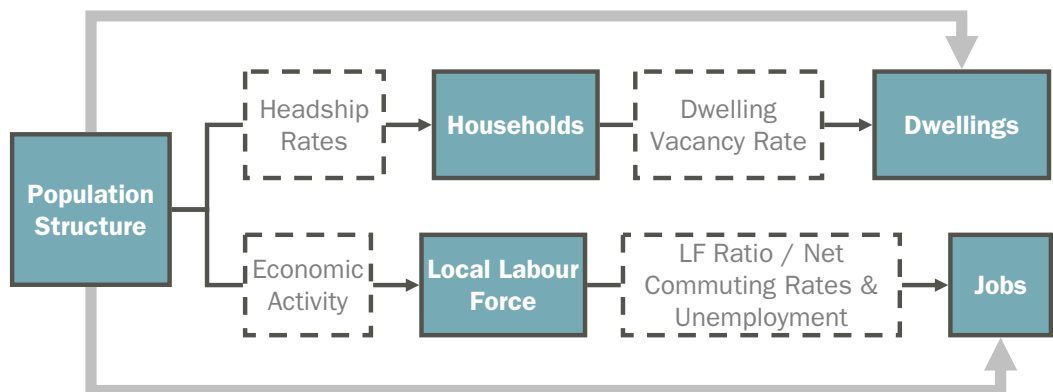
Source: Experian Baseline Forecast, September 2011

## The relationship between housing and employment

3.42 Housing and employment are fundamentally related, but it is a relationship that goes beyond a simple metric. As a function of demographic change, economic cycles, labour market dynamics, and commuting flows, there will be changes in employment levels that do not always correlate strongly with household growth on a year-by-year basis, although a longer term relationship generally becomes evident.

3.43 The relationship between housing and employment is dynamic, in that it depends on a number of variables which are, to an extent, independent of one another and can influence the relationship. Figure 3.17 illustrates the statistical relationship adopted within the modelling with both housing and jobs ultimately derived from the population, but dependent on variables such as household formation (through headship rates), dwelling vacancy rates, economic activity rates, unemployment and net commuting rates. Any one of these factors can change year on year, changing the ratio of dwellings:jobs for any given period.

Figure 3.17 Statistical relationship between housing and employment

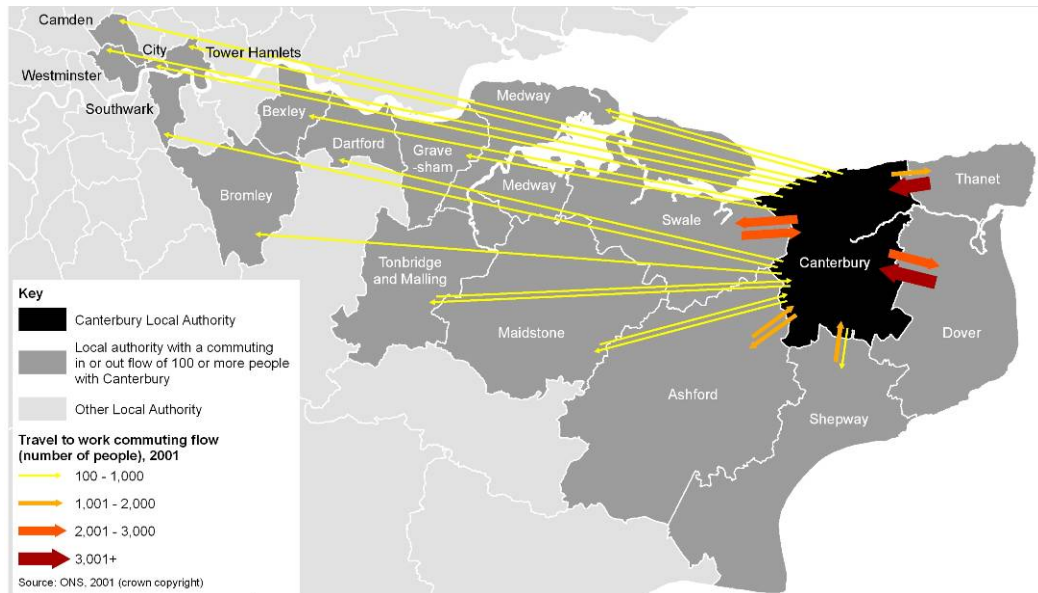


3.44 However, this statistical relationship does not in itself evidence causality between these factors. Quite simply, the provision of a certain number of homes or allocation of land identified by a scenario does not automatically lead to the creation of all of the jobs that the statistical relationship suggests would be associated with that level of development; one or more of the variables may change. However, research on this issue does demonstrate that an area which constrains the supply of dwellings puts in place barriers to achieving increases in local employment that it might otherwise be seeking. New development and a stable or growing population also generates significant economic benefits (and employment) in its own right, including through construction (7.2% of jobs in Canterbury) and spending by residents. At a national level, the evidence is clear that a shortage of housing in England has had long term, structural, adverse impacts on economic performance.

3.45 One of the key components of any analysis on this relationship between jobs and housing at local level is the balance of commuting in Canterbury District. At the time of the 2001 Census, 15,481 commuted out of the District daily (27.1% of employed residents) and there were 14,654 in-commuters

(accounting for 26.1% of jobs), giving a net total of 827 out-commuters. An illustration of the 2001 commuting flows for the District is shown in Figure 2.11. It illustrates the strong flows of in-commuters from Dover and Thanet, as well as two way flows (in and out-commuters) with Swale.

Figure 3.18 Commuting Flows



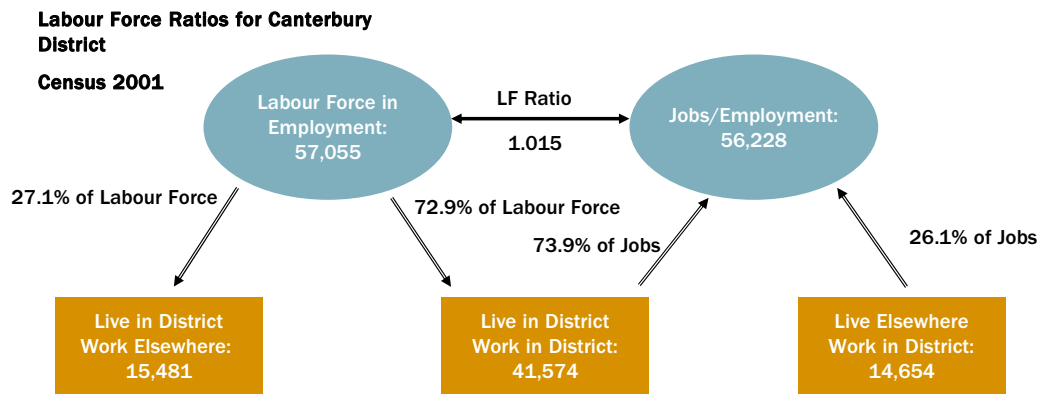
Source: ONS / NLP analysis

3.46 More recent (2011) commuting data from KCC derived estimates,<sup>15</sup> compared with 2001 Census data, indicates that the proportion of the District’s jobs taken by Canterbury District residents has remained similar, shifting upwards slightly from 73.9% in 2001 to 74.6% in 2011 whilst the proportion of Canterbury District’s resident labour force also working within the District has also increased marginally from 72.9% to 73.5%. These estimates suggest that increases in the local labour force have resulted in proportionally more jobs being taken by local residents, potentially reflecting shifts in Canterbury’s role as a place for people to live and work and lesser focus for commuters.

3.47 The commuting rate for the modelling is derived from a ‘Labour Force Ratio’ taking account of the relationship between resident workers and workplace jobs. This is based on the 2001 Census, but similarly could infer varying shifts in commuting patterns since the LF Ratio itself only seeks to identify how many jobs the resident labour force could support, with in and out-commuting implicit within this. Applying the labour force and commuting rates from the 2001 Census would manifest itself as illustrated in Figure 3.19.

<sup>15</sup> Updating the 2001 Census journey-to-work matrix, (June 2011) Kent County Council

Figure 3.19 Labour Force Ratio from Census 2001

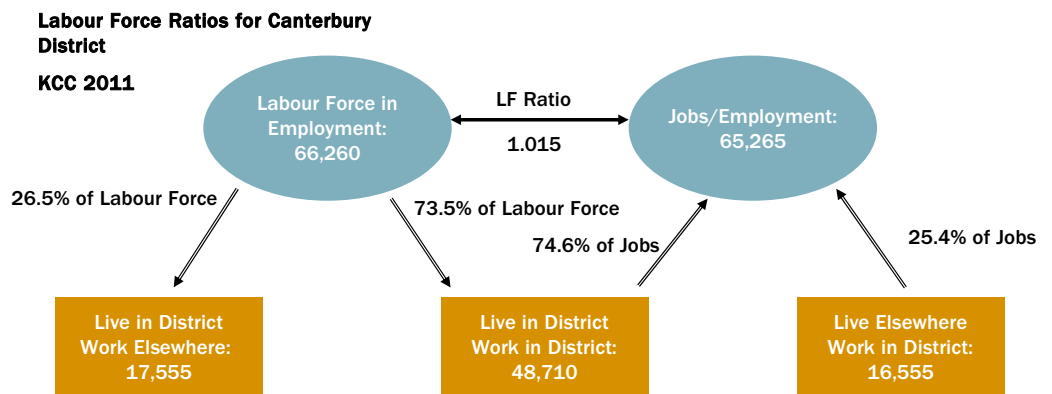


Source: Census 2001

3.48

The estimates contained within KCC’s updated travel to work matrix for 2011 show that despite growth in the number of jobs and the number of workers resident in Canterbury District, the labour force ratio has remained largely the same, as illustrated in Figure 3.20.

Figure 3.20 Labour Force Ratio from Updated KCC Travel to Work Matrix 2011



Source: KCC 2011

3.49

This suggests that whilst the number of jobs and number of resident workers in Canterbury has increased, the balance between the two has remained relatively steady.

## Summary

3.50

This analysis of the current position and past housing, economic and demographic trends within Canterbury District provides the backdrop against which to assess future development requirements. In particular the key trends can be summarised:

- Net in-migration, both domestic and international, has fuelled overall population growth in the District, with deaths exceeding births leading to negative natural change and offsetting some population growth. Notwithstanding continued future population growth will be one driver of the need for development;

- Trends in average household size have shown shifts towards smaller household sizes over the longer period in Canterbury, albeit this has been less pronounced over the past decade. Increases in headship rates among many age groups has occurred and continuation of this trend will mean greater household formation, which combined with affordability pressures and increases in the number of people on the housing waiting list, highlights the continued pressures on the need for new housing in the District; and
- Canterbury District has experienced strong economic growth over the previous decade and maintained a broadly balanced labour force ratio of workers to jobs over this period. Economic growth forecasts for Canterbury District project that job growth is likely to continue at a modest pace over the next 16 years.
- The relationship between employment and housing is a complex one, but in simple terms, plans at a local level need to recognise that employment growth relies upon access to a labour force, taking account of commuting flows into and out of a local area.

## 4.0 Evidence for Housing Requirements

- 4.1 Based on past trends and the baseline housing, economic and demographic context of Canterbury District, a number of scenarios were identified and agreed with CCC and KCC, reflecting alternatives for potential future growth within the District. These have been identified to reflect what has occurred previously, as well as what might occur in the future given the range of factors which affect population and household growth within the District. These scenarios are introduced in this section and assessed in terms of how they relate to housing requirements, but they are equally applicable to the analysis on employment space and infrastructure in Sections 5.0 and 6.0 respectively.
- 4.2 The scenarios are designed to give ‘bookend’ estimates to illustrate what may happen in demographic and economic terms if a given set of conditions prevail and are intended to provide the basis for assessing (and if necessary planning) what could be the implications of these.
- 4.3 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 Sub-National Population Projections (SNPP);
  - Headship rates and populations not in households (e.g. those in institutional care) 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.

- 4.4 Whilst the above listed inputs are able to be flexed, the main input which will be changed between each scenario is the level of migration (where relevant, 'constrained' by a particular housing or employment level). The individual scenarios and their underlying rationale are outlined below.

#### **A. Existing Supply Scenario**

- 4.5 A policy-led scenario of only delivering the housing development that is currently committed through the adopted plan and existing extant permissions, which at 2011 is estimated to total 3,000 dwellings. This scenario models the demographic and economic implications of this committed development to assess the extent to which this would meet needs and aspirations in Canterbury City Council and the extent to which the existing supply is aligned with projected economic growth.

#### **B. Trend Based Completions Scenario**

- 4.6 A housing/economic-led scenario which projects forward the past trends in development completions, 617 dwellings per annum for housing and 1,550 sqm per annum for employment/commercial floorspace, using data 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.

#### **C. South East Plan Requirements**

- 4.7 A policy-led scenario based upon the South East Plan 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.

#### **D. East Kent Strategy scenario**

- 4.8 An economic-led scenario 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 applying models 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.

#### **E. Futures "preferred scenario"**

- 4.9 An economic-led scenario 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.

#### **F. “Travel for Work” Scenario**

- 4.10 An economic-led scenario based upon the “open to commuters” scenario identified in the Canterbury Futures Study. This scenario would model 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.

#### **G. Updated Economic Forecast Scenario**

- 4.11 An economic-led future utilising 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 beyond. 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.

#### **H. Zero Net Migration Scenario**

- 4.12 A demographic scenario whereby both net internal and international migration is equal, meaning there is only population churn in the district and not 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 in and out migration being in balance. It should be noted that this does not represent a scenario of providing only for the needs of indigenous residents (as a nil migration scenario would) as this would involve churn of people moving in and out (having an impact on the profile of the population as in-migrants have different characteristics from out-migrants).
- 4.13 Although generally an unrealistic scenario in most locations, as there is no evidence of a location successfully planning for and achieving a nil net migration scenario where such a scenario has been substantially at odds with past trends, this scenario does provide a useful benchmark against which to consider balancing housing requirements for existing residents with those resulting from net in-migration.
- 4.14 Zero net migration is achieved within the modelling by using the projected migration rates from the ONS 2008-based SNPP and equalising in and out migration for both internal and international migration by splitting the difference for each year (e.g. if in-migration is 200 persons and out-migration is 100 persons, it would be assumed for this scenario that both in and out migration would equal 150 persons, creating a zero net-migration scenario). Whilst the

total gross migration flows are equal, the age profile of those moving in and out remains as projected in the SNPP (i.e. whilst 150 people are moving in and 150 people are moving out, they will be of different characteristic, for example it may be younger working age people moving out to be replaced by elderly residents), which accounts for the dynamics of the churn in the population and how this changes the demographic profile.

## I. Past Trends Demographic Led Scenario

- 4.15 A demographic-led scenario based upon migration rates using a trend based projection using past average migration rates from ONS for the eight year period 2001/02 to 2008/09 (excluding the most recent year's estimate for which KCC and CCC have concerns over the accuracy). This is illustrated in Table 4.1.

Table 4.1 Past Average Migration

Migration Type	Average Rate
Domestic Migration In	+10,925
Domestic Migration Out	-9,663
<b>Net Domestic Migration</b>	<b>+1,262</b>
International Migration In	+2,000
International Migration Out	-1,337
<b>Net International Migration</b>	<b>+663</b>
<b>Total Net Migration</b>	<b>+1,925</b>

Source: ONS Migration Statistics

- 4.16 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'). It gives a genuine bottom-up assessment of the needs and demands for development in the District, unfettered by any particular policy position.

## J. Housing Need Scenario

- 4.17 A housing-led scenario based upon an appreciation of the need to deliver affordable housing (defined by PPS3 as social rented, affordable rented and intermediate housing). This scenario draws upon the SHMA and housing waiting list data to derive a scenario that would meet existing and future affordable housing need based on the data gathered by the Council. This draws upon:
- the findings of the SHMA (2009) in terms of annual affordable housing need;

- latest assessment of need based on most recent Kent Home Choice choice-based lettings data on the housing waiting list and the metrics identified within the SHMA (e.g. on backlog, re-lets, and a base household growth scenario for proportion of new households likely to be in need of affordable accommodation); and
- an assessment of the likely ratio of market:affordable housing required to deliver affordable housing.

4.18 In terms of employment development requirements under this scenario, once a housing delivery figure to meet affordable housing need is identified, this is modelled to identify the employment impacts.

### **Approach to Scenarios**

4.19 The above ten scenarios (three policy/supply driven, four economic driven, two demographic driven; and one housing driven) provide a wide range of outputs evidencing housing and employment development needs based upon different factors under different scenarios.

4.20 All scenarios provide development requirements over a timeframe starting in 2011 and ending in 2026 and 2031 respectively. The two timeframes tie into periods which CCC may plan for in the future, with changes over the timeframes not necessarily linear, meaning annualised figures may be different. However, all outputs of the modelling are identified as annual changes and therefore can be assessed across varying time periods up to 2031, as necessary to reflect the relevant CCC planning period.

4.21 These scenarios provide total requirements and do not 'net-off' the existing committed supply of housing, which is implied by Scenario A. Whilst a scenario may identify a particular level of development, it may be the case that a proportion of this is already in the development pipeline and may not need to be further planned for (e.g. additional land allocated). Similarly, no account is made for other factors which may be relevant in interpreting these outcomes for policy making, such as the Government's proposed 20% surplus of housing supply over any 5-year period, as set out in the draft National Planning Policy Framework (NPPF). Such factors will need to be considered by CCC when considering the development requirements in each scenario within the wider planning balance for Canterbury District.

4.22 The main factors and headline development requirements under each scenario are presented as follows. The full outputs of the assessment of each scenario are contained within Appendix 2.

### **Policy and Supply Led Scenarios**

4.23 The policy and supply led scenarios test the implications of delivering a certain level of development (i.e. a certain number of dwellings) based on the given parameters of each scenario. This level of delivery is demographically modelled to understand the impact upon households and labour supply in the District.

## Scenario A. Existing Supply Scenario

- 4.24 The adopted Canterbury District Local Plan (2006) only covers the period to 2011 and therefore the scale of land supply allocated through the plan is substantially below that required by the subsequent South East Plan target. Notwithstanding, applying the notional principle that no new housing development should take place beyond that which is already committed through Plan allocations and planning consents it is estimated that circa 3,000 dwellings could be delivered from existing sources of supply.<sup>16</sup> This estimate of existing supply is used as the basis for this scenario.
- 4.25 Applying this as an annual rate to 2031 would mean delivery of 150 dwellings per annum. In the short term this would give rise to a shift in migration from inward migration to substantial outward migration, as the low level of supply would mean newly forming households would not be able to be accommodated in the District and would move elsewhere. In the longer term, the scale of aging population would mean negative natural change, with deaths exceeding births, leading to further population decline.
- 4.26 Over the period to 2031 population in the District would decline by almost 4,500 people, as household formation from the existing population would increase due to shifts in the headship rate (i.e. the same amount of people would be occupying more housing due to social trends in household composition).
- 4.27 Given the scale of the ageing population in Canterbury District, despite increased economic activity rate, the number of people within the local labour force would decline by a proportionally greater amount. The indigenous labour force for Canterbury would have almost 10,700 fewer people by 2031, equivalent to a decline of 535 workers each year. At existing net commuting rates this would infer a loss of 424 jobs per annum to 2031, totalling a decline of almost 8,500 jobs in Canterbury District's employment base.

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<sup>16</sup> The Canterbury Housing Information Audit (2010) and The Canterbury District Annual Monitoring Report (2010) estimate that committed land supply at March 2010 stood at c.3,480 dwellings – 1,180 from allocations and 2,300 from extant planning permissions. KCC's Housing Information Audit data identifies that 471 dwellings were completed in the District in 2010-11, reducing existing supply commensurately. It is therefore estimated that current land supply totals circa 3,000 dwellings.

Table 4.2 Scenario A. Headline Outputs

	2011	2026	Change	Annual	2031	Change	Annual
Population	147,700	143,645	-4,055	-270	143,224	-4,476	-224
Households	61,775	63,947	+2,172	+145	64,670	+2,895	+145
<b>Dwellings</b>	<b>64,015</b>	<b>66,266</b>	<b>+2,251</b>	<b>+150</b>	<b>67,015</b>	<b>+3,000</b>	<b>+150</b>
Labour Force	72,427	64,239	-8,188	-546	61,737	-10,690	-535
Jobs Supported	66,505	60,378	-6,126	-408	58,027	-8,478	-424

Source: NLP Demographic Modelling Using PopGroup

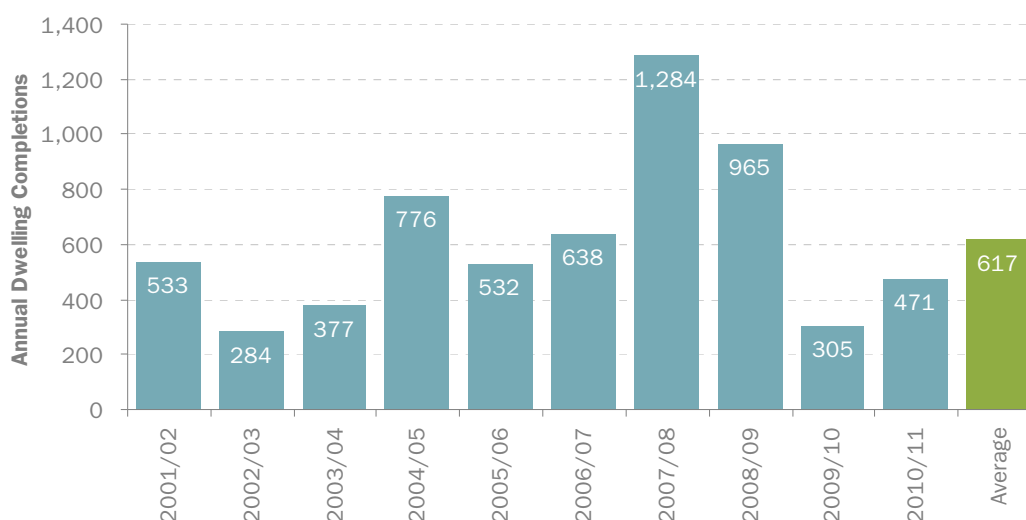
4.28 The commercial and employment development requirements under this scenario would be minimal, with limited potential for substantial growth. In addition whilst physical infrastructure to support development of homes may be necessary, with a decline in population the pressures placed on local services is likely to be lower than currently, with fewer school age children in the District, meaning lower pressures on school places, but an aging population potentially places more pressure on health services. Overall the development requirements associated with community infrastructure under this scenario is likely to be negligible, and a declining population may even have negative impacts for local shops and services.

**Scenario A. Existing Supply Scenario: 150 dwellings per annum 2011 to 2031**

**Scenario B. Trend Based Completions Scenario**

4.29 The KCC Housing Information Audit (2010) identifies past average completions of 617 dwellings per annum, albeit on an annual basis this has been as high as 1,284 and as low as 284, as illustrated in Figure 4.1.

Figure 4.1 Dwelling Completions in Canterbury District

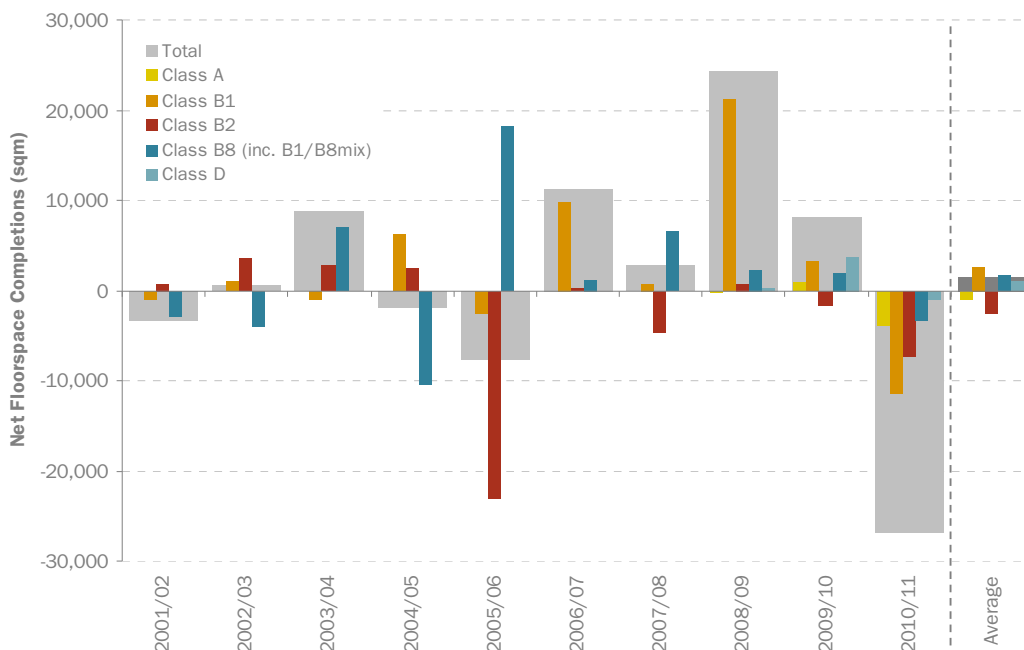


Source: Kent County Council Housing Information Audit 2010 & Provisional results for 2011 (subject to change)

4.30 Net completions in commercial floorspace have also varied over the previous ten years with a net average of just 1,550 sqm of floorspace built each year

across use classes A (retail), B (business and industry) and D (institutions, assembly and leisure). This average has included losses to Class A retail floorspace and Class B2 industrial floorspace, but gains in Class D uses, Class B8 distribution floorspace and Class B1 office floorspace. This average growth in commercial floorspace has, by comparison, coincided with job growth averaging 560 workplace jobs per annum.

Figure 4.2 Net Commercial Floorspace (sqm) Completions 2001/02 to 2010/11



Source: Kent County Council Commercial Information Audit 2001/02 to 2010/11. Note: Data not available for Class A and Class D floorspace pre 2009/10 – Results for 2010/11 are provisional and subject to change

4.31

Against this backdrop of past trends in completions, if 617 dwellings per annum are delivered over the Core Strategy period it would accommodate household growth equivalent to 595 per annum, which would equal a growth in population for the District of 17,700 by 2031. Given the scale of the ageing population in Canterbury, and the profile of people moving in and out, this would support a modest increase in the indigenous labour force of circa 1,000 people, which, at the current labour force ratio (reflecting current rates of net commuting) would support job growth equivalent to an average of 165 jobs per annum to 2026 or 126 jobs per annum to 2031.

Table 4.3 Scenario B. Headline Outputs

	2011	2026	Change	Annual	2031	Change	Annual
Population	147,700	160,498	+12,798	+853	165,384	+17,684	+884
Households	61,775	70,707	+8,932	+595	73,684	+11,910	+595
<b>Dwellings</b>	<b>64,015</b>	<b>73,271</b>	<b>+9,256</b>	<b>+617</b>	<b>76,357</b>	<b>+12,342</b>	<b>+617</b>
Labour Force	72,427	73,395	+968	+65	73,441	+1,014	+51
Jobs Supported	66,505	68,984	+2,480	+165	69,027	+2,523	+126

Source: NLP Demographic Modelling Using PopGroup

**Scenario B. Trend Based Completions Scenario:** 617 dwellings per annum 2011 to 2031.

### Scenario C. South East Plan Requirements

- 4.32 The South East Plan sets out a housing target of 510 dwellings per annum, which was arrived at through the Regional Strategy process and remains the housing requirement for Canterbury District until such time as the South East Plan is formally revoked.
- 4.33 Delivery of 510 dwellings per annum over the period to 2026 would total 7,650 dwellings to 2026 or 10,200 to 2031. Delivery on this scale across the District would accommodate 492 households per annum, with population growth associated with these additional households equalling an average of 596 people per annum between 2011 and 2026 and 630 people per annum between 2011 to 2031.

Table 4.4 Scenario C. Headline Outputs

	2011	2026	Change	Annual	2031	Change	Annual
Population	147,700	156,636	+8,936	+596	160,308	+12,608	+630
Households	61,775	69,156	+7,382	+492	71,617	+9,842	+492
<b>Dwellings</b>	<b>64,015</b>	<b>71,664</b>	<b>+7,649</b>	<b>+510</b>	<b>74,214</b>	<b>+10,199</b>	<b>+510</b>
Labour Force	72,427	71,297	-1,131	-75	70,760	-1,668	-83
Jobs Supported	66,505	67,012	+507	+34	66,507	+2	+0

Source: NLP Demographic Modelling Using PopGroup

- 4.34 Over the period to 2031, this level of housing delivery would lead to a slight decline in the current labour force within Canterbury District, accounting for changes in economic activity and changes within the population. Overall, the outcome for jobs would be neutral, with small declines in the labour force offset by reductions in unemployment meaning that the existing employment base within Canterbury would continue to be supported at 2031.

**Scenario C. South East Plan Requirements:** 510 dwellings per annum 2011 to 2031

### Economic Led Scenarios

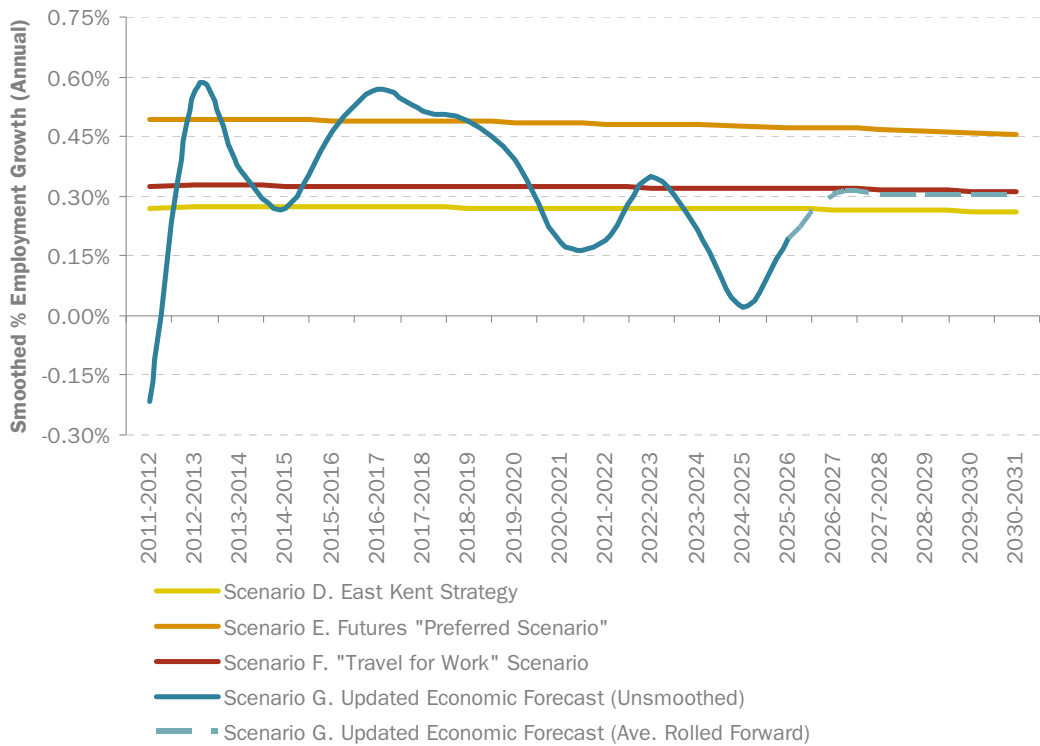
- 4.35 The economic-led scenarios are based upon an understanding of the relationship between employment and housing. These scenarios are demographically modelled using the number of jobs as the fixed variable, with the projected migration constrained or inflated to a level, which alongside the profile 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. This assumes that the current commuting dynamic inferred by the balance of workers and jobs in Canterbury

District (the Labour Force ratio) will either remain static or shift based on the assessed outcomes of the scenarios.

4.36 Under each scenario, the driver is growth rates derived from Experian forecasts for Canterbury. These are sourced from both the Canterbury Futures Study (as updated by Experian in 2011 with economic forecasts for the District) and Experian’s unconstrained economic forecasting model. From these, annual employment growth rates for Canterbury District have been derived and applied to the current estimated number of jobs within the District. This gives a total job growth figure for each scenario over the period 2011 to 2031.

4.37 For the scenarios derived from the Canterbury Futures study and associated economic scenarios, a linear rate of growth is assumed to smooth the impacts of projected changes across the forecast period. This reflects the strategy based focus of these economic scenarios, rather than short term fluctuations, and will imply a more linear rate of housing growth to underpin employment growth over a 20 year strategy period. The unconstrained updated economic forecast is reflective of an economic ‘shift-share’ analysis for the District (with macro-economic judgements also implicit in the forecast) and therefore is not linked to any particular strategy. This scenario is presented un-smoothed reflecting actual forecast economic changes, albeit with an average trend projected beyond the 2026 forecast period end. The inferred employment growth rates (%) for each economic scenario are illustrated in Figure 4.3.

Figure 4.3 Smoothed Annual Forecast Employment Growth Rates for Canterbury District (2011-2031)



Source: Experian Economic Forecasts and NLP/CCC/KCC analysis



## Scenario D. East Kent Strategy scenario

- 4.38 This scenario is based upon an East Kent Strategy scenario, which is derived from an estimate of the potential employment growth within Canterbury in the context of the wider sub-region and the translation of the objectives and vision contained within the East Kent Sustainable Communities Strategy. The updated Canterbury Futures Study undertaken by Experian (2011) identifies employment growth under this scenario averaging 0.264% per annum over the period 2011 to 2031, which would total job growth of almost 3,600.
- 4.39 Applying this overall growth in a linear rate from 2011 to 2031 this equates to an average employment growth of 180 jobs per annum to 2031. To support this job growth, the necessary expansion in the labour force would be minimal as reductions in the current high levels of unemployment within the existing labour force, would offset the impacts of new jobs. By 2026 this means an overall increase in the indigenous labour force of 1,195, but by 2031 this employment growth would necessitate an additional 2,150 workers in Canterbury District.

Table 4.5 Scenario D. Headline Outputs

	2011	2026	Change	Annual	2031	Change	Annual
Population	147,700	160,759	+13,059	+871	167,273	+19,573	+979
Households	61,775	70,771	+8,997	+600	74,411	+12,636	+632
<b>Dwellings</b>	<b>64,015</b>	<b>73,338</b>	<b>+9,323</b>	<b>+622</b>	<b>77,110</b>	<b>+13,094</b>	<b>+655</b>
Labour Force	72,427	73,622	+1,195	+80	74,580	+2,153	+108
Jobs Supported	66,505	69,198	+2,693	+180	70,098	+3,593	+180

Source: NLP Demographic Modelling Using PopGroup

- 4.40 To ensure sufficient labour force in the District to underpin jobs, there would need to be expansion in the population of 13,060 by 2026 and 19,570 by 2031. This reflects the necessary in-migration of people to ensure replacement of existing population who fall out of the labour supply due to the ageing population and retirement. The level of population growth which is fuelled by in-migration far outstrips the level of job growth due to the profile of in-migrants, with many of those who move into Canterbury District not economically active.
- 4.41 Combined with higher rates of household formation from existing residents, this population growth will lead to almost 9,000 additional households by 2026 and almost 13,100 by 2031. Taking into account the dwelling vacancy rate, these households infer a requirement for an average of 622 dwellings per annum between 2011 and 2026 or an average 655 dwellings per annum between 2011 and 2031.

**Scenario D. East Kent Strategy Scenario: 655 dwellings per annum 2011 to 2031**

## Scenario E. Futures “preferred scenario”

- 4.42 The Futures “preferred scenario” flows from the Canterbury Futures Study (2006) and has been explained by Experian, who undertook this study, during update work in 2011 as follows:
- “The preferred scenario attempts to quantify the preferred vision for Canterbury. Originally the preferred scenario was not quantified but 5 separate scenarios and a baseline forecast were provided. Under consultation there was a preference for elements of the knowledge economy scenario (which was the most popular of the 5 scenarios), the Canterbury experience scenario (the second most popular) and the green economy.*
- The approach taken has been to update the knowledge economy and Canterbury experience scenarios, using the updated Experian baseline forecasts for Canterbury and in light of changes to the UK, regional and local economies since the scenarios were originally produced. The preferred scenario has then been constructed by selecting the forecast for each industry that was deemed to be most desirable under the preferred scenario. In some cases a compromise between baseline, knowledge economy and Canterbury experience has been adopted for a given sector.”*
- 4.43 The updated Canterbury Futures work undertaken by Experian (2011) identifies employment growth under this scenario averaging 0.472% per annum over the period 2011 to 2031, which would total job growth of 6,560 jobs.
- 4.44 Applying this total job growth in a linear form from 2011 to 2031, the preferred scenario estimates job growth averaging 328 jobs per annum. In order to support this level of employment growth at the existing labour force ratio (inferring current proportions of commuting continue), there would need to be an expansion in the indigenous labour force of 3,560 people by 2026 and an increase of 5,300 by 2031. To achieve a growth in the indigenous labour force of this magnitude would require a relative high rate of in-migration, with in migration of 26,720 outstripping negative natural change to give population growth of 25,500 to 2031. The shift in population would generate an additional 15,050 households over the period 2011 to 2031, equating to need for almost 16,000 dwellings over this period. This is equivalent to 780 dwellings per annum to 2031, although the lesser expansion in the labour force necessary to support job growth in the early part of this period means between 2011 and 2026 the annual need would be equivalent to 741 dwellings per annum.

Table 4.6 Scenario E. Headline Outputs

	2011	2026	Change	Annual	2031	Change	Annual
Population	147,700	165,081	+17,381	+1,159	173,201	+25,501	+1,275
Households	61,775	72,503	+10,728	+715	76,822	+15,048	+752
<b>Dwellings</b>	<b>64,015</b>	<b>75,132</b>	<b>+11,117</b>	<b>+741</b>	<b>79,609</b>	<b>+15,593</b>	<b>+780</b>
Labour Force	72,427	75,988	+3,561	+237	77,733	+5,305	+265
Jobs Supported	66,505	71,421	+4,916	+328	73,061	+6,556	+328

Source: NLP Demographic Modelling Using PopGroup

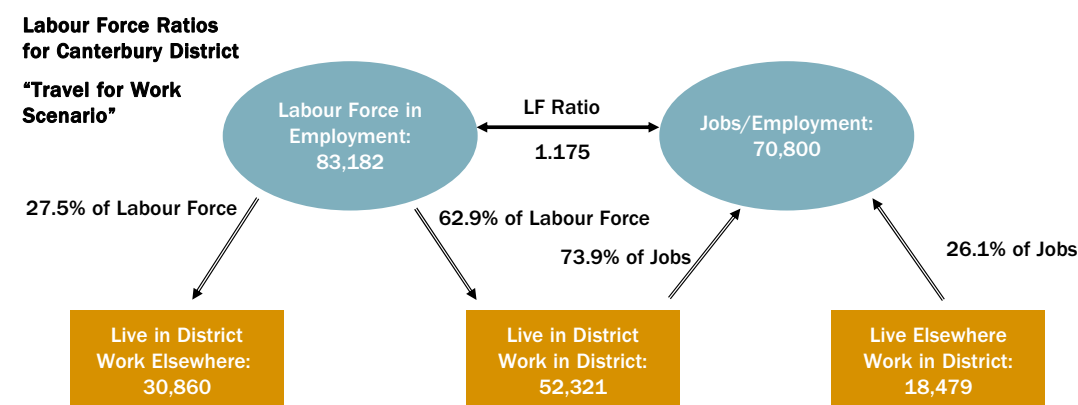
**Scenario E. Futures Preferred Scenario:** 780 dwellings per annum 2011 to 2031

### Scenario F. "Travel for Work" Scenario

4.45 The travel for work scenario is born out of the "open to commuters" scenario identified in the Canterbury Futures study. Experian's updated employment forecasts associated with this scenario identifies job growth averaging 0.317% per annum over the period 2011 to 2031, which applied through the modelling totals circa 70,800 jobs by 2031. However, the scenario involves an increased role for Canterbury District in accommodating commuters who work elsewhere but live within the District. This is modelled by assuming a shift in the proportion of resident workers who commute out of the District for work.

4.46 The 2001 Census estimated that 27.1% of resident workers commuted out of Canterbury District (see Figure 3.19). For this scenario, and for the purposes of modelling, it is assumed that the rate of resident workers commuting out of the District increases by a nominal 10 percentage points to 37.1%. This illustrates what could happen if Canterbury District becomes a popular place for commuters to live, reflecting the potential role High Speed 1 could have in attracting commuters to the District. Assuming this shift in commuting is achieved over the period to 2031 this would infer a shift in the labour force ratio from 1.015 indigenous workers per job to 1.175 indigenous workers per job within Canterbury District. This is illustrated in Figure 4.4 below:

Figure 4.4 Labour Force Ratio under "Travel for Work" Scenario



Source: Census 2001 and Experian Employment Forecasts

4.47 The growth in jobs under the Canterbury Futures “open to commuters” scenario would be equivalent to a linear growth of 214 jobs per annum to 2031. However, with more residents of the District choosing to commute elsewhere to work under this scenario, the increase in the indigenous labour force to support this job growth would need to be much higher, totalling 11,970 by 2026 and 14,760 by 2031 (almost 740 per annum). To achieve this growth in the labour force would mean population growth of over 43,400 by 2031, with the associated household growth from the change in population equalling an additional 22,520 households by 2031, an average of 1,126 additional households in Canterbury District each year.

4.48 The necessary delivery of dwellings to house this shift in households would total an average of 1,162 new dwellings per annum between 2011 and 2026, and an average of 1,167 new dwellings per annum when viewed over a period to 2031.

Table 4.7 Scenario F. Headline Outputs

	2011	2026	Change	Annual	2031	Change	Annual
Population	147,700	180,312	+32,612	+2,174	191,102	+43,402	+2,170
Households	61,775	78,600	+16,825	+1,122	84,292	+22,517	+1,126
<b>Dwellings</b>	<b>64,015</b>	<b>81,451</b>	<b>+17,435</b>	<b>+1,162</b>	<b>87,349</b>	<b>+23,334</b>	<b>+1,167</b>
Labour Force	72,427	84,396	+11,969	+798	87,186	+14,759	+738
Jobs Supported	66,505	69,709	+3,204	+214	70,787	+4,283	+214

Source: NLP Demographic Modelling Using PopGroup

**Scenario F. Travel for Work Scenario:** 1,167 dwellings per annum 2011 to 2031

## Scenario G. Updated Economic Forecast Scenario

4.49 This scenario is predicated on current, 2011 based, Experian economic forecasts for the District. These economic forecasts reflect unconstrained and unfettered estimates of how much employment growth is predicted for Canterbury, which is based on recent trends in sectoral growth combined with projections of GVA at a regional level and how such economic sectors in Canterbury District have fared relative to the region’s growth in the past. In this context the forecasts are not constrained or explicitly driven in any way by demographic or local policy factors.

4.50 The Experian economic forecasts project employment growth averaging 0.304% per annum between 2011 and 2026, albeit there are variations in the forecast growth year on year. Applying the annual forecast growth rate from 2011 to 2026, and then the average growth rate beyond, through the modelling this equates to employment growth averaging circa 208 jobs per annum to 2031.

4.51 In order to underpin these 208 jobs per annum in Canterbury District, and on the assumption that the labour force ratio remains the same, inferring no shift in the balance of commuting rates, there would need to be growth in the

indigenous labour force within Canterbury District of 108 economically active people per annum over a period to 2026, rising to 138 economically active people per annum when assessed over a period to 2031. This reflects the growing scale of ageing population within Canterbury District towards the end of the projection period.

- 4.52 In order to achieve this, taking account of the dynamics of population change, this would necessitate population growth of 20,780 people by 2031, reflecting the scale of population change in Canterbury which is attributable to people who are not economically active such as the elderly. This population growth would lead to over 13,100 additional households within the District by 2031, equivalent to 655 per annum. Accounting for the vacancy rate, these households would necessitate 679 new dwellings per annum.

Table 4.8 Scenario G. Headline Outputs

	2011	2026	Change	Annual	2031	Change	Annual
Population	147,700	161,531	+13,830	+922	168,480	+20,780	+1,039
Households	61,775	71,139	+9,364	+624	74,884	+13,109	+655
<b>Dwellings</b>	<b>64,015</b>	<b>73,719</b>	<b>+9,704</b>	<b>+647</b>	<b>77,600</b>	<b>+13,585</b>	<b>+679</b>
Labour Force	72,427	74,049	+1,621	+108	75,182	+2,754	+138
Jobs Supported	66,505	69,598	+3,094	+206	70,663	+4,159	+208

Source: NLP Demographic Modelling Using PopGroup

**Scenario G. Updated Economic Forecast Scenario: 679 dwellings per annum 2011 to 2031**

## Demographic Led Scenarios

- 4.53 The demographic scenarios use components of population change (births, deaths and migration) to project how the future population, their household composition, and consequently their requirements for housing, will shift in the future. It also projects the level of population who will be economically active and will support employment growth. The headline results for each scenario are outlined below.

### Scenario H. Zero Net Migration Scenario

- 4.54 This demographic led scenario utilises zero net internal and international migration to explore the contribution that natural change and population churn factors have in projected housing requirements. This scenario also illustrates the extent to which changing household composition and the projected headship rates within Canterbury District are driving the need for housing.
- 4.55 Zero net migration is achieved using the ONS 2008-based SNPP migration projections and equalising in and out migration. The average annual population churn for the District to 2031 is therefore 11,400 domestically and 2,218 internationally. Taking into account this population churn, and applying fertility

and mortality rates, natural change is projected to total a loss almost 7,000 people, with deaths exceeding births over the period to 2031.

- 4.56 Whilst the scenario projects a decline in the population, trends towards smaller household sizes, particularly driven by the changing demographic structure of the population, with many younger family household units being replaced by smaller single person elderly household units, means that by 2026 there will be an additional 1,840 households within the District. However, higher numbers of deaths associated with an increasingly ageing population towards the end of the projection period means household growth from the 2011 base falls to 1,536 by 2031. This translates to an annual requirement for new dwellings in the District of 127 between 2011 and 2026, but when looking at a longer period to 2031, the overall annual requirement falls to 80 dwellings each year.

Table 4.9 Scenario H. Headline Outputs

	2011	2026	Change	Annual	2031	Change	Annual
Population	147,700	143,617	-4,083	-272	140,721	-6,979	-349
Households	61,775	63,615	+1,840	+123	63,310	+1,536	+77
<b>Dwellings</b>	<b>64,015</b>	<b>65,922</b>	<b>+1,907</b>	<b>+127</b>	<b>65,607</b>	<b>+1,591</b>	<b>+80</b>
Labour Force	72,427	63,352	-9,075	-605	59,208	-13,219	-661
Jobs Supported	66,505	59,545	-6,960	-464	55,650	-10,855	-543

Source: NLP Demographic Modelling Using PopGroup

- 4.57 The implications of this scenario for the indigenous labour force and the jobs they support are severe. Over 13,200 economically active people would be lost from the resident labour force, mainly reflecting the ageing population of the District, with people retiring and also younger people moving out. Even with the assumed reduction in the unemployment rate, and despite many jobs continuing to be supported by in-commuters, this would continue to mean that by 2031, circa 10,850 jobs would no longer have the indigenous labour force to support them (assuming existing rates of commuting are maintained).

**Scenario H. Zero Net Migration Scenario: 80 dwellings per annum 2011 to 2031**

### Scenario I. Past Trends Demographic Led Scenario

- 4.58 The past trends demographic led scenario adopts the migration rates identified in Table 4.1, which reflects the migration trends which have been observed over the longer term. This totals net in-migration of 38,500 people by 2031 (1,925 people per annum), which combined with natural change of an increase in population of 2,150 people, equals a population growth of over 40,600 people by 2031. Notably, the scale of population growth associated with migration means there is growth across all age cohorts and reverses trends of negative natural change seen in other scenarios, with more family units forming.
- 4.59 This increase in population, combined with a change in the structure of the population and changes in the projected headship rate, lead to an increase in

households average 1,100 per annum to both 2026 and beyond to 2031. Taking account of the dwelling vacancy rate, this would require delivery of 1,140 dwellings per annum over the projection period.

Table 4.10 Scenario I. Headline Outputs

	2011	2026	Change	Annual	2031	Change	Annual
Population	147,700	177,927	+30,227	+2,015	188,353	+40,653	+2,033
Households	61,775	78,274	+16,499	+1,100	83,768	+21,994	+1,100
<b>Dwellings</b>	<b>64,015</b>	<b>81,113</b>	<b>+17,098</b>	<b>+1,140</b>	<b>86,807</b>	<b>+22,791</b>	<b>+1,140</b>
Labour Force	72,427	83,483	+11,055	+737	86,457	+14,030	+701
Jobs Supported	66,505	78,465	+11,961	+797	81,261	+14,756	+738

Source: NLP Demographic Modelling Using PopGroup

- 4.60 The workforce implications of this scenario are similar to that in Scenario F “Travel for Work”, albeit without an increase in the number of people out-commuting, which means more jobs are supported locally. An increase in the indigenous labour force of 14,000 by 2031 would support job growth of circa 14,750 within the District at existing commuting rates, far above any of the economic forecasts for the District. The potential implication of this if jobs do not come forward is an increase in the number of people out-commuting from the Borough, which would mirror more closely the trends projected in Scenario F.

**Scenario I. Past Trends Demographic Led Scenario:** 1,140 dwellings per annum 2011 to 2031.

- 4.61 The scenario is directly comparable with the CLG 2008-based household projections, being as they both are a trend based demographic led projection. The main difference is the CLG 2008-based household projections are based upon the ONS 2008-based sub-national population projections (SNPP), which themselves use past trends in migration using a 5-year average between 2004 to 2008, albeit with adjustments on international migration to reflect judgements on nil-net migration from accession states. The CLG 2008-based household projections estimate household growth averaging a lower rate of 800 households per annum between 2008 and 2033. This would translate to a need for circa 828 dwellings per annum.

## Housing Led Scenario

- 4.62 The housing led scenario is grounded in an appreciation of broader housing market issues, notably the ‘need’ for affordable housing and the strategy for delivering this housing need. This draws upon a range of published data on housing need and demand in Canterbury District.

## Scenario J. Housing Need Scenario

### Strategic Housing Market Assessment

- 4.63 As outlined in Section 3, the East Kent SHMA estimates that 77% of newly forming households in the District are unable to access market housing (either to buy or rent) and that total newly forming need (both from existing households and those projected by the Kent County Council population projections based on the South East Plan strategy) will total 1,276 per annum between 2006-2010. Combined with the backlog of existing need (to be addressed over an assumed 5-year period) and the ongoing supply from net social re-lets, the SHMA estimates the social housing need for the District was 1,473 dwellings per annum between 2006 and 2010, reduced to 1,104 dwellings per annum when looking at a 10 year period for addressing backlog.

### Current and Projected Housing Need

- 4.64 Data from Kent Home Choice (the choice based lettings system for the whole of Kent) identifies that as of August 2011 there were 2,352 applicants within Bands 1 to 3 of the housing register (which, when compared with the banding criteria<sup>17</sup> equates to those defined as 'in need' by CLG guidance) from Canterbury District. Those in Bands 1 to 2, equating to a highest priority bands, totals only 1,264 whilst the total register identifies a total of 3,641 applicants.
- 4.65 In addition, as of July 2011, there were 281 people registered with Moat Housing (the HomeBuy Zone Agent for Kent) as looking for intermediate tenures in Canterbury District. 181 of these currently live within Canterbury District and can demonstrate local connection.
- 4.66 A minimum estimate of the current backlog of need for affordable housing, both social and intermediate, originating in Canterbury (i.e. currently residing in the District) is, therefore, 2,633 dwellings (i.e. 2,352 social housing need and 181 intermediate housing demand from within Canterbury District).
- 4.67 As outlined in the SHMA, an estimated 77% of newly forming households in the District are unable to access market housing. Applying this proportion to the newly arising households estimated in the CLG 2008-based household projections (representing an unconstrained position on potential household growth) this would lead to a newly arising need of 616 per annum over the period to 2031. In addition the SHMA estimates that 106 existing households currently private renting or in owner occupation also fall into need each year in Canterbury.

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<sup>17</sup> Housing Need Register Information Booklet:  
<http://www.canterbury.gov.uk/assets/housing/hnrinformationbooklet2007.pdf>



4.68 Adopting the same principles applied in the SHMA on the number of social re-lets each year (equating to 452 per annum), and also if it's assumed any backlog is met over the whole of the assessment period (i.e. broadly across the next 20 years to 2031), we can estimate what the future level of housing need arising out of the current backlog and estimated household growth will be. Applying these metrics leads to the estimates of affordable housing need over the period to 2031 as set out in Table 4.11.

Table 4.11 Updated Estimate of Affordable Housing Need

	Estimate
Backlog Total (p.a. over 20 years)	2,633 (132 p.a.)
	plus
Newly Arising Need from CLG Household Projections (newly forming households).	616 p.a.
	plus
Newly Arising Need from Existing Households (i.e. current owners/private renters).	106 p.a.
	minus
Net supply from re-lets	452 p.a.
	equals
<b>Required Affordable Housing 2011-2031 (p.a.)</b>	<b>402 p.a.</b>

Source: NLP Analysis using East Kent SHMA and CCC Data

4.69 By comparison, if only Bands 1 and 2 of the housing register were assessed as backlog (1,264 or 64 p.a.) the annual requirement for new affordable housing would be 334 dwellings per annum.

4.70 It should be noted that this analysis is not intended to replace the analysis contained within the SHMA, nor does it represent a full assessment of housing need in line with the SHMA guidance. It does, however, for the purposes of estimating development requirements for the District, provide an updated estimate as to the broad scale of current and future housing need in Canterbury District. Implicit within this, using the data from the SHMA, are the dynamics of demand and supply of affordable housing within the District, including losses to the affordable housing stock.

### Delivering Housing Need

4.71 Whilst the need for affordable housing provides and estimate of the number of households requiring such housing solutions, there is also a need to consider the deliverability of this, in the context that there is both wider demand for market housing, as well as the need for market housing to support actual delivery of affordable housing.

4.72 The current requirement for affordable housing delivery is set out in the adopted Development Contributions Supplementary Planning Document (SPD) (2007), which identifies an affordable housing target of 35% on applicable sites. Using this as a proxy for the likely ratio of market:affordable housing (65:35) required to deliver affordable housing, we can estimate that a total of

1,149 dwellings per annum would need to be delivered to achieve 402 affordable houses (both social rent and intermediate) per annum.

- 4.73 Again, for comparison, to deliver sufficient affordable housing to meet just priority bandings 1 and 2, this would require 955 dwellings per annum, 35% of which would be affordable. This would be a reduction in the requirement for housing development of housing need of almost 200 dwellings per annum.

### Implications of Delivering Housing Need

- 4.74 The implication of delivering 1,149 dwelling per annum, in order to deliver sufficient affordable housing at 35% of total housing delivery to meet needs, would be significant growth in the population. This increase in the number of dwellings would accommodate an increase in the number of households within Canterbury District of 22,174, which would equate to a population increase of 42,840 by 2031. This is broadly consistent with the population growth seen in the past 10 years.

Table 4.12 Scenario J. Headline Outputs

	2011	2026	Change	Annual	2031	Change	Annual
Population	147,700	179,653	+31,953	+2,130	190,540	+42,840	+2,142
Households	61,775	78,404	+16,630	+1,109	83,948	+22,174	+1,109
<b>Dwellings</b>	<b>64,015</b>	<b>81,248</b>	<b>+17,233</b>	<b>+1,149</b>	<b>86,993</b>	<b>+22,978</b>	<b>+1,149</b>
Labour Force	72,427	83,803	+11,376	+758	86,731	+14,304	+715
Jobs Supported	66,505	79,516	+13,011	+867	81,519	+15,014	+751

Source: NLP Demographic Modelling Using PopGroup

- 4.75 The labour force implications of this would be an increase in the labour force of 14,300 people, supporting an additional 15,000 jobs in the District, far in excess of past and forecast economic growth in the District.

**Scenario J. Housing Need Scenario: 1,149 dwellings per annum 2011 to 2031**

### Summary of Scenario Outputs

- 4.76 The scenarios presented are based upon a range of housing, economic and demographic factors, and the analysis presents a wider range of housing requirements and potential outcomes based upon a range of different indicators of what could be the need and demand for housing in Canterbury.

Table 4.13 Summary of Demographic, Housing and Economic Change of Scenarios over Period 2011-2031

Scenario:	Policy/Supply Led			Economic Led				Demographic Led		Housing Led
	Scenario A: Existing Supply	Scenario B: Past Trends Completions	Scenario C: South East Plan	Scenario D: East Kent Strategy	Scenario E: Futures "Preferred Scenario"	Scenario F: "Travel to Work" Scenario	Scenario G: Updated Economic Forecasts	Scenario H: Zero Net Migration	Scenario I: Past Trends Migration	Scenario J: Housing Need Scenario
Pop. 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
Household Change	+2,895	+11,910	+9,842	+12,636	+15,048	+22,517	+13,109	+1,536	+21,994	+22,174
Dwelling Change	+3,000	+12,342	+10,199	+13,094	+15,593	+23,334	+13,585	+1,591	+22,791	+22,978
<i>Dwellings p.a.</i>	+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
<i>Jobs p.a.</i>	-424	+126	+0	+180	+328	+214	+208	-543	+738	+751

Source: NLP Demographic Modelling using PopGroup



- 4.77 The outputs from the modelling show a range of outcomes, but also highlight a number of common trends, particularly the ageing population, which is also a key component of driving population decline associated with natural change but also constraints on the labour supply, with lower economic activity associated with an older demographic profile. Notwithstanding, due to the in-migration pressures Canterbury District is likely to come under, the population is set to grow under the majority of scenarios.
- 4.78 The implications of these scenarios in terms of employment space requirements and infrastructure are considered in the following sections.

## 5.0 Evidence for Employment Space Requirements

5.1 This section identifies the potential employment space requirements arising from the scenarios outlined in Section 4.0. The purpose is not to define a future employment target for Canterbury, but to provide an assessment of the potential implications of the earlier scenarios as they relate to future development requirements for the group of B-class sectors outlined below:

- **B1 Business** (offices, research & development, light industry);
- **B2 General Industrial**; and
- **B8 Storage or Distribution** (wholesale warehouses, distribution centres).

### Context and Past Trends

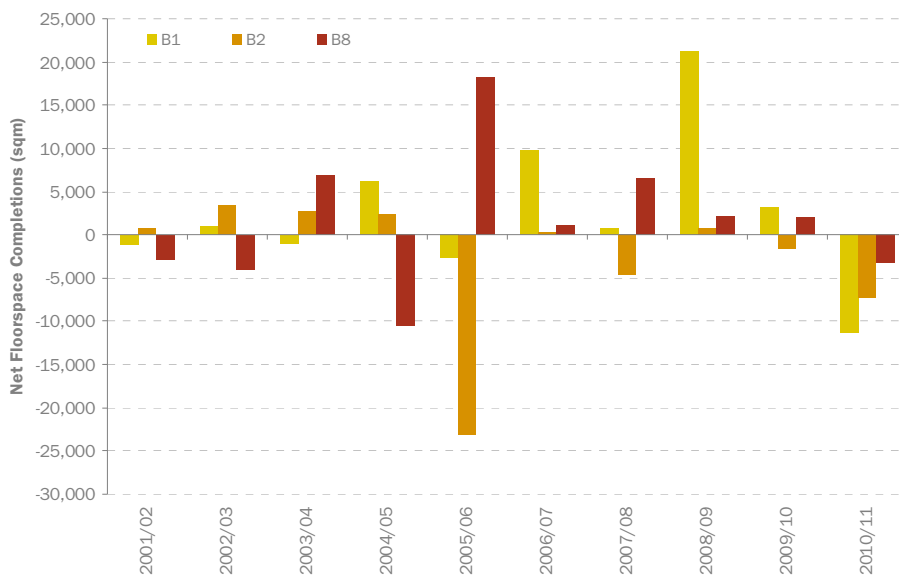
5.2 To provide some context to the following analysis, recent trends for B class development in Canterbury have been examined.

### Development Rates

5.3 The gross amount of floorspace developed for employment uses in Canterbury District over the last 10 years is shown in Figure 5.1 below. An average of 14,100 m<sup>2</sup> of B Class space was developed per annum between 2001-11. There was considerable variation in development levels over the period.

5.4 Just over half of all new development in this period was B1 space (office and light industrial), which averaged 7,400 m<sup>2</sup> annually. The average level of B8 completions was lower, at 4,800 m<sup>2</sup> p.a, with a peak in 2005 and formed some 33% of all new floorspace delivered. In contrast, B2 development was low throughout the period, averaging a 2,200 m<sup>2</sup> p.a, or about 15% of all space.

Figure 5.1 Net Completions for B-class Employment Space, 2001-11



Source: Kent County Council monitoring data

- 5.5 In terms of the geographical distribution of completions, based on analysis by CCC, in 2009/10 the area of greatest demand was at Canterbury (46% of completed floorspace), then rural locations such as Lakesview Business Park (22%) followed by Herne Bay (21%). However, the distribution of completions has varied significantly between years. In those years where completions in the district peaked (2003 and 2005), the largest proportion of new floorspace was constructed at Lakesview Business Park, north east of Canterbury.
- 5.6 A key characteristic is that net completions were much lower, averaging only 1,500 m<sup>2</sup> p.a. over the same 10 year period. This reflects significant losses of employment space within redevelopment schemes as well as losses of B class floorspace to other uses.

### **Losses of Employment Space**

- 5.7 Over the 10 year period 2000-10 there was an annual average loss of 14,400 m<sup>2</sup> p.a. Much of this, 43% of the total, involved losses of B1 premises, both offices and light industrial. This was followed by B2 industrial space (34%) and with a modest loss of B8 premises (22%). Over the last three years, when more detailed data is available, most of the B1 losses involved office space.
- 5.8 In terms of what uses this employment space is being lost to, only two years data is available from the Council's Annual Monitoring Report, and it is not clear whether this is representative of longer-term trends. Between 2008-10, out of a total of 9,470 m<sup>2</sup> of B Class employment space lost, some 4,200 m<sup>2</sup> (or 44%) went to non B uses, primarily retail and education uses, as well as to car showrooms and a bus depot. For example, the former Clarkson House office building in Canterbury was lost to D1 educational use for Canterbury Christ Church University in 2009.
- 5.9 A further 2,600 m<sup>2</sup> (27%) was lost to residential uses. Most of the losses to residential uses involved redevelopment of large, urban and redundant former employment sites, such as the former Tannery and Bingley Centre sites in Canterbury and the former Huyck factory site, Whitstable.

## **Implications of Future Scenarios**

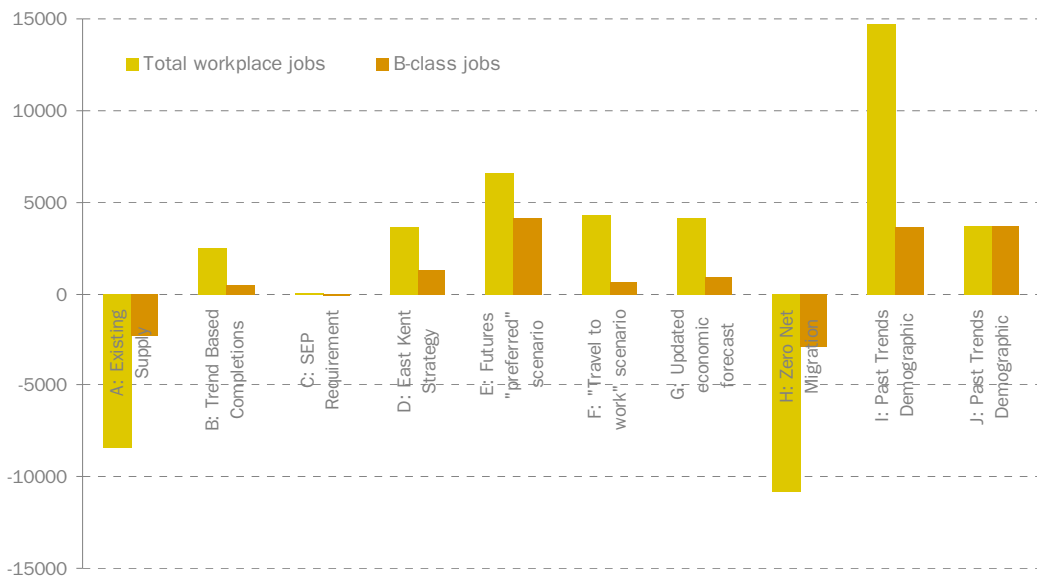
### **Identify requirement for B-class employment**

- 5.10 As set out in Section 4.0, it is assumed that one additional job would be supported for each additional worker forming part of Canterbury's future workplace labour supply (i.e. the labour force in Canterbury taking into account commuting flows). Where the workplace labour supply is negative, it is assumed that the additional job requirement would effectively be zero and therefore imply no quantitative requirements for additional employment space. However, it should be recognised that qualitative requirements may exist which require delivery of new employment space even where no quantitative requirements are identified.

5.11 The proportion of the future change in workplace jobs linked to B-class employment sectors (i.e. offices, industrial and warehousing) has been estimated based on the baseline Experian forecasts of employment change by sector up to 2031, except for Scenarios D, E and F where bespoke sector forecasts were produced by Experian as part of the modelling process for those scenarios. This includes an allowance for jobs in other non B-class sectors that typically utilise industrial or office space, such as some construction activities, vehicle repairs, courier services, road transport and cargo handling, and some public administration functions (see Appendix 1).

5.12 Headline outputs from this analysis are set out in Figure 5.2 and Table 5.1.

Figure 5.2 Summary of Employment Change by Scenario, 2011-2031



Source: NLP analysis based on PopGroup Modelling outputs / Experian sector forecasts



Table 5.1 Summary of Employment Change by Scenario, 2011-2031

Scenario:	Policy/Supply Led			Economic Led				Demographic Led		Housing Led
	Scenario A: Existing Supply	Scenario B: Past Trends Completions	Scenario C: South East Plan	Scenario D: East Kent Strategy	Scenario E: Futures "Preferred Scenario"	Scenario F: "Travel to Work" Scenario	Scenario G: Updated Economic Forecasts	Scenario H: Zero Net Migration	Scenario I: Past Trends Migration	Scenario J: Housing Need Scenario
Total jobs (all sectors)	-8,478	+2,523	+2	+3,593	+6,556	+4,283	+4,159	-10,855	+14,756	+15,014
Jobs p.a.	-424	+126	+0	+180	+328	+214	+208	-543	+738	+751
B-class jobs	-2,239	+476	-169	+1,307	+4,160	+628	+895	-2,947	+3,607	+3,673
of which B1	-535	+757	+461	+1,601	+4,413	+878	+949	-813	+2,192	+2,223
of which B2	-824	+35	-162	-210	-304	-482	+163	-1,010	+990	+1,010
of which B8	-980	-315	-467	-83	+50	+232	-216	-1,124	+425	+441

Source: NLP analysis based on PopGroup Modelling outputs / Experian sector forecasts

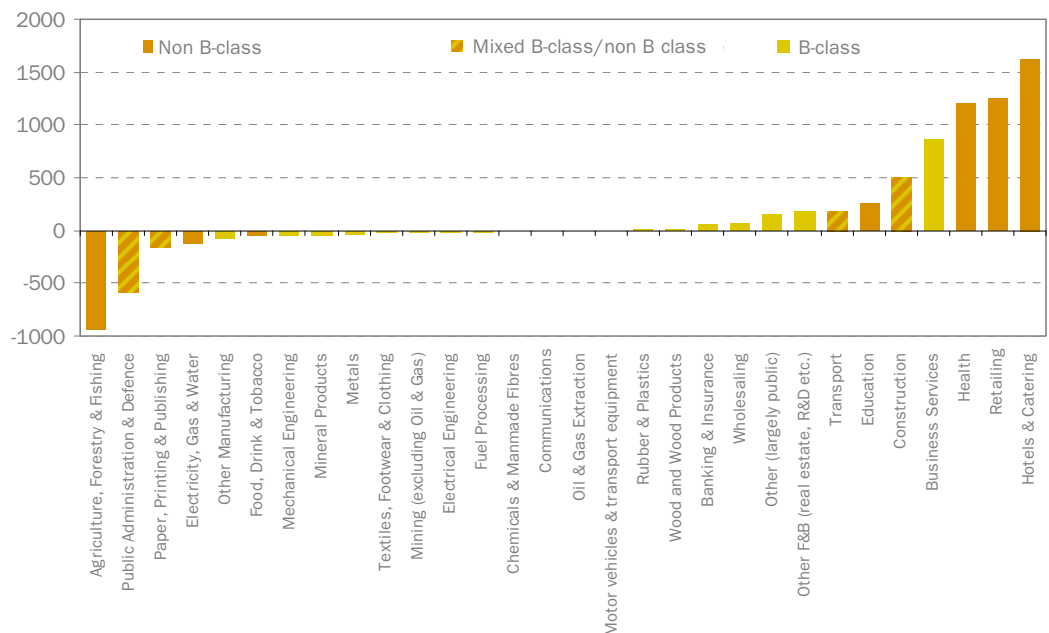


### Non B-class uses

5.13 It should be noted that B-class employment sectors currently account for about 25% of total employment within Canterbury, and across all scenarios this proportion is broadly expected to remain constant during the forecasting period. Growth of office-based sectors is expected to offset a decline in the proportion of jobs in manufacturing and warehousing sectors.

5.14 Using the Experian baseline economic forecast (Scenario G) as a guide, it is evident that much of Canterbury’s future growth will arise in non B-class sectors, particularly hotels and catering, retail and health (Figure 5.3). These sectors of the economy are planned for in different ways (in many cases, addressed through town centre and retail assessments), and are beyond the immediate scope of this assessment.

Figure 5.3 Projected Employment Change by Sector (Baseline), 2011-2031



Source: Experian / NLP analysis

5.15 However, it is worth noting that these sectors will generate additional land requirements and may drive some requirements for office and other floorspace. They may also potentially compete for traditional B-class employment sites and premises; CCC reports that some recent losses of B-class space have been as a result of conversion to non B-class uses. Therefore, the continued prominence of these activities as part of the District’s employment base will be an important consideration when determining future planning requirements for employment land.

## Convert jobs to floorspace

- 5.16 The employment change in each B-class sector has been translated into floorspace requirements by applying latest published job/floorspace densities, set out in Table 5.2.<sup>18</sup> These ratios take some account of recent trends in working practices, particularly in the office sector, for increasing densities of employment (i.e. an increase in the amount of workers that can be accommodated on a given floorplate).

Table 5.2 Jobs/Floorspace Ratios for B Class Uses

Sector (Use Class)	Job/floorspace ratio
Manufacturing (B1c/B2)	1 job / 45 m <sup>2</sup>
Distribution (B8)	1 job / 65 m <sup>2</sup>
Offices (B1a)	1 job / 10.5 m <sup>2</sup>

Source: Guide to Employment Densities, HCA/Offpat, 2010

- 5.17 The floorspace ratios for manufacturing and warehousing space are combined as these two sectors typically occupy the same types of sites at similar development densities. This produces a total **net requirement** for employment space, as set out in Table 5.3, and includes an allowance of 10% where floorspace requirements are positive to reflect a normal level of market vacancy in employment space.
- 5.18 The scenarios imply a fairly wide range of potential employment space requirements. For office space, this would be between 4,800 m<sup>2</sup> (Scenario C: South East Plan) and 23,300 m<sup>2</sup> (Scenario J: Housing Need). For industrial space, the range is very wide between -116,200 m<sup>2</sup> (Scenario H: Zero Net Migration) and 85,500 m<sup>2</sup> (Scenario J: Housing Need).

### Safety margin

- 5.19 To estimate the overall requirement of employment space for planning purposes, it is normal practice to add an allowance as a safety margin for factors such as delays in sites coming forward for development and to give some flexibility of provision.
- 5.20 The SEEPB guidance on employment land assessments recommends an allowance that is equivalent to the average time for a site to gain planning permission and be developed, typically about two years.<sup>19</sup> Based on the past take-up rates of different types of employment space in Canterbury noted

<sup>18</sup> Employment Densities Guide, Second Edition, HCA/Offpat, 2010

<sup>19</sup> SEEPB Economic and Employment Land Assessments Supplementary Guidance Consultation Document, 2009. Although the SEEPB no longer exists and the formal status of this guidance is unclear, it is considered to be as source of good practice.

above, this would imply a safety margin of 14,800 m<sup>2</sup> for office uses, and 14,000 m<sup>2</sup> for industrial uses, to be added to the net requirement set out in Table 5.3.



Table 5.3 Net Employment Space Requirements by Scenario, 2011-2031

Scenario:	Policy/Supply Led			Economic Led				Demographic Led		Housing Led
	Scenario A: Existing Supply	Scenario B: Past Trends Completions	Scenario C: South East Plan	Scenario D: East Kent Strategy	Scenario E: Futures "Preferred Scenario"	Scenario F: "Travel to Work" Scenario	Scenario G: Updated Economic Forecasts	Scenario H: Zero Net Migration	Scenario I: Past Trends Migration	Scenario J: Housing Need Scenario
B-class jobs	-2,239	476	-169	1,307	4,160	628	895	-2,947	3,607	3,673
Office floorspace (sq.m)	-5,612	8,738	5,322	18,491	50,975	10,143	10,956	-8,541	25,321	25,671
Office safety margin	14,800									
Net office requirement	9,188	23,538	20,122	33,291	66,775	24,943	25,756	6,259	40,121	40,471
Industrial floorspace (sq.m)	-97,691	-11,912	-31,562	-17,415	-17,507	-20,883	931	-116,225	91,831	94,042
Industrial safety margin	14,000									
Net industrial requirement	-83,691	2,008	-17,562	-3,415	-3,507	-6,883	14,931	-102,225	105,831	108,042

Source: NLP analysis





## Convert to gross requirement

- 5.21 To estimate the overall **gross requirement** for employment space that should be planned for, it is normal to make allowance for replacement of losses of existing employment space developed for other, non B-class uses, and to allow for delays in some sites coming forward for development.
- 5.22 To some extent, this requires a degree of judgement based on supply-side deliverability factors and current trends in the market in Canterbury. For example, not all losses of employment space need to be replaced as some will reflect restructuring as less of certain types of employment floorspace are needed in the future.
- 5.23 For the purposes of this assessment, it is assumed that 25% of the annual rate of losses of office space in Canterbury over the period is replaced (i.e. 3,100 m<sup>2</sup> p.a.), and one third of the equivalent rate for industrial space (i.e. 2,700 m<sup>2</sup> p.a.). However, it is recognised that alternative judgements could be considered based on more detailed consideration of the type and nature of losses that have occurred in Canterbury in the past.
- 5.24 The resultant gross floorspace requirements incorporating these allowances are set out in Table 5.4.



Table 5.4 Gross Floorspace Requirements by Scenario, 2011-2031

Scenario:	Policy/Supply Led			Economic Led				Demographic Led		Housing Led
	Scenario A: Existing Supply	Scenario B: Past Trends Completions	Scenario C: South East Plan	Scenario D: East Kent Strategy	Scenario E: Futures "Preferred Scenario"	Scenario F: "Travel to Work" Scenario	Scenario G: Updated Economic Forecasts	Scenario H: Zero Net Migration	Scenario I: Past Trends Migration	Scenario J: Housing Need Scenario
Gross office floorspace (sq.m)	40,188	54,538	52,122	64,291	96,775	55,943	56,756	37,259	72,121	71,471
Gross industrial floorspace (sq.m)	-83,691	56,088	-17,562	-3,415	-3,507	-6,883	68,931	-102,225	159,831	162,042
Total	-43,503	110,626	33,560	60,875	93,268	49,060	125,687	-64,966	230,952	233,513

Source: NLP analysis



## Land requirements

5.25 The gross floorspace requirements identified above have been translated into indicative land requirements for both office and industrial uses. This has been calculated by applying appropriate plot ratio assumptions to the floorspace estimates using the following assumptions:

- industrial – a plot ratio of 0.4 is applied so that a 1 ha site would accommodate 4,000 of employment floorspace; and
- offices – assumed that 60% of the requirement would be met in lower density developments with a plot ratio of 0.4, but 40% would be higher density urban locations at a plot ratio of 2.0.

5.26 The resulting land requirements are set out in Table 5.5.

Table 5.5 Gross Land Requirement by Scenario (ha)

Sector (Use Class)	Scenario A: Existing Supply	Scenario B: Past Trends Completions	Scenario C: South East Plan	Scenario D: East Kent Strategy	Scenario E: Futures "Preferred Scenario"	Scenario F: "Travel to Work" Scenario	Scenario G: Updated Economic Forecasts	Scenario H: Zero Net Migration	Scenario I: Past Trends Migration	Scenario J: Housing Need Scenario
Offices (B1)	6.8	9.3	8.7	10.9	16.5	9.5	9.6	6.3	12.1	12.2
Industrial (B1c/B2/B8)	-20.9	14.0	-4.4	-0.9	-0.9	-1.7	17.2	-25.6	40.0	40.5
Total	-14.1	23.3	4.3	10.1	15.6	7.8	26.9	-19.6	52.0	52.7

Source: NLP analysis

5.27 It is apparent that the employment space requirements vary significantly depending on the scenario selected. Two of the scenarios (A and H) are associated with a fall in Canterbury’s workplace labour supply, and result in a negative employment space requirement. Scenario C results in a modest overall decline in B-class jobs against nil net change in total change in employment, but does project growth in office-based sectors. Those scenarios producing the largest employment space requirements (Scenarios I and J) generally imply the highest employment space requirements.

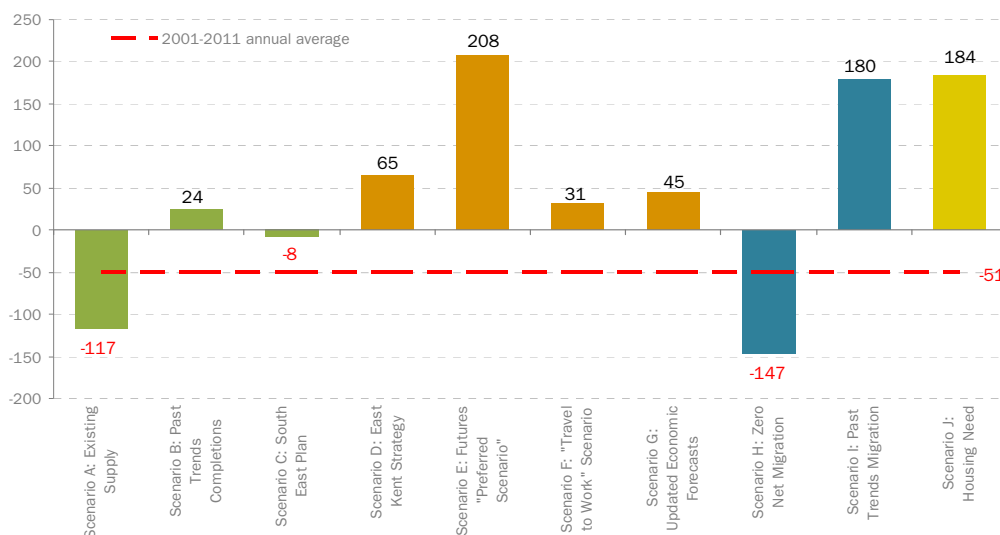
5.28 However, it cannot always be assumed that a direct correlation exists between future increases in labour supply and demand for employment space in Canterbury. For example, Scenario E (Futures “Preferred Scenario”) produces a mid-range increase in Canterbury’s workplace labour force, but generates the highest requirement for office floorspace. This reflects that this scenario (as modelled by Experian) is to some extent an ‘aspirational’ economic scenario which blends elements of the Futures’ knowledge economy, Canterbury experience and green economy scenarios, as described in paragraph 4.42.

## Sensitivity tests

5.29 Given the range of potential requirements implied by these different estimates of future requirements, it is instructive to test these against other factors and how sensitive they are to different assumptions.

5.30 It is useful to compare the annual rates of B-class employment growth implied by the different scenarios against employment growth actually achieved in Canterbury in recent years. The lowest estimate (Scenario H: Zero Net Migration) implies a loss of about 150 B-class jobs per year, mostly in manufacturing and warehousing. The highest estimate (Scenario E: Futures “Preferred Scenario”) implies a gain of some 208 B-class jobs annually, mostly office jobs. These figures compare with an average net loss of 51 B-class jobs in Canterbury per year between 2001-2011 according to Experian data for this period, in which growth in office jobs was more than offset by losses of jobs in manufacturing and warehousing (Figure 5.4).

Figure 5.4 Annual B-class Job Growth Implied by Scenarios, 2011-2031



Source: NLP analysis / Experian

5.31 This indicates that eight of the ten scenarios considered in this study point to higher levels of net B-class job creation than has been achieved in Canterbury in the recent past. Only two scenarios (A and H) would produce an increased rate of losses of B-class jobs compared to the past trend. This partly reflects that six of the scenarios result in higher levels of housing growth (and consequently increases in Canterbury’s workplace labour force) than has occurred in the past, but also that some scenarios (D, E and F) reflect specific assumptions made about Canterbury’s potential future economic role and with specific sector adjustments made as a result.

5.32 There is also potential for different estimates of demand depending on the assumptions made on the scale of the safety margin added. However, in this case it is considered that a relatively modest safety margin has been allowed for in line with current best practice guidance.

- 5.33 Another assumption which could produce significant differences in overall space requirements if varied if the replacement of future losses. At present, a fairly modest allowance has been made for this. If, for example, the figure for annual replacement of office space losses was increased from 25% to 50%, this would add 31,000 m<sup>2</sup> to the office space requirements over the period. However, the allowance made appears reasonable in light of current conditions and expected trends based on the information available.
- 5.34 The estimates of land requirements also reflect the various assumptions on job/floorspace ratios and plot ratios adopted. Those used are sourced from HCA and SEEPB guidance. At present, it is assumed that 40% of any new office space would be in high density urban locations at a plot ratio of 2.0, and the remainder on other sites at a lower average ratio of 0.4. If, for example, all new office space was built at a lower ratio of 0.4, the range of potential land requirements would increase from 6.8-16.5 ha to 9.3-24.2 ha.

## **Pipeline Supply of Employment Space**

- 5.35 A high-level comparison of the future employment space requirements has been made against the current identified pipeline supply of employment land within Canterbury district. The supply of employment space in the development pipeline comes from sites allocated for employment development in the Local Plan and other sites with planning permission.
- 5.36 Analysis by CCC provides an indication of the potential of the pipeline supply of employment land in Canterbury district at August 2011. This suggests a total potential capacity of nearly 250,000 m<sup>2</sup> of potential supply as set out in Table 5.6 below.
- 5.37 The largest proportion exists within Canterbury, although it should be noted that the vast majority of this supply (c.70,000 m<sup>2</sup>) is linked to the key employment allocation at Little Barton Farm, which is undeveloped and requires significant upfront transport infrastructure (new A2 junction) before the site can come forward for development. Herne Bay has the second largest proportion of potential supply, with most capacity identified on large sites at Altira Business Park (partly developed site with outline planning permission) and Eddington Lane (undeveloped site without planning permission). Identified supply is relatively limited within Whitstable, and in terms of the rural areas most supply is concentrated at Canterbury Business Park (Bekesbourne) and Lakesview Business Park (Hersden).

Table 5.6 Pipeline Employment Floorspace by Location, 2011

Location	Potential employment floorspace (m <sup>2</sup> )	Proportion of total
Canterbury	98,150	40%
Herne Bay	86,653	35%
Whitstable	11,489	5%
Rural	48,135	20%
<b>Total</b>	<b>244,427</b>	<b>100%</b>

Source: NLP analysis / Canterbury City Council

- 5.38 In overall terms, this would more than accommodate the employment space requirements identified for all scenarios set out at Table 5.4 above. It appears that most currently identified sites are allocated or otherwise capable of providing for a range of B1, B2 and B8 uses, and therefore could provide sufficient flexibility to accommodate office and industrial floorspace where a positive requirement has been identified under each scenario. However, previous evidence has pointed to deliverability concerns regarding many of Canterbury's larger employment sites and the need to identify smaller 'pepper pot' sites to help meet B1 office needs in Canterbury.<sup>20</sup> A more detailed assessment will be required to assess the extent to which the existing supply position can provide for future employment space needs over the short, medium and longer term.
- 5.39 In terms of the spatial distribution of requirements, it appears likely that these will continue to be concentrated around Canterbury as the district's main centre, location of strongest market demand and taking account of the continuing gradual shift to growth in office-based sectors across all scenarios. In some cases (e.g. Scenario E) the implication could be for higher levels of employment space completions at Canterbury given the focus on higher-value knowledge-based sectors, which benefit from proximity to the largest population centre, universities and Canterbury City's cultural and heritage assets.
- 5.40 For industrial needs, analysis of recent losses seems to suggest a gradual process of industrial space being lost from constrained sites within Canterbury City (perhaps with pressure from higher value uses), and where replaced, decanting to more traditional, lower cost industrial estate locations elsewhere. Under most future scenarios, the requirement is for less industrial space overall, and so this pattern may continue. However, it will require sufficient alternative supply of industrial development land (in terms of size, type and location) to be made available to ensure that these businesses are not lost from the district altogether.

<sup>20</sup> Assessment of Employment Land in Canterbury District, Savills, May 2008



- 5.41 In this context, the Council will need to undertake a more detailed assessment to assess the profile of existing demand across different parts of the District, and the extent to which commercial property market dynamics will support future delivery of employment space for different sectors.

## **Wider Considerations**

- 5.42 The potential employment space requirements arising from the scenarios of future change have been considered. The purpose is not to define a future employment target for Canterbury, but to provide an assessment of the potential implications of each scenario as a guide to planning for future development requirements for B-class employment space. The requirements identified are subject to the various assumptions outlined above which take account of current best practice, but it is recognised that there is scope for alternative outcomes in the event that different assumptions are adopted.
- 5.43 The employment space requirements vary significantly depending on the scenario selected. However, eight of the ten scenarios considered in this study would result in higher levels of net B-class job creation that has occurred in Canterbury in the recent past. Within these trends, the general pattern is for an increasing shift towards office-based sectors, although under the highest growth scenarios, increases are also projected across manufacturing and warehousing sectors. This is in the context that B-class employment is forecast to continue to account for about 25% of the Canterbury economy, with the fastest recent and future growth forecast to occur in non B-class employment sectors.
- 5.44 Recent completions and pipeline supply of employment space suggests demand is weighted towards Canterbury City, the role of which will become even more important under those scenarios which identify the highest office-based sector growth requirements.
- 5.45 Initial analysis of pipeline employment space suggests there is more than sufficient existing supply to accommodate future demand under all future scenarios. However, as noted above, the existing supply (particularly at Canterbury) is dominated by a small number of larger sites, some of which have barriers to delivery. In addition, this does not necessarily imply a clear-cut case for release of existing employment land to other uses. Any releases need to be undertaken in a managed way that balances the nature of quantitative requirements based on forecasts (which will be subject to change and revision over time) with the deliverability of current land supply and the District's constraints on finding new development sites in future, qualitative factors such as the need in wider economic development terms to ensure diversity and choice, and the reality that once existing sites are lost they may be difficult to replace.
- 5.46 This largely quantitative analysis is based on a range of housing, demographic and economic scenarios that provide a demand-side perspective, but does not take account of other market or policy factors which may affect delivery of

employment space in the district over the period to 2031. There are a wide range of further factors which CCC will need to consider in defining a local employment space requirement through its Core Strategy. Some of these factors necessitate new or updated evidence that is not captured in the Experian Futures Study or Savills Employment Land Review. The factors include:

- a Economic development objectives to encourage diversified future employment growth, for example providing for both knowledge-based sectors on high-quality business/science park sites, but also meeting more traditional industrial space needs which require lower-cost sites but are important to the efficient functioning of the local economy;
- b Weighing the implications of constrained employment space delivery upon meeting local need for new jobs. Potential outcomes of lower employment space delivery could include rising unemployment, increased out-commuting, and a Canterbury which is less well placed to sustain and support a viable economic future;
- c The need to set the gross employment space requirement against any constraints to development. This could include infrastructure capacity, land supply, environmental capacity and development viability, amongst others, as well as the ability to use new instruments for infrastructure provision including CIL, Tax Increment Financing and retention of local business rates;
- d The current and potential portfolio of employment land and premises, and their ability and likelihood of delivering new employment space. This requires renewed consideration to take account of factors that have arisen since the Savills Employment Land Review, including changed market conditions, viability considerations and reduction in the availability of public sector funding to facilitate delivery of constrained sites;
- e The potential for further work to evidence employment space needs at the sub-district level, and the spatial distribution of different types of employment space; and
- f The future needs of non B-class sectors which form an important part of the District's economy and the extent to which these will drive and/or compete with traditional B-class space requirements.

## 6.0 Evidence for Community Infrastructure Requirements

6.1 In addition to housing and employment development requirements, it is important to consider the associated need for community infrastructure to support the population.

6.2 The headline community infrastructure development requirements have been assessed for three key infrastructure areas; education, health and open space. Each of these infrastructure themes will necessitate planning for their development requirements through any emerging spatial strategy for Canterbury District including potentially making provision for the delivery of such development or identifying suitable locations and allocating land for such uses.

### Approach to Community Infrastructure

6.3 The assessment uses a range of benchmark standards of provision (i.e. published ratios of typical community infrastructure per population) or using the outputs from the demographic modelling. The approach under each of the key infrastructure areas can be summarised as follows:

- Education – the number of school age children within each scenario has been taken from the demographic model to provide a proxy for the need and demand for education places from nursery age, through primary to secondary school age;
- Health – identified ratios of provision against population are utilised to estimate future requirements associated with population change, specifically:
  - 1 GP per 1,237 population, reflecting the existing ratio of provision within the District;
  - 1 Dentist per 2,000 population, reflecting national standards of dental provision; and
  - 2.7 hospital (secondary care) beds per 1,000 population reflecting regional ratios of provision used in the South East Plan evidence base;
- Open Space – identified ratios of open space provision contained within the Canterbury Development Contributions SPD, specifically:
  - Parks (Strategic urban parks/ Green Corridors): 0.3ha/1,000 population = 3m<sup>2</sup>/person
  - Open Space for Sport (Playing pitches, courts and greens): 0.87ha/1,000 population = 8.7m<sup>2</sup>/person
  - Amenity Greenspace (Informal Public Open Space, Kick about areas and associated landscaping): 1.3-1.7ha/1,000 population = 13-17m<sup>2</sup>/person (assumed 1.5ha or 15m<sup>2</sup>/person)

- Children’s Play Areas (Equipped play spaces): 0.3ha/1,000 population = 3m<sup>2</sup>/person
- Semi-natural Areas (Woodland, tree copse): 4.0ha/1,000 population = 40m<sup>2</sup>/person.

6.4 A full assessment, including the rationale for the inputs and assumptions and a breakdown of requirements to 2026 and 2031, is included as Appendix 3.

## Headline Assessment of Requirements

6.5 Applying the above estimates and standards of provision to each scenario provides an estimate of future community infrastructure requirements associated.

### Education

6.6 The need and demand for school pupil places, as inferred by the population within these age cohorts, varies substantially by each scenario and across three main stages of school provision. The change in nursery school age, primary school age and secondary school age population over the period to 2031 is shown in Table 6.1.

Table 6.1 Change in School Age Population 2011 to 2031

	Nursery School Age Children (Ages 3-4)	Primary School Age Children (Ages 5-10)	Secondary School Age Children inc. Post 16 (Ages 11-18)	Total School Age Children (3-18)
Scenario A: Existing Supply	-565	-1,625	-1,897	<b>-4,087</b>
Scenario B: Past Trends Completions	204	432	-49	<b>587</b>
Scenario C: South East Plan	28	-40	-473	<b>-485</b>
Scenario D: East Kent Strategy	252	459	-60	<b>651</b>
Scenario E: Futures "Preferred Scenario"	457	988	400	<b>1,845</b>
Scenario F: "Travel for Work" Scenario	1,156	2,720	1,654	<b>5,530</b>
Scenario G: Updated Economic Forecasts	298	617	15	<b>930</b>
Scenario H: Zero Net Migration	-676	-1,742	-1,646	<b>-4,064</b>
Scenario I: Past Trends Migration	996	2,590	1,410	<b>4,996</b>
Scenario J: Housing Need Scenario	1,080	2,781	2,055	<b>5,916</b>

Source: Demographic Projections using PopGroup

6.7 With an ageing population structure meaning a smaller proportion of the District’s population being school age, the change in school age population in comparison to total population change is relatively small. Notwithstanding, growth in school age population infers need for additional education facilities under most scenarios. In terms of nursery school places, housing delivery in excess of the South East Plan will place additional requirements on nursery school facilities, which is a similar position for primary school children. At

higher levels of housing delivery, such as Scenarios F, I and J, there would be a need for significantly more primary school places, up to circa 2,800 which would be equivalent to new 6-7 primary schools (assuming a school size 400-460). Secondary school requirements are lower, with up to circa 2,000 additional pupils under the highest scenario (J: housing need) which would be equivalent to two new secondary schools assuming a similar size to existing secondary schools in the district which accommodate circa 1,000 pupils.

- 6.8 These requirements may be met either through existing capacity within the school system, through extensions to existing schools or through provision of new schools and will be dependent on the spatial distribution of growth and the future provision of school places throughout the District.

## Health

- 6.9 The need for health facilities to support population change suggests that up to 35 General Practitioners and up to 22 Dental Practitioners would be needed to support growth under the highest growth scenarios, albeit scenarios involving population decline would not place additional pressures on health facilities and services. This is illustrated in Table 6.2.

Table 6.2 Health provision requirements of population change to 2031

	Pop Change to 2031	GPs to 2031	Dentists to 2031	Hospital Beds to 2031
Scenario A: Existing Supply	-4,476	-4	-2	-12
Scenario B: Past Trends Completions	17,684	14	9	48
Scenario C: South East Plan	12,608	10	6	34
Scenario D: East Kent Strategy	19,573	16	10	53
Scenario E: Futures "Preferred Scenario"	25,501	21	13	69
Scenario F: "Travel for Work" Scenario	43,402	35	22	117
Scenario G: Updated Economic Forecasts	20,780	17	10	56
Scenario H: Zero Net Migration	-6,979	-6	-3	-19
Scenario I: Past Trends Migration	40,653	33	20	110
Scenario J: Housing Need Scenario	42,840	35	21	116

Source: Demographic Projections using PopGroup and PCT/NHS standards of provision

- 6.10 In terms of hospital beds, excluding the scenarios involving population decline, associated requirements could involve a need and demand for 34 to 117 new hospital beds.
- 6.11 Delivery of health services will fall either to the PCT or may be provided on private basis, for example in the case of GPs and Dentists premises by individual surgeries or in the case of hospital beds by private hospital providers. Notwithstanding, the scale of needs under each scenario gives an indication of where sites for such important health facilities may need to be found and considered as a development requirement.

## Open Space

- 6.12 Applying the ratios of provision contained within the Canterbury Development Contributions SPD identifies a total requirement for open space of up to 300 hectares, as outlined in Table 6.3.

Table 6.3 Open space requirements to 2031 (Hectares)

	Parks	Open Space for Sport	Amenity Greenspace	Children's Play Areas	Semi-natural Areas	Total Open Space
Scenario A: Existing Supply	-1.3	-3.9	-6.7	-1.3	-17.9	<b>-31.2</b>
Scenario B: Past Trends Completions	5.3	15.4	26.5	5.3	70.7	<b>123.3</b>
Scenario C: South East Plan	3.8	11.0	18.9	3.8	50.4	<b>87.9</b>
Scenario D: East Kent Strategy	5.9	17.0	29.4	5.9	78.3	<b>136.4</b>
Scenario E: Futures "Preferred Scenario"	7.7	22.2	38.3	7.7	102.0	<b>177.7</b>
Scenario F: "Travel for Work" Scenario	13.0	37.8	65.1	13.0	173.6	<b>302.5</b>
Scenario G: Updated Economic Forecasts	6.2	18.1	31.2	6.2	83.1	<b>144.8</b>
Scenario H: Zero Net Migration	-2.1	-6.1	-10.5	-2.1	-27.9	<b>-48.6</b>
Scenario I: Past Trends Migration	12.2	35.4	61.0	12.2	162.6	<b>283.4</b>
Scenario J: Housing Need Scenario	12.9	37.3	64.3	12.9	171.4	<b>298.6</b>

Source: Demographic Projections using PopGroup and Canterbury City Council Development Contributions SPD

- 6.13 The inference of the above for development requirements and the approach to a development strategy within Canterbury District, is that potentially a large amount of land will need to come forward as managed open space. This will need to be fully considered alongside other development requirements.

## Summary of Community Infrastructure Requirements

- 6.14 As would be expected, higher levels of housing and employment development within the Borough bring alongside them higher levels of need and demand for supporting community infrastructure. The above provides an estimate of the key community infrastructure development requirements associated with each scenario. Given the level of requirements, it illustrates that to ensure delivery of supporting infrastructure, Canterbury City Council will need to be cognisant of the attendant implications and ensure that any strategy to development identifies the opportunities to deliver community infrastructure (whether that be by allocating land or completing an infrastructure delivery plan that sets out relevant costs and funding arrangements).

7.0

## Development Delivery and Implications

### Spatial Implications

7.1

Canterbury District contains a number of distinct sub-district areas which will have different drivers for development requirements in the future. In residential market terms, these are focussed around the different settlement areas within the District and the East Kent SHMA identifies that each of the towns within the District have quite distinct housing market characteristics. For the purposes of this analysis, and accounting for the sub-markets identified in the SHMA, CCC have characterised the District into four sub-areas, namely:

- a Canterbury City Area;
- b Whitstable;
- c Herne Bay; and
- d Rural Area.

7.2

Whilst the modelling of development requirements has been considered at a district-wide scale, because of the character of distinct areas in the District, it is useful to consider some of the metrics that will influence need and demand for development at a sub-district level in Canterbury District. Although, no sub-district modelling has been undertaken, both due to limitations on the availability of data at a local level and also due to the range of other factors which will ultimately guide any apportionment, considering the spatial drivers and implications of any scale of development will help Canterbury City Council in developing a strategy for how much development should be planned in different parts of the District. The analysis in this section focused on the distribution of housing (and by implication, the community infrastructure that follows it). It does so in a relatively mechanistic way and does not take account of other spatial planning factors (e.g. environmental or heritage constraints, or opportunities to support regeneration) that will be relevant to CCC in formulating its strategy and focus for different settlements.

7.3

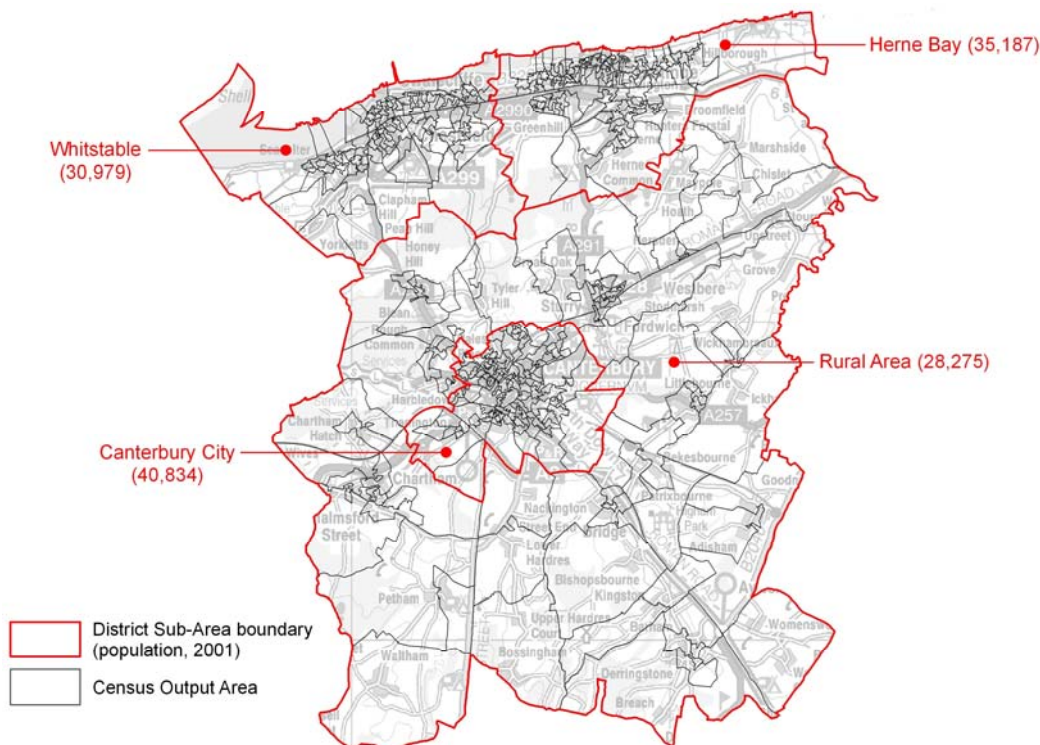
Although the distribution of employment land (or other uses) within the district is likely to be influenced by the existing patterns of population and residential development, it is also shaped by the location of suitable and attractive employment land, and by existing centres of economic activity and firms in relevant economic sectors. The factors identified in paragraph 5.46 of this report will need to be considered as part of this.

7.4

A primary indicator of where residential development requirements are likely to fall within the District is the distribution of population. Current population centres can indicate greater demand for development to support the local population. As outlined in Figure 7.1 the Canterbury City area, comprising the wards which make up the urban area of Canterbury, is the largest population centre in the District comprising 30.2% of the District's population. The Whitstable (22.9%) and Herne Bay (26%) areas are of comparable size and

between the three main urban centres they account for almost 80% of the District’s population. The remainder of the population is distributed in the rural parts of the District, with the remaining Rural Area comprising 20.9% of the population. This would indicate that the majority of housing need will fall within Canterbury City, followed by Whitstable and Herne Bay, although factors such as personal preference and affordability may mean demand for new dwellings is higher in some parts of the District, which may not necessarily follow existing population distributions.

Figure 7.1 Sub-District Housing Areas and Population (Census 2001)



Source: Census 2001, East Kent SHMA and CCC

7.5

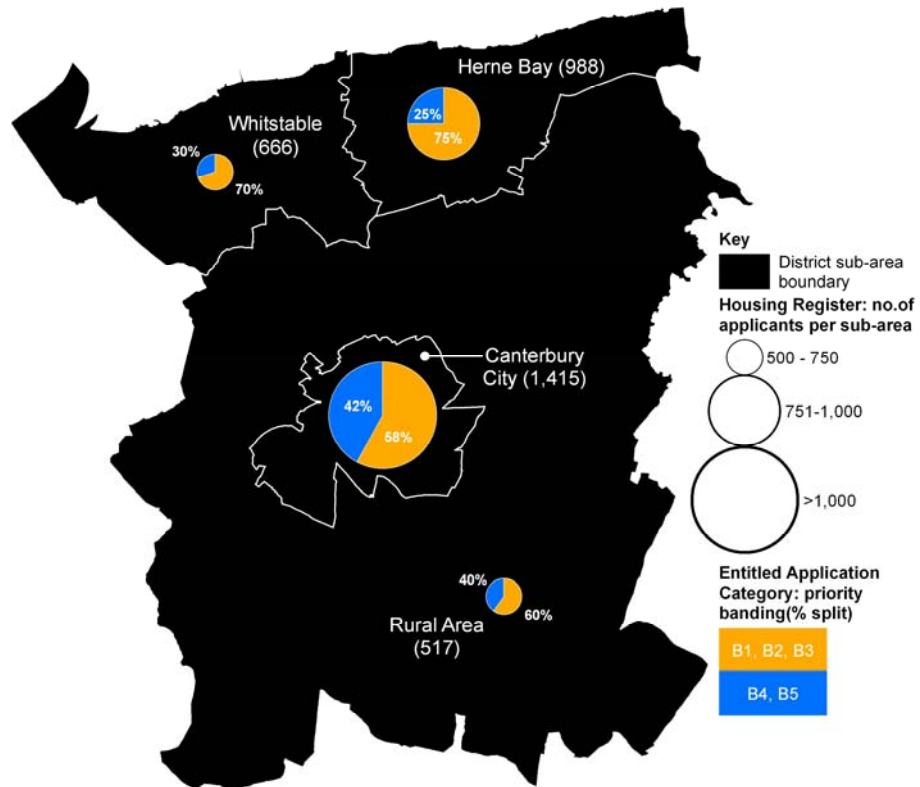
A good proxy for the locational demand within the District is the local housing waiting list. Although operated on a common choice based letting systems with the rest of Kent, meaning anyone on the register can bid for any property across the area, this does provide a breakdown of where housing need is originating within Canterbury District. As outlined in Section 3.0 there are currently 2,352 households defined as ‘in need’ within Canterbury District, with over 3,600 on the waiting list. The geographic distribution of this need (i.e. where applicants are currently registered from) is illustrated in Figure 7.2 below.<sup>21</sup> This shows that the majority of people on the housing waiting list are

<sup>21</sup> Note: Some household applicants on the housing waiting list do not have a full postcode and these have not been mapped. Therefore the total numbers analysed on this map are not consistent with actual waiting list numbers identified. The map does, however, give a broad outline of the spatial distribution of housing need across the District.



from the Canterbury City Area, followed by Herne Bay and then Whitstable. Despite this, overall need is more acute within Herne Bay with 75% of people registered from an address in Herne Bay falling within the priority bandings equating with households ‘in need’ of affordable housing. This is compared with 70% of people on the register in Whitstable and only 58% in Canterbury.

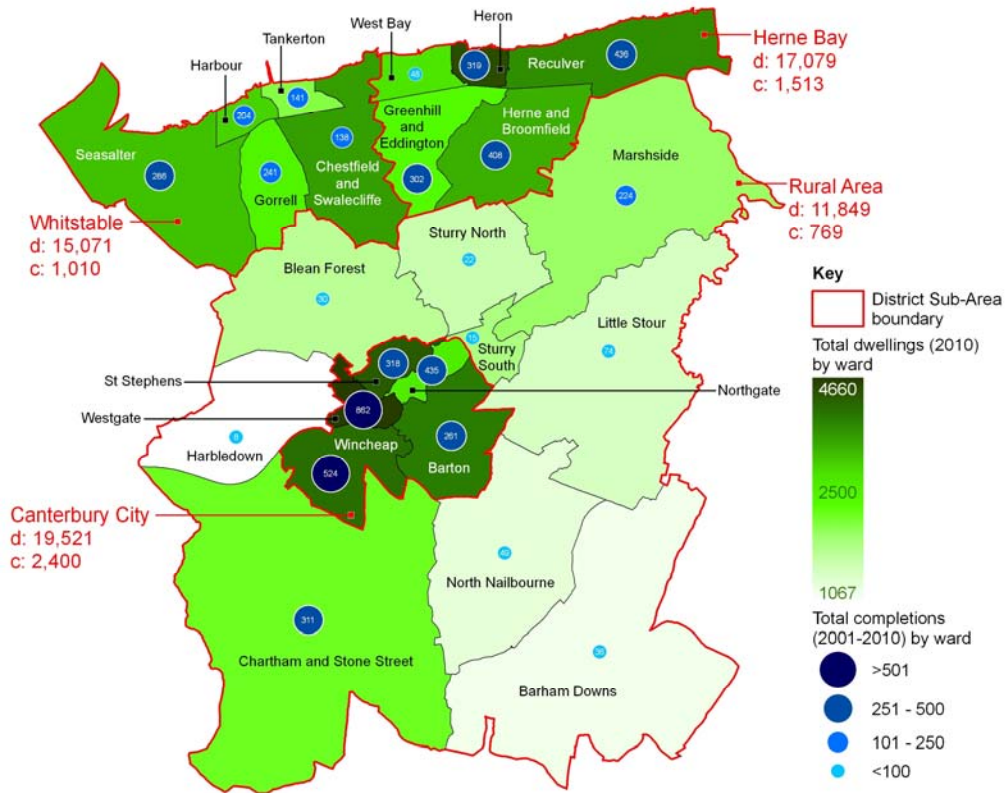
Figure 7.2 Households on the Housing Waiting List by Current Address and by Priority Banding



Source: Kent Home Choice Housing Waiting List

- 7.6 Only taking account of those ‘in need’ of affordable housing (i.e. those within priority bandings B1, B2 and B3) the Canterbury City Area has the highest levels of housing need in the Borough (35.1%), with Herne Bay (31.5%) and Whitstable (20.1%) areas where fewer households in need of affordable housing are originating. The Rural Area (13.3%) experiences more modest estimates of housing need.
- 7.7 The existing distribution of housing stock and past dwelling completions also both provide a proxy for both market demand (both from consumers for finished products and from developers in terms of land availability) as well as the ability to deliver new development within the various parts of the District. This does, however, need to be set against the context that this will have been largely guided by past land availability and past policy positions.

Figure 7.3 Total Dwelling Stock and Past Dwelling Completions (2001-2010) by Ward and Sub-Area



Source: Research & Evaluation, Kent County Council

7.8 Figure 7.3 illustrates that both the majority of current dwelling stock, as well as the majority of past housing completions, are located within the Canterbury City area. Herne Bay has a dwelling stock of over 17,000 of which circa 1,500 were completed since 2001 and Whitstable has a dwelling stock of over 15,000 of which circa 1,000 were completed since 2001. The rural areas have, meanwhile, seen much lower levels of development. Future land supply for housing is similarly split, with Canterbury City containing almost half of sites initially being considered through the SHLAA.

7.9 Bringing each of the above indicators together provides a broad indication of where future development within Canterbury District may be best placed to meet the various elements of need and demand. Using a synthesized average of the proportional splits of development requirement between sub-areas suggests the Canterbury City area would accommodate circa 36% of development, Herne Bay circa 27% and Whitstable circa 19% with the remainder of development in the Rural area (circa 16%). Actual levels of development in each area would depend on the total scale of development planned for the whole district, but this illustrates how it could be divided between different sub-areas.

Table 7.1 Potential Spatial Implications for Development

Basis for Split:							
Housing Market Sub-Area	Population	Affordable Housing Need	Housing Waiting List (All priority bandings)	Current Dwelling Stock	Past Trends in Completions	Potential Land Supply from SHLAA	Synthesised Average
Canterbury City	30.2%	35.1%	39.5%	30.7%	42.2%	47.6%	<b>35.5%</b>
Whitstable	22.9%	20.1%	18.6%	23.7%	17.7%	12.9%	<b>19.3%</b>
Herne Bay	26.0%	31.5%	27.6%	26.9%	26.6%	25.0%	<b>27.3%</b>
Rural North	20.9%	13.3%	14.4%	18.7%	13.5%	14.6%	<b>16.2%</b>
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Source: NLP Analysis of ONS, CLG, KCC and CCC data (Note: Percentages may not sum due to rounding)

- 7.10 Each individual scenario may infer a particular spatial pattern of development (and these are considered in Appendix 2), however, Table 7.1 illustrates there are no fundamental indicators that would challenge the hierarchy of the sub-areas in terms of indicators of the future need, demand and supply of development. For all indicators considered it suggests that the Canterbury City area should be the main location for development in the District, followed by Herne Bay and then Whitstable. This distribution may be influenced by the premise of each scenario, for example whilst the demographic-led scenarios would likely follow the pattern of existing population, the economic-led scenarios, and their growth in the service sector economy, would tip the balance even more towards a predominance of development in Canterbury City than might be suggested by the proxies above.
- 7.11 Notwithstanding, there are a wide range of further factors for consideration, beyond the proxies for the spatial distribution of development presented here. Whilst demand side factors are one element of consideration, supply side factors, and the ability to deliver housing is another. In this regard, and at a relatively local scale, spatial demand will follow supply to a certain extent. For example, whilst need and demand may originate in a specific sub-area, it may be entirely feasible to meet this requirement in a different spatial area.
- 7.12 Therefore, whilst this narrative provides a useful background for considering future delivery of housing at the sub-district level, it should be treated with a degree of caution, and it does not follow that areas with the highest level of need and demand for housing or employment space should automatically receive the largest share of development. There are a wide range of other factors which will also need to be considered including:
- a How far it is possible to ensure housing delivery actually goes towards meeting local needs, rather than incentivising further in-migration and pricing-out local households causing displacement and unintended housing outcomes (as may happen in areas of high demand and constrained supply);

- b Cooperation with contiguous authorities, particularly those in inter-related housing market areas, where levels of planned for development elsewhere may have need and demand implications for Canterbury District;
- c The vision and strategy adopted for Canterbury District, including the role that development can play in delivering spatial strategies and other planning policy objectives, such as local regeneration, as well as supporting local economies and meeting wider needs;
- d Development constraints and capacity such as land supply, environmental factors and infrastructure capacity; and
- e Resident and other aspirations and expectations in terms of the future of their respective area.

7.13 Overall, it is recommended that the factors above (a-e) have significant weight in the decision making process for considering what level of housing delivery across the sub-areas of Canterbury District could be. Ultimately it is this decision which will set the spatial implications of the development strategy and will inform what sites should be considered for bringing forward development upon.

## **Constraints to Delivery**

7.14 The scale of need and demand for development within Canterbury District needs to be set against, and considered in the context of, the constraints to delivery of that development. For the purpose of assessing development requirements, below provides a brief commentary on environmental, infrastructure and land supply constraints currently identified within the existing evidence base. Whilst not comprehensive, this provides a review of some of the factors which may ultimately prevent development from occurring.

### **Infrastructure**

7.15 The current evidence base for Canterbury City Council with regards to infrastructure does not currently identify any fundamental infrastructure constraints to development, albeit work is ongoing in respect of a number of studies. Both the Community Infrastructure Study and Commercial Leisure Audit are ongoing, albeit such infrastructure typologies are considered unlikely to present in-principle barriers to growth.

7.16 Both the adopted Kent Local Transport Plan (2006-2011) and the East Kent Local Investment Plan identify that Canterbury City faces a high degree of congestion, in part due to the three junctions on the A2 Canterbury Bypass not catering for all movements. Cumulative impacts on the transport network of growth around may place a constraint on growth around the City albeit options for junction improvements on the A2 may be better funded through development in and around Canterbury. The existence of any optimal level of development for Canterbury will require further investigation.

- 7.17 The extent to which there are other overarching infrastructure pressures in the district which could act as a 'show-stopper' to development is currently unclear. Further work on fundamental infrastructure typologies such as the energy network, potable water and wastewater services (including sewer infrastructure as well as wastewater treatment capacity) will help to provide a fuller picture as to the extent of infrastructure barriers to growth and in particular identify any hurdles to development that would be unfeasible or unviable to overcome.

## **Environmental Capacity**

- 7.18 The Canterbury City Council Sustainability Appraisal (the SA) of the Canterbury Local Development Framework (January 2010) provides the most up-to-date evidence base on the environmental capacity of the district. The Sustainability Appraisal updated scoping report identifies that Canterbury district has a rich and varied natural environment reflected in the number and variety of designated sites in the district. These include:
- a two National Nature Reserves (NNR); the Blean Woods and Stodmarsh;
  - b fifteen nationally designated Sites of Special Scientific Interest (SSSI) of which three are also internationally designated as Ramsar and Special Protection Areas (Thanet Coast, Stodmarsh and the Swale) and two as Special Areas for Conservation (Stodmarsh and the Blean);
  - c 10 Local Nature Reserves (LNRs) within the District which amounts to over 250 hectares of protected countryside; and
  - d 49 Local Wildlife Sites which fall totally or partially within the district.
- 7.19 In addition to the above designated areas of biodiversity importance the district also has a range of areas of landscape importance. 27% of the district lies within the Kent Downs Area of Outstanding Natural Beauty (AONB) and the Canterbury Landscape and Biodiversity Appraisal identifies 48 local landscape character areas outside of the AONB.
- 7.20 The presence of the areas of biodiversity and landscape value may limit the ability of the district to absorb development pressures. Whilst the presence of these constraints highlights the environmental sensitivity to development of parts of Canterbury district, there will be development opportunities in the district which are free from absolute constraints. As well as these biodiversity and landscape constraints, the Canterbury Strategic Flood Risk Assessment identifies there is some degree of flood risk throughout most of the developed areas of the district, and this may place further constraints on development at a site specific level.
- 7.21 The ability and capacity of sites to accommodate development, in the context of environmental constraints, will need to be evidenced through any updates to the SHLAA and ELR. However, it will also be important to consider the cumulative effects of development upon the environment, including impacts upon landscape, and through the LDF process, any pressures for development will need to be set against these environmental factors.

## Land Supply

- 7.22 Canterbury City Council is currently undertaking an update of their Strategic Housing Land Availability Assessment (SHLAA) which will provide evidence on the scale of suitable land for development within Canterbury District. Analysis from CCC on a previous call for sites exercise identified that land with a total of capacity for 13,890 dwelling was to be taken forward for assessment. This total capacity was following an initial filtering exercise and is only the sites that the Council has identified as being suitable for further testing (and may not be considered suitable at latter stages).
- 7.23 Thus the current estimate of potentially suitable land supply in across the District is as follows:
- Canterbury – 6,611 (48%)
  - Herne Bay – 3,468 (25%)
  - Whitstable – 1,787 (13%)
  - Rural – 2,024 (14%)
- 7.24 An additional call for sites concluded in November 2011 and, subject to a similar initial filtering exercise, may increase the total number of sites to be assessed. However, at the current time there is no up-to-date and definitive evidence on the land supply suitable, available and achievable for development over the complete horizon of the strategy period. This will come forward through the SHLAA and any strategy for development will need to be cognisant of the available land supply. Notwithstanding, the above initial information provides an initial view on the spatial distribution of sites coming forward for further assessment.

## Sub-Regional Dimension

- 7.25 The plans and strategies of neighbouring local authorities to Canterbury will have implications for the growth pressures that Canterbury District itself will come under. Particularly considering how housing and economic development in these areas may impact upon development requirements Canterbury, in the context of migration and commuting flows.
- 7.26 This is being crystallised through changes to the planning system, with local authorities required to co-operate with adjacent and nearby authorities where a joined up approach to strategic planning is required (e.g. across a housing market area). Under the Localism Act (Clause 110), the approach of the proposed statutory duty to cooperate might indicate that across local authority boundaries there is still a requirement to meet needs and demand for development, and any need or demand not planned for in one area may need to be accommodated within another. This so-called 'duty to cooperate' has also followed through into the Draft National Planning Framework.
- 7.27 As indicated by the migration patterns and commuting patterns illustrated in Figure 3.4 and Figure 3.18 respectively, Canterbury District has the highest

levels of housing market and labour market inter-dependency with its contiguous districts; Shepway, Dover, Thanet, Ashford and Swale. The strategic plans for these areas will have an impact upon development requirements in Canterbury, both by influencing patterns of migration and commuting through the scale and types of housing providing (e.g. if an area under-provides housing the implication could be that more people move out to meet their housing requirements, increasing migration flows to other areas), but also by providing economic competition for business.

7.28 Against this backdrop, Table 7.2 provides a review of the currently identified approach to housing delivery in each of the surrounding districts, compared with the South East Plan target and projected household growth from the CLG 2008-based household projections.

Table 7.2 Approach to Housing Requirement in Surrounding Districts

Area	RSS (South East Plan)	2008-Based Household Growth (p.a. 2008-2033)	Current Plans (p.a.)	Surplus/Shortfall (p.a.) against SEP requirement	Surplus/ Shortfall (p.a.) against HH growth	Notes/Source
Shepway	290	560	400	+110	-160	Shepway Core Strategy Proposed Submission Document July 2011. Target over period to 2026. Policy SS2.
Dover	505	440	700	+195	+260	Adopted Core Strategy (Jan 2010) allocates land for 14,000 dwellings (700 p.a.) with SEP target considered a minimum to 2026.
Thanet	375	640	200	-175	-440	LDF Cabinet Advisory Group meeting notes and member resolutions 30/06/10 and 18/01/11. Equivalent to a 'zero net migration' scenario. This has not yet been presented in the emerging Core Strategy which is timetabled for further consultation in late 2011.
Ashford	1,135	720	1,135	+0	+415	Adopted Core Strategy (2008) which is due to be reviewed by 2014 - no indication of change in housing numbers yet, although the Council is currently seeking to review its strategy towards a 'jobs-led' approach, instead of 'housing led'.
Swale	540	720	540	+0	-180	Pick Your Own: Core Strategy Issues and Options (March 2011) & LDF Panel Minutes (04/08/11). Continuation of SEP target.
<b>Total</b>	<b>2,845</b>	<b>3,080</b>	<b>2,975</b>	<b>+130</b>	<b>-105</b>	

Source: NLP Analysis as at November 2011

7.29 With the exception of Thanet, all contiguous Local Planning Authorities to Canterbury district are currently planning to deliver housing either in line or above the rate set out in the South East Plan. Across the area, this would deliver approximately 130 additional dwellings per annum against the South East Plan target. However, when compared to projected household growth, using the CLG 2008-based household projections, only Dover and Ashford are

currently planning on delivering more housing. Thanet in particular have indicated, through elected member resolutions, that they wish to reduce their housing target to 200 dwellings per annum, equivalent to a zero net-migration scenario for the area, which is substantially below both the South East Plan target and projected household growth.<sup>22</sup> Five of the scenarios for housing in Canterbury contained within this study sit within the range of 500-800 houses built per annum, which is generally on a par annual household growth for Ashford, Dover and Swale, which are reasonably similar in terms of overall population levels as Canterbury.

- 7.30 Canterbury District's strongest migratory relationships (based upon 2010 ONS migration data) are with Thanet, Dover and Swale in terms of overall movements. However, this simplifies the migration dynamics experienced by the District. In terms of net migration pressures (i.e. the balance of people moving into/out of Canterbury from/to other authority areas), there is generally an eastward movement of people, with Canterbury receiving, in net terms, people from London as well as authorities to the west such as Medway and Swale, and exporting, in net terms, people to Thanet, Dover and Ashford as illustrated in Table 7.3.

Table 7.3 Net Migration between Canterbury and other Districts in 2010

	In to Canterbury 2010	Out from Canterbury 2010	Net
Thanet	590	640	-50
Dover	460	610	-150
Swale	590	560	30
Ashford	320	400	-80
Shepway	270	290	-20
Medway UA	370	280	90
Maidstone	200	220	-20
Bromley	270	160	110
Greenwich	210	130	80
Brighton and Hove UA	80	120	-40
Lambeth	110	110	0
Lewisham	190	110	80
Bexley	260	110	150
Tonbridge and Malling	140	110	30
Southwark	130	100	30
Croydon	120	100	20

Source: ONS Migration Statistics Unit (Using NHSSCR data) 2010 - only showing LA areas with flows over 100 persons

- 7.31 With Canterbury District relying on Thanet, Dover and Ashford to accommodate any displacement of need and demand from Canterbury District, it is clear that

<sup>22</sup> Minutes of Thanet Local Development Cabinet Advisory Group Meeting 18 January 2011, as approved at Thanet Local Development Cabinet Advisory Group Meeting 19 April 2011



under the duty to cooperate, Canterbury City Council will have to take into account the relative positions of these contiguous authorities when setting their housing target. Equally, those authorities will need to reflect on Canterbury's position in setting their own housing target. The ability and willingness of these locations to accommodate more or less of any displaced housing need and demand from Canterbury District will help to shape a cross-boundary and sub-regional picture of housing delivery in East Kent, and will be a consideration in the development of a strategy for Canterbury District.

- 7.32 In this regard, the current position suggests that both Dover and Ashford may be able to accommodate displaced growth from Canterbury within their existing strategy and approach, provided those approaches are maintained. This means that there may be scope to redirect some growth from Canterbury District, thereby reducing Canterbury District's own housing target, a position which reflects the previous sub-regional policy position with both Dover and Ashford identified as growth points within East Kent. However, there are consequences locally to this approach, including the potential for increased commuting rates, adverse economic impacts through constraints on Canterbury District's labour market and a reliance on other District's to deliver development to continue to support Canterbury's growth needs.
- 7.33 The extent to which sub-regional redistribution is a realistic option depends on the respective positions adopted by each local authority. A re-orientation of strategy making towards an East Kent sub-region would help to establish this position and any such redistribution would, in essence, be similar in process to that which previously occurred through the South East Plan, albeit now driven by a local, bottom-up, approach through co-operation across the sub-region.

## **Alignment with Key Drivers**

- 7.34 The alignment of development requirements with the wider strategic policy aims and objectives within both the local area and at a national level is central to a sound, robust and deliverable development strategy. This is particularly important in the context of the wider implications of development on the demography and economic potential of an area. It is therefore important to consider the outcomes of each scenarios in terms of their social, economic and environmental implications and the extent to which they meet the different aims and objectives set out for these three themes within Canterbury District.
- 7.35 This assessment therefore draws upon the evidence and analysis presented under each scenario to benchmark the outcomes of against a range of policy aspirations. This includes the objectives of the Canterbury City Council Corporate Plan 2011-2016 and the requirements of national policy, in particular the requirements of PPS3 para 33 which sets out some of the material factors in considering a local housing requirement/target and Policy EC2.1 of PPS4 which sets out policies for promoting sustainable economic growth, but also the draft National Planning Policy Framework (NPPF). The key themes for appraisal have been set out in a series of questions as follows:

- a **Will housing delivery meet the need and demand for housing across Canterbury District?** – PPS3 (para 10iii) sets out a key objective of delivering a sufficient quantity of housing taking into account need and demand and seeking to improve choice. This is echoed in the draft NPPF which states that Local Authorities should prepare Local Plans on the basis that objectively assessed development needs should be met (para 14) and that development should meet household and population projections, taking account of migration and demographic change (para 28). In particular PPS3 para 33 states that housing delivery should meet Government’s latest published household projections.

This also relates to Pledge 8 of the CCC Corporate Plan 2011-2016 which identifies that CCC will “*plan for the right type and number of homes in the right place to create sustainable communities in the future.*”

The latest household projections from CLG (2008-based) show household growth averaging circa 800 households per annum (equivalent to 828 dwellings per annum) across the District. Further estimates of overall need and demand for housing based upon past trends in demographic change suggest this could be as high as 1,140 dwellings per annum (Scenario I).

- b **Will level of development lead to adverse social outcomes (e.g. housing overcrowding, unfulfilled housing aspirations)?** – PPS1 sets out the principle aim to ensure that everyone has the opportunity of a decent home, in locations that reduce the need to travel (para 23 vii). Undersupply of housing can lead to adverse social impacts including sub-optimal housing outcomes for households such as unfulfilled tenure aspirations, overcrowding, financial over-burden, inadequate housing (including moves into non-traditional accommodation such as B&Bs, hostels and bedsits) and unfulfilled locational preferences. In addition an inefficient housing market can have implications for the economy and overall can lead to social deprivation through knock-on impacts upon education and health.<sup>23</sup>

This theme relates to Pledge 2 of the CCC Corporate Plan 2011-2016 which identifies that CCC will tackle disadvantage in the district against the context that understanding communities better is essential in identifying and removing barriers to services and opportunities that communities need. Access to housing is one key part of this, and in order to minimise any adverse social outcomes from the level of housing supply, Canterbury City Council will need to plan for a level of housing which increases supply to meet household needs and doesn’t undermine potential economic growth.

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<sup>23</sup> ‘Rapid Evidence Assessment of the economic and social consequences of worsening housing affordability’, University of York and NHPAU, May 2009 (<http://www.york.ac.uk/inst/chp/publications/PDF/NHPAU.pdf>)

- c **Will the level of development mean more jobs can be supported and delivered in the District?** – PPS3 identifies that any housing requirement should represent a sustainable pattern of housing which meets the needs of the regional economy (para 33), whilst PPG13 sets out an objective to minimise the need for commuting (para 30) meaning that the alignment between development and jobs must be considered. Policy EC2.1 of PPS4 sets out important principles for positively and proactively promoting sustainable economic growth. This is put into focus at a local level in Pledge 1 of the CCC Corporate Plan 2011-2016 which identified CCC will “*support the growth of our economy and the number of people in work.*”

Scenario C (South East Plan) coincides with a scenario which would continue to support the current employment base within Canterbury District at existing commuting rates. However, this would be equivalent to zero job growth, below both past trends and future projections of the economy for Canterbury. Scenario G represents an unconstrained estimate of the future potential of Canterbury District in terms of job generation, and a level of housing delivery above this may support even higher levels of growth. However, Scenario F is predicated on increased levels of out-commuting and would support only a comparable level of job growth to Scenario G.

- d **Will level of development improve affordability and increase supply to make it easier to access housing?** – PPS3 identifies a material consideration in setting a local housing requirement is the need to meet overall ambitions for increasing supply and improve affordability, in particular it identifies according with advice from the NHPAU on affordability (para 33). The CCC Corporate Plan 2011-2016 reinforces this as a key local aim, with the aims by 2016 of Pledge 8 including: an increase in the number of new additional homes built each year to suit all needs; an increase in the proportion of homes that are affordable to local people; and an improvement in average income/average house price ratio.

Trends in completions over the past 10 years have averaged 617 dwellings p.a. which has coincided with continued worsening affordability within Canterbury District (CLG Live Tables 576 and 577). Future delivery will need to increase supply above this, and at least meet household growth (+800 p.a. by government projections) to prevent affordability worsening, or deliver greater levels, in excess of the South East Plan position to increase planned supply and to ease affordability pressures.

- e **Will development requirements necessitate additional development sites (including greenfield sites) to be identified?** – PPS1 (para 5) outlines that planning should facilitate and promote sustainable patterns of development and highlights that some of the trade-offs involved in planning for development with a need to make suitable land available for development in line with economic, social and environmental objectives whilst also protecting and enhancing the natural and historic environment,

the quality and character of the countryside, and existing communities. The potential impact of development upon the environment and the wider countryside is an important consideration and relates to Pledge 6 of the CCC Corporate Plan 2011-2016 which identifies that CCC will make the district cleaner and greener and lead by example on environmental issues with one way of achieving this through: *“ensuring that our plans and activities give sufficient protection to heritage sites and the built and natural environment.”*

The existing supply of allocated and committed sites totals capacity for circa 3,000 dwellings, equivalent to 150 dwellings per annum. Any development above this level would require additional sites to be identified, however, this has been the case since the South East Plan was adopted. Some future development on greenfield sites may be necessary and certainly any development beyond the South East Plan requirement will necessitate additional development sites to be identified beyond the current position.

- f **Can the development requirements be realistically delivered given market capacity and demand?** – PPS1 outlines that development plans must be realistic about what can be implemented (para 26iv) and whilst it can be difficult to identify a finite ‘market capacity’ to deliver housing in Canterbury, both the scale of past completions as well as the likely scale of realisable demand (that is demand for housing that can actually be achieved given household circumstances, such as finances) can be indicators as to market capacity and demand.

Rates of housebuilding have averaged 617 dwellings per annum since 2001 in Canterbury District. This rate has exceeded 800 d.p.a. in only two of the previous ten years and delivery above this rate on a consistent basis would require a step change in the delivery of housing, which has not previously been sustained. Although this does not rule out adopting a higher target, it does allow a conclusion to be reached that anything at or below 617 dwellings per annum would be achievable. The question around viable rates of economic development would benefit from further evidence.

7.36 The assessment in Table 7.4 (which places the scenarios in order of scale of residential development) adopts a traffic light system as follows:

- **Red** represents a level of housing provision that wholly fails to meet the Corporate Plan pledge or the policy objective/aspiration (i.e. a negative outcome);
- **Amber** represents a level of housing which goes part way to meeting the Corporate Plan pledge or policy objective/aspiration; and
- **Green** represents a level of housing which would substantially meet the achievement of the Corporate Plan pledge or policy objective/aspiration (i.e. a positive outcome).

Table 7.4 Alignment with Key Policy Objectives

Dwellings per annum 2010-2031	80 d.p.a.	150 d.p.a.	510 d.p.a.	617 d.p.a.	655 d.p.a.	679 d.p.a.	780 d.p.a.	1,140 d.p.a.	1,149 d.p.a.	1,167 d.p.a.
Scenario	H	A	C	B	D	G	E	I	J	F
Will housing delivery <b>meet the need and demand</b> for housing across Canterbury District? Corporate Plan <b>Pledge 8</b> : We will plan for the right type and number of homes in the right place to create sustainable communities in the future.	N	N	N	N	N	N		Y	Y	Y
Will level of development lead to <b>adverse social outcomes</b> (e.g. housing overcrowding, unfulfilled housing aspirations)? Corporate Plan <b>Pledge 2</b> : We will tackle disadvantage within our district.	Y	Y					N	N	N	N
Will the level of development mean <b>more jobs</b> can be supported and delivered in the District? Corporate Plan <b>Pledge 1</b> : We will support the growth of our economy and the number of people in work.	N	N				Y	Y	Y	Y	
Will level of development <b>improve affordability</b> and increase supply to make it easier to access housing? Corporate Plan <b>Pledge 8</b> : We will plan for the right type and number of homes in the right place to create sustainable communities in the future.	N	N	N					Y	Y	Y
Will development requirements necessitate additional development sites (including <b>greenfield sites</b> ) to be identified? Corporate Plan <b>Pledge 6</b> : We will make our district cleaner and greener and lead by example on environmental issues.	N	N		Y	Y	Y	Y	Y	Y	Y
Can the development requirements be <b>realistically delivered</b> given market capacity and demand?	Y	Y	Y	Y				N	N	N

Source: NLP Analysis, National Planning Policy and CCC Corporate Plan 2011-2016



- 7.37 This assessment of the alignment of the various scenarios with the key policy objectives for development in the District and the Corporate Plan pledges highlights some of the trade-offs necessary in arriving at an appropriate amount of development to plan for. Clearly there are strengths and weaknesses associated with different scenarios in terms of the outcomes they are likely to deliver.
- 7.38 At lower levels of overall development, scenarios score well on their deliverability and on their lower impact on the environment, with a lesser requirement to find additional sites to deliver development, including lesser requirement for greenfield sites or development in the countryside. These implications are, however, set against the negative impacts of an undersupply of housing against an assessment of need, with the potential negative implications for social outcomes, housing affordability and the local economy.
- 7.39 Conversely higher levels of overall development would support the delivery of objectives around increasing housing supply and improving affordability, particularly aligning with Corporate Plan Pledge 8. They would also support the economic growth of Canterbury, with more economically active people occupying more jobs, as per Pledge 1 of the Corporate Plan. However, the higher the delivery the greater need for additional sites upon which to build homes and employment space and at the highest levels of development tested, there would be questions over the ability of the market to bring forward such a scale of development and whether it would be realistic to assume it could be achieved.
- 7.40 In arriving at an appropriate strategy for development, CCC will need to consider the weight to be attributed to the different factors, taking account of both the choices of the local authority and the balance of evidence available. In arriving at requirement for development, an appropriate balance will need to be struck in delivering the range of social, environmental and economic objectives for Canterbury District.

8.0

## **Conclusions**

8.1

This section draws together the evidence to identify the potential development requirements and outlines the further work which may be necessary in building upon this technical work to arrive at a final strategy for development in Canterbury District

### **Key Implications by 2031 for Different Scenarios**

#### **Scenario A: Existing Supply Scenario**

8.2

Delivery of 150 dwellings per annum would lead to a reduction in the population of almost 4,500 people and a decline in the labour force of 10,700 economically active people. Development requirements for employment space would be minimal as the decline in population and the local labour force would mean potential contraction in the local economy. Implications for decline in demand for employment stock would need to be managed.

#### **Scenario B: Past Trends Completions Scenario**

8.3

Delivery of 617 dwellings per annum, a continuation of the level of development observed in Canterbury District over the previous decade, would accommodate an increase in the population of 17,700 people, predominantly driven by net immigration, albeit at a lower rate than observed previously. Growth in the labour force from this would support 2,500 additional jobs by 2031, a moderate level of growth, but below that considered achievable under the economic scenarios, potentially constraining future economic growth.

#### **Scenario C: South East Plan**

8.4

Delivery of the South East Plan housing target of 510 dwellings per annum would accommodate growth in the population totalling 12,600, which is below that suggested by projected demographic change potentially leading to displacement of existing residents or constrained housing choices. The scale of ageing population would lead to a decline in the size of the local labour force, although this could be offset by reductions in unemployment to achieve a static employment base. The South East Plan scenario therefore represents an economic status quo, with no growth or decline in employment, despite the potential for economic growth in the District. Overall, this is an economic opportunity cost. Employment development requirements would therefore be minimal, although some updating of stock may be appropriate.

#### **Scenario D: East Kent Strategy Economic Scenario**

8.5

The economic-led East Kent strategy scenario would mean that to deliver the labour force necessary to support employment growth of 180 jobs per annum, Canterbury District would need to deliver 655 dwellings per annum.



Canterbury's role as a high order service and cultural centre serving East Kent would particularly support service sector growth, in turn generating additional requirements for office space.

### **Scenario E: Futures “Preferred Scenario”**

- 8.6 To deliver projected job growth associated with “preferred scenario” arising from the Canterbury Futures Study would require higher levels of development than observed previously, potentially reflecting the aspiration behind the construction of this economic scenario. Job growth of 328 per annum would require expansion in the local labour force, with population growth of 25,500 under this scenario necessitating delivery of 780 dwellings per annum. This is a rate of demographic and housing growth only slightly below that inferred by the ONS and CLG 2008-based population and household projections. Employment development requirements under the “preferred scenario” would reflect significant growth in office-based sectors, with modest growth in industrial sectors forecast to reverse the recent trend of decline.

### **Scenario F: “Travel for Work” Scenario**

- 8.7 Although only delivering employment growth of 214 jobs per annum, the inferred shift of the role of Canterbury District from a ‘place to work’ to a ‘place to live’ under this scenario would generate a higher need for housing. Shifts in commuting patterns, with a greater proportion of residents working outside of the district, would mean to support such job growth would require much greater levels of development than observed previously. With people moving into the district but working elsewhere, population growth of 43,400 would require 1,167 dwellings per annum to be built. Employment development requirements would be lower under this scenario, and arise predominantly in office and warehousing sectors.

### **Scenario G: Updated Economic Forecast Scenario**

- 8.8 To achieve the economic growth potential of Canterbury based on an unconstrained forecast of future job growth would involve delivery of 208 jobs per annum, with a necessary growth in population of 20,780 to underpin this in terms of labour force growth and 679 dwellings per annum associated with this. Although above past trends in delivery, this would not necessarily meet the scale of housing need and demand in Canterbury District and may have displacement or negative housing outcomes for residents. Notwithstanding, economic growth in the district would lead to a pattern of employment space requirements broadly in line with past trends, with additional office and warehousing requirements offsetting an ongoing reduction in manufacturing requirements.

### **Scenario H: Zero Net Migration Scenario**

- 8.9 A theoretical demographic scenario of zero net migration would lead to a decline in population of almost 7,000 people in the district, due to deaths

exceeding births. Whilst household formation from the whole population would generate more households in the district, this would only infer requirement for 80 dwellings per annum, a level of development below even that currently planned through consents and allocations. Whilst this scenario would not necessitate any additional housing supply to be identified, it would have significant negative implication for the local economy, with a contraction in the local labour force of 13,200 workers, inferring a potential loss of up to 10,900 jobs at current rates of commuting. Development requirements for commercial/job creating uses would be minimal although decline in demand for employment stock may need to be managed.

### **Scenario I: Past Trends Migration Scenario**

- 8.10 If migration continues at the same rate as recently observed, net migration over the period to 2031 would total 38,500 moving into the district, which in itself would effect shift in the population structure of the district to lead to positive natural change (births exceeding deaths). Total population growth of 40,650 people would lead to growth across the total population of nearly 22,000 households, necessitating 1,140 dwellings per annum. This can be compared with average household growth of 800 per annum identified in ONS/CLG's 2008-based population and household projections, which is predicated on a shorter period of past trends in migration. Growth in the labour force of over 14,000 workers would support job growth of 738 jobs per annum, which would infer significant additional employment development across both office and industrial sectors.

### **Scenario J: Housing Need Scenario**

- 8.11 To achieve delivery of sufficient affordable housing to meet the existing backlog of households on the waiting list who accord with the CLG definition of 'in need' as well as the newly arising need from future household growth would require delivery of 402 affordable dwellings per annum. Assuming 35% of total housing development delivery is affordable, this would necessitate delivery of 1,149 dwellings per annum to 2031. This level of delivery would lead to similar outcomes as Scenario I, with sufficient housing to accommodate migration in the future at the same rate as observed previously. Growth in jobs totalling 751 would lead to significant requirements for across both office and industrial sectors.

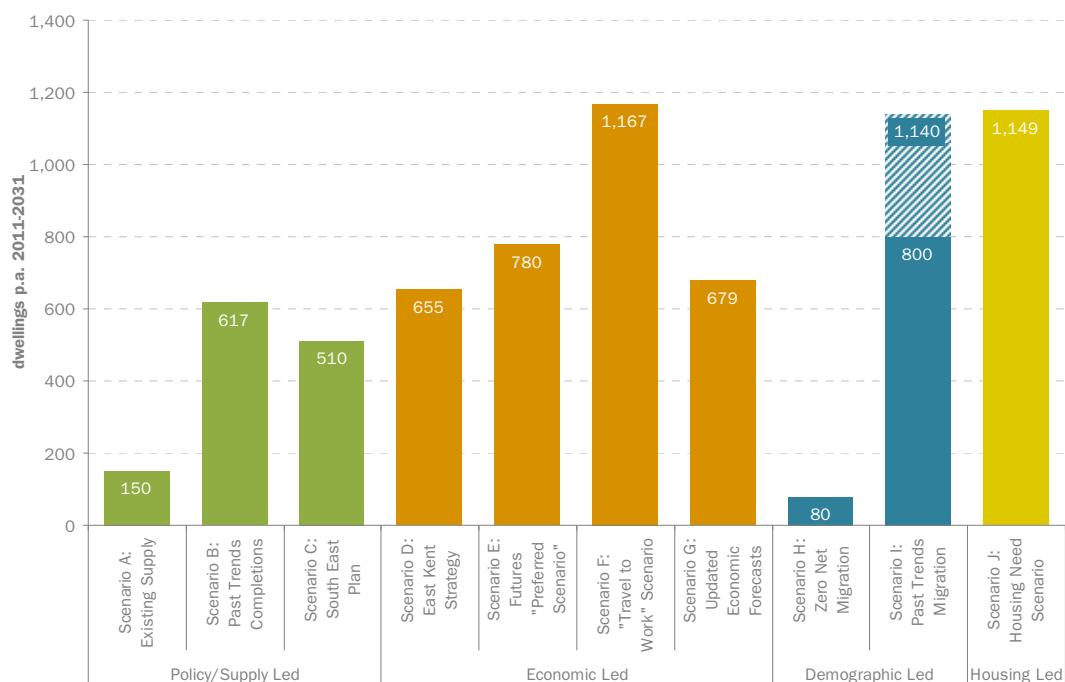
### **Summary**

- 8.12 The overall quantum of development requirements for Canterbury, as assessed for the period 2011 to 2031, varies depending on the scenario adopted. The scenarios also have a wide range of outcomes as illustrated above.

## Housing and Employment Development Requirements

8.13 As summarised in Figure 8.1, the requirement for housing varies from 80 dwellings per annum under a zero net migration scenario to 1,167 per annum under a “travel for work” economic growth scenario.

Figure 8.1 Annual Housing Development Requirements (2011-2031)

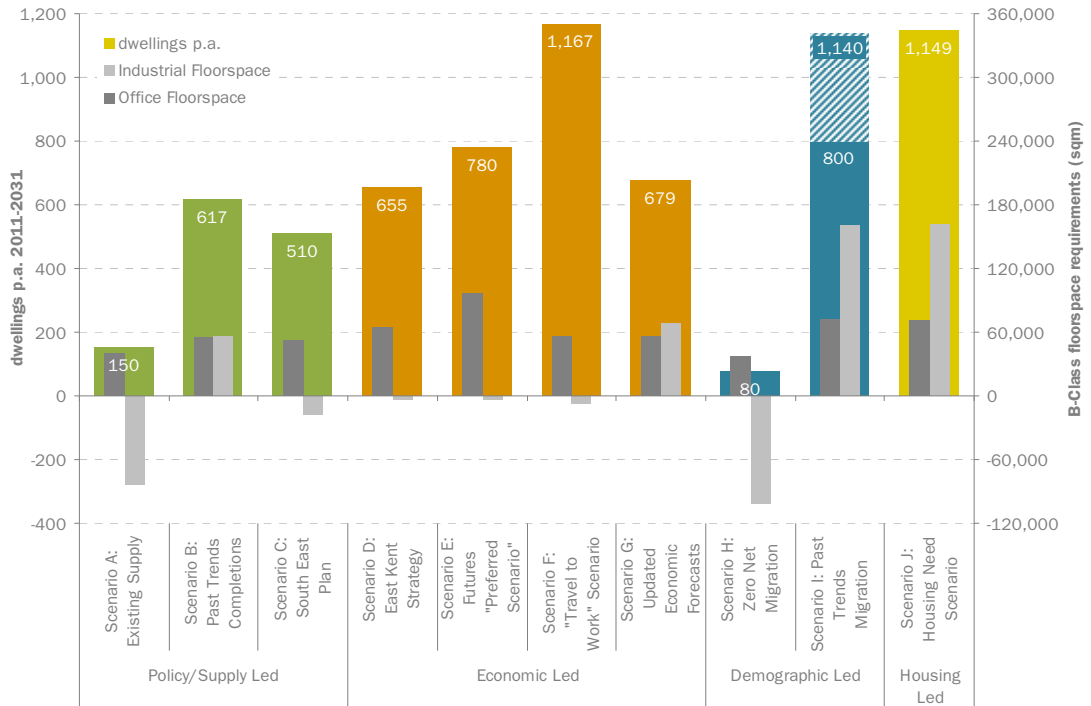


Source: NLP Analysis

8.14 The implications for population trends and economic trends also vary by scenario. The strategic drivers of demographic change are uniform across all scenarios, with an ageing population structure and migration driving any population growth, with only the scenarios with the highest net in-migration experiencing growth associated with natural change (i.e. births exceeding deaths). Migration is the core factor which will drive population growth, household growth and dwelling requirements, although changes in household headship rates and the structure of the population also contribute significantly to increases in household numbers and dwelling requirement.

8.15 In addition to population change, the potential impact on Canterbury district’s employment base is significant. Whilst levels of population growth under the South East Plan scenario would broadly maintain a static employment base, lower housing completions than this over the assessment period would constrain in-migration and lead to vastly reduced indigenous labour force, creating pressures on the local labour market which would potentially have implications for the numbers of jobs in the district. This is particularly the case for the existing supply and zero net migration scenarios, which could substantially harm Canterbury’s economic futures.

Figure 8.2 Annual Housing Development Requirements and Total B-Class Floorspace Requirements (2011-2031)



Source: NLP Analysis

8.16 Figure 8.2 shows the B-class employment floorspace change associated with each scenario, illustrating that given the prospects for sectoral growth and the balance of employment growth under each scenario there are different pressures for employment floorspace. Under all scenarios there are development requirements for office floorspace, reflecting growth in associated sectors within Canterbury. However, the requirement for industrial floorspace varies substantially, with lower growth scenarios inferring losses/negative requirements for industrial floorspace, but higher growth scenarios showing newly arising requirements for industrial floorspace.

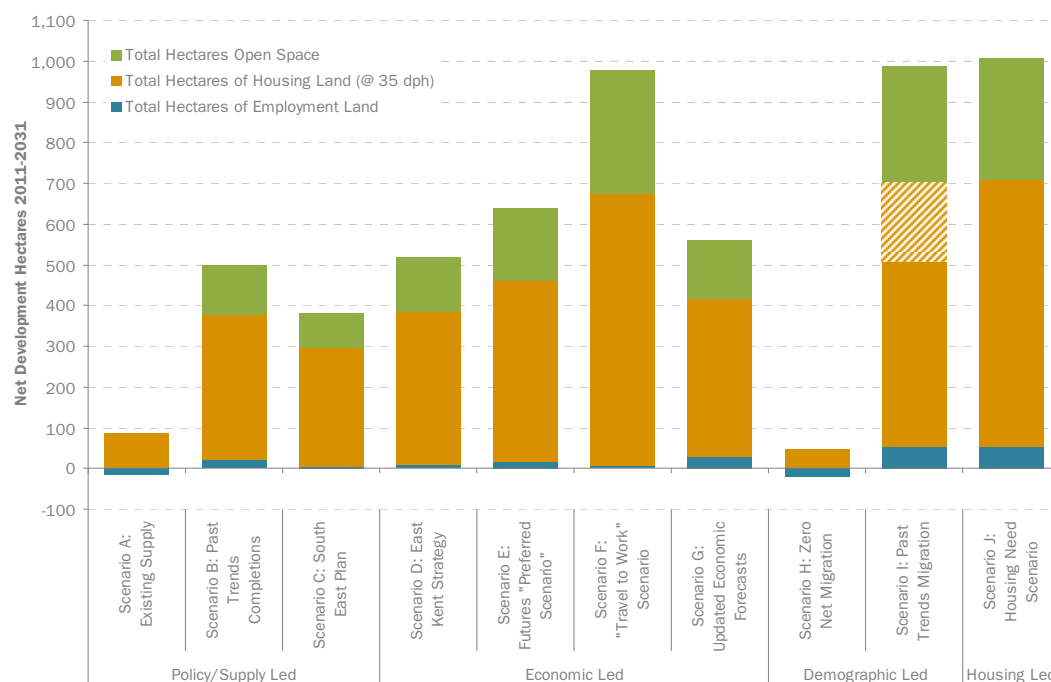
### Scale of Land Requirements for Development

8.17 Considering these development requirements in terms of the land take for each scenario (i.e. an estimate of the amount of land that would necessary to deliver development under each scenario) illustrates how much land may need to be identified within Canterbury district to deliver development. Figure 8.3 shows these requirements broken down by hectares of housing land (assuming a 35 dwellings per hectare density<sup>24</sup>), hectares of net additional employment land

<sup>24</sup> 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>

(using assumptions on plot ratios, as set out in Section 5.0) and hectares of open space (using assumptions from CCC’s Development Contributions SPD).

Figure 8.3 Land implications of Development Requirements (ha) 2011-2031



Source: NLP Analysis

8.18 Overall development requirements associated with each scenario infer a gross land take (including open space) which varies from just 26 hectares under a zero net migration scenario (with a negative requirement for employment land offsetting some requirement for housing land) to over 1,000 hectares under a housing need scenario, compared with the 30,890 hectare size of the district. Inferred net land requirements for employment development are relatively minimal with the majority of development land required for housing, although there are distinct variations in requirements to meet office and industrial needs which could necessitate additional land being made available. Allowances for open space, which may be more compatible with the countryside, including as it does informal open space such as woodland, would also need to be made under a number of the scenarios.

8.19 Whilst this provides an estimate of land requirements to support development requirements at a district-wide level, it does not take account of the potential form and location of development, which may infer different land needs. It does, however, illustrate how the development requirements under each scenario may have implications for the opportunities identified through the Local Development Plan process.

## Towards Defining a Strategy for Development

8.20 As outlined in Section 2.0, this study explores the potential scale of future housing growth in Canterbury District in order to support the future population

and economic growth needs of the District. This is based upon a range of housing, economic and demographic factors, and accordingly, results in a wide range of possible outcomes.

- 8.21 These scenarios can be grouped into four different bands:
- 1 Lower end: 80-150 dwellings p.a. (Scenarios A and H)
  - 2 Lower mid-range: 500-650 dwellings p.a. (Scenarios B, C, and D)
  - 3 Upper mid-range: 650-800 dwellings p.a. (Scenarios E, G, and I)
  - 4 Upper end: 1,100-1,200 dwellings p.a. (Scenarios F, J and I)
- 8.22 Based on the scenarios considered, a dwelling requirement sitting broadly between Bands 2 and 3 (ie between 600 and 700 dwellings per annum) would appear to accommodate the majority of need for housing arising out of the projected population change based upon recent trends and ONS published projections for demographic change. It would also maintain an indigenous labour force sufficient to support the existing number of jobs in Canterbury District and support growth at the mid to upper end of this range, as illustrated by the economic growth scenarios (including the Canterbury Futures' "Preferred Scenario"). This would also provide sufficient new dwellings to largely meet the minimum estimate of housing need over the period, although higher levels would be necessary to meet *all* currently identified and estimated new arising housing need. This range is also well situated in terms of the dwelling requirements implied by past completion rates. This would be associated with provision of 9-11ha of land for offices and up to 17ha for industrial.
- 8.23 Based on the evidence in this document, it is not considered that it would be credible to plan for either an existing supply or zero net-migration scenario (e.g. the lowest Band). The evidence suggests this would result in a substantial adverse impact upon the District's population structure, with a major reduction in economic activity caused by an ageing population and also potential housing market outcomes (such as overcrowding, concealed households and declining affordability) arising from an under-supply of homes against likely population change. In economic terms, the outcome would be a significant contraction in the number of workplace jobs in Canterbury, potentially resulting in increased out-commuting and a declining business and service base to meet the needs of the local population. The scale of ageing population pressures is such that, even under a South East Plan scenario (at the bottom of Band 2), the District's future labour force would contract overall.
- 8.24 All that said, it is recognised that there are a wide range of further factors which CCC will need to consider in advance of adopting a development requirement to progress through their Core Strategy. The limitations of this study are therefore that it is only one element of the evidence base and the following considerations will also be relevant to the next steps for defining a local housing, employment (and associated infrastructure) requirement that flow from it:
- a Integrating the evidence contained within this report into the wider debate over the scale of housing and other development it is appropriate to plan

- for, taking account of the areas identified in PPS1, PPS3 (para 33), PPS4 and other aspects of national policy, or any subsequent national policy framework, and also the vision and objectives that come forward through the Core Strategy. Some initial analysis is provided at Section 7.0 of this study, but this will need to draw upon appropriate consultation, and a wider perspective that takes account of the 'duty to cooperate' and the changing growth aspirations and emerging planning policy position in adjoining areas;
- b Weighing the implications of constrained housing delivery upon meeting *local* need for housing. Potential outcomes of lower housing delivery include rising affordability pressures which could exclude certain household types from the market and have knock-on implications for population churn, such as displacing existing households. In an attractive housing location like Canterbury, capping the supply of new homes below projected levels of need and demand would not necessarily restrict in-migration. Rather, it might simply price-out existing Canterbury residents on lower incomes whilst not preventing the in-migration of those (e.g. from London) who have greater equity and/or purchasing power (although any affordable dwellings would go towards meeting local needs). It would also have a detrimental impact on Canterbury's ability to maintain a viable local economy;
  - c The need to set the gross housing requirement against any constraints which may reduce this or otherwise constrain delivery. Some of these constraints have been broadly considered in this study, but more detailed assessments will be required of infrastructure capacity, land supply, environmental capacity, development viability, amongst others;
  - d The potential for further work to evidence housing need at a sub-district level to provide further context (but not sole determinant) for requirements falling within different areas of the District, taking account of capacity and constraints, and emerging Core Strategy objectives for the future role of these areas;
  - e Providing further analysis on how future housing delivery can support relevant economic strategy objectives that seek to maintain and enhance Canterbury's economy, ensuring that indigenous business needs can be accommodated to allow for economic growth and local employment choices for residents;
  - f The need to give further consideration to some of the questions that remain over the portfolio of employment space required to meet the economic and business needs of the district; and
  - g The views of local residents and other stakeholders as identified through both polling work being carried out by Ipsos MORI and other consultation exercises.





# Appendix 1      Inputs and Assumptions

## Demographic Modelling Inputs and Assumptions

Table 8.1 Key Assumptions and Inputs for Modelling

	Policy Led Scenarios (A-C)	Economic Led Scenarios (D-G)	Demographic Led (H-I)	Housing Led Scenario (J)
<b>Population</b>				
Baseline Population	ONS Mid Year Estimate for 2011 appears to overestimate population. A baseline population for 2011 has been derived by using a Census 2001 population base and applying 2001-2011 dwelling counts provided by KCC, which through applying the headship rates and estimating the migration associated NLP, KCC and CCC have arrived at a dwelling completions led population estimate of 147,700 for 2011.			
Births	Canterbury District Total Fertility Rate for 2010 = 1.52 which has been trended forward to reflect differences between Canterbury rate of fertility and national fertility rates.			
Deaths	ONS Projected Mortality Differentials utilised as used in KCC County-wide modelling and applied to National Age Specific Mortality Rates.			
Internal Migration	Housing delivery is fixed and internal in-migration and out-migration is flexed (inflated or deflated) to reflect the housing available to accommodate households in Canterbury District.	Internal in-migration and out-migration is flexed (inflated or deflated) to achieve the necessary number of economically active people to underpin the economy in Canterbury District under the employment growth scenarios.	Gross domestic in and out migration flows are adopted based upon the average gross flows (using ONS Migration Statistics) for Canterbury District (Scenario I) and splitting the difference between gross ONS projections for zero net-migration (Scenario H)	Housing delivery is fixed and internal in-migration and out-migration is flexed (inflated or deflated) to reflect the housing available to accommodate households in Canterbury District.
International Migration	Housing delivery is fixed and international in-migration and out-migration is flexed (inflated or deflated) to reflect the housing available to accommodate households in Canterbury District.	International in-migration and out-migration is flexed (inflated or deflated) to achieve the necessary number of economically active people to underpin the economy in Crawley Borough under the employment growth scenarios.	Gross international in and out migration flows are adopted based upon the average gross flows (using ONS Migration Statistics) for Canterbury District (Scenario I) and splitting the difference between gross ONS projections for zero net-migration (Scenario H)	Housing delivery is fixed and international in-migration and out-migration is flexed (inflated or deflated) to reflect the housing available to accommodate households in Canterbury District.

	Policy Led Scenarios (A-C)	Economic Led Scenarios (D-G)	Demographic Led (H-I)	Housing Led Scenario (J)
Propensity to Migrate (Age Specific Migration Rates)	Projected age specific profiles of migration are taken from the 2008-based Sub-National Population Projections for Canterbury District and applied to the total level of migration under each scenario.			
Special Populations	Armed Forces population Data for Canterbury was supplied by KCC and has been taken from Table TSP10, Defence Analytical Services and Advice (DASA). This is projected forward from 2010 at a static rate, but only applied to the demographic elements of the projection (i.e. they are removed for the purposes of births, deaths and migration).			
<b>Housing</b>				
Headship Rates	Headship rates that are specific to Canterbury District and forecast over the period to 2031 are taken from the government data which was used to underpin the 2008-based CLG household forecasts and applied to the demographic forecasts for each year as output by the PopGroup model. These headship rates are split by age cohort and by household typology.			
Population Not in Households	The number of population not in households (e.g. those in institutional care) is similarly taken from the assumptions used to underpin the 2008-based CLG household forecasts. No change is assumed in the rate of this from the CLG identified rate.			
Vacancy Rate / 2nd Home Rate	A vacancy and second homes rate is applied to the number of households, representing the natural vacancies/not permanently occupied homes which occur within the housing market and mean that more dwellings than households are required to meet needs. The vacancy/second home rate in Canterbury totals 3.5% (estimated using ONS 2008 Vacant Dwellings Data). This is held constant over the forecast period as it is already below the South East average (4%) and is not considered likely to substantially improve given natural vacancy rates in the housing market.			
<b>Economic</b>				
Economic Activity Rate	Age and gender specific economic activity rates are used. Economic activity by age cohort was supplied by KCC from their own projections of future economic activity in Kent and Canterbury, which take account of shifting trends in economic activity and changes to pension ages.			
Commuting Rate (LF Ratio)	A standard net commuting rate is inferred through the modelling using a Labour Force ratio which is worked out using the formula: (A) Number of employed workers living in area ÷ (B) Number of workers who work in the area (number of jobs). In Canterbury an LF ratio of 0.1.015. This has not been flexed over the forecasting period – with the exception of Scenario F, which increases the LF ratio to 1.175 by 2031 to reflect a shift in commuting patterns with more people commuting out of the Borough.			

	Policy Led Scenarios (A-C)	Economic Led Scenarios (D-G)	Demographic Led (H-I)	Housing Led Scenario (J)
Unemployment	The unemployment rate is taken from the ONS Annual Population Survey model based estimates of unemployment (6.8%). A reduction in unemployment of 0.3% is assumed each year down to 4.6%, reflecting the past average model based unemployment (APS) and that as the economy grows out of recession unemployment will fall back to rate similar rate as seen during this period.			

Source: NLP, ONS, CLG and KCC





## Definition of B Class Uses

The method used for re-categorising the employment forecasts by sector into B-Class uses is summarised below.

Apportionment of Experian Sectors to B Class Land Uses

Experian Sector	Proportion of Jobs by Use Class		
	B1 office	B2 industrial	B8 warehousing
Agriculture, forestry & fishing		Non B-Class	
Oil & gas extraction		Non B-Class	
Mining		Non B-Class	
Food, drink & tobacco	0%	100%	0%
Textiles, footwear & clothing	0%	100%	0%
Wood & wood products	0%	100%	0%
Paper, printing & publishing	9%	9%	0%
Fuel processing	0%	100%	0%
Chemicals & manmade fibres	0%	100%	0%
Rubber & plastics	0%	100%	0%
Mineral products	0%	100%	0%
Metals	0%	100%	0%
Mechanical engineering	0%	100%	0%
Motor vehicles & transport equipment	0%	100%	0%
Other manufacturing	0%	100%	0%
Electricity, gas & water		Non B-Class	
Construction	0%	32%	0%
Wholesaling	0%	10%	72%
Retailing		Non B-Class	
Hotels & catering		Non B-Class	
Transport	0%	0%	43%
Communications	0%	0%	84%
Banking & insurance	100%	0%	0%
Business services	100%	0%	0%
Other F&B (real estate, R&D etc)	100%	0%	0%
Public administration & defence	10%	0%	0%
Health		Non B-Class	
Education		Non B-Class	
Other public	0%	5%	0%

Source: Experian / NLP analysis







## Appendix 2 Scenario Outputs

<b>Scenario A. Existing Supply</b>				
Basis for Scenario: Existing Land Supply currently allocated or with permission.				
<b>Development Requirements</b>				
Housing Development Requirement:	150 dwellings per annum over the period 2011-2026 150 dwellings per annum over the period 2011-2031			
Employment Development Requirements:	Land requirements over period 2011-2031: <ul style="list-style-type: none"> <li>• 6.8 ha offices</li> <li>• -20.9 ha industrial</li> </ul> Gross floorspace requirements over period 2011-2031: <ul style="list-style-type: none"> <li>• 40,188 m<sup>2</sup> offices</li> <li>• -83,691 m<sup>2</sup> industrial</li> </ul>			
Community Infrastructure Development Requirements:	Population decline leads to no additional quantitative requirement for additional community infrastructure (health, education or sports/recreation facilities). May be some spatial or qualitative deficiencies which may still need to be addressed.			
<b>Demographic Changes – PopGroup Demographic Forecast</b>				
	<b>Change to 2026</b>	<b>Average p.a. to 2026</b>	<b>Change to 2031</b>	<b>Average p.a. to 2031</b>
Population:	-4,055	-270	-4,476	-224
Of which Natural Change:	-3,625	-242	-6,001	-300
Of which Net Migration:	-430	-29	+1,525	+76
Households:	+2,172	+145	+2,895	+145
Dwellings:	+2,251	+150	+3,000	+150
Indigenous Labour Force:	-8,188	-546	-10,690	-535
Workplace Jobs:	-6,126	-408	-8,478	-424
Of which in B-Class Premises:	-1,583	-105	-2,239	-112
Of which in Non B-Class Premises:	-4,543	-303	-6,239	-312
<b>Scenario Implications</b>				
Economic Implications	Ageing population leads to a decline in labour force, with existing jobs no longer being supported causing potential major harm to the local economy.			
Social Implications	Scale of housing delivery would not meet any estimate of housing need and demand over the period leading to negative outcomes of underprovision of housing such as, overcrowding, worsening affordability and unfulfilled tenure or locational choices.			
Environmental Implications	Minimal impact on environment with all development achievable within existing committed supply of land. No further development of greenfield land would be necessary, albeit more existing jobs may be filled by in-commuters if they are not to be lost.			
Spatial Implications	Development and growth would be concentrated on the currently allocated sites.			

## Scenario B. Past Trends Completions

Basis for Scenario: Continuing housing delivery at the same rate as observed over the period 2001-2011.

### Development Requirements

Housing Development Requirement:	617 dwellings per annum over the period 2011-2026 617 dwellings per annum over the period 2011-2031
Employment Development Requirements:	Land requirements over period 2011-2031: <ul style="list-style-type: none"> <li>• 9.3 ha offices</li> <li>• 14.0 ha industrial</li> </ul> Gross floorspace requirements over period 2011-2031: <ul style="list-style-type: none"> <li>• 54,538 m<sup>2</sup> offices</li> <li>• 56,088 m<sup>2</sup> industrial</li> </ul>
Community Infrastructure Development Requirements by 2031:	432 Primary School Places (1 to 3 new Primary Schools) Population decline in Secondary School age pupils 14 New GPs (2/3 New Surgeries) 123ha of New Open Space/Recreation Facilities

### Demographic Changes – PopGroup Demographic Forecast

	Change to 2026	Average p.a. to 2026	Change to 2031	Average p.a. to 2031
Population:	+12,798	+853	+17,684	+884
Of which Natural Change:	-1,226	-82	-2,074	-104
Of which Net Migration:	+14,024	+935	+19,758	+988
Households:	+8,932	+595	+11,910	+595
Dwellings:	+9,256	+617	+12,342	+617
Indigenous Labour Force:	+968	+65	+1,014	+51
Workplace Jobs:	+2,480	+165	+2,523	+126
Of which in B-Class Premises:	+641	43	+476	+24
Of which in Non B-Class Premises:	+1,839	+123	+2,047	+102

### Scenario Implications

Economic Implications	In migration leads to small growth in indigenous labour force, in turn supporting modest growth in jobs in the district. Growth in office-based sectors offsets small decline in manufacturing jobs in line with past trend.
Social Implications	Development delivery at this level is unlikely to substantially improve affordability, being as they would not meet estimates of housing need and demand, but would similarly not generate any worse social outcomes from housing undersupply than those already seen over the previous decade.
Environmental Implications	Additional greenfield land likely to be required, however, with a rate of development similar to that previously seen, the environmental implications of such a scenario may be minimal in comparison with that already seen.
Spatial Implications	If spatial delivery were to also match past trends the majority (43.5%) would be delivered in Canterbury with smaller proportions in Whitstable (17.7%) and Herne Bay (26.6%). The Rural North area would accommodate 11.6% and the Rural South area 0.6%. Other factors may lead the Council to opt for a different spatial split.

<b>Scenario C. South East Plan</b>				
Basis for Scenario: Policy-led scenario based upon the South East Plan housing requirements				
<b>Development Requirements</b>				
Housing Development Requirement:	510 dwellings per annum over the period 2011-2026 510 dwellings per annum over the period 2011-2031			
Employment Development Requirements:	Land requirements over period 2011-2031: <ul style="list-style-type: none"> <li>• 8.7 ha offices</li> <li>• -4.4 ha industrial</li> </ul> Gross floorspace requirements over period 2011-2031: <ul style="list-style-type: none"> <li>• 52,122 m<sup>2</sup> offices</li> <li>• -17,562 m<sup>2</sup> industrial</li> </ul>			
Community Infrastructure Development Requirements by 2031:	Population decline in both Primary and Secondary School age pupils infers no additional need for school places. 10 New GPs (2/3 New Surgeries) 88ha of New Open Space/Recreation Facilities			
<b>Demographic Changes – PopGroup Demographic Forecast</b>				
	<b>Change to 2026</b>	<b>Average p.a. to 2026</b>	<b>Change to 2031</b>	<b>Average p.a. to 2031</b>
Population:	+8,936	+596	+12,608	+630
Of which Natural Change:	-1,777	-118	-2,974	-149
Of which Net Migration:	+10,712	+714	+15,583	+779
Households:	+7,382	+492	+9,842	+492
Dwellings:	+7,649	+510	+10,199	+510
Indigenous Labour Force:	<b>-1,131</b>	<b>-75</b>	<b>-1,668</b>	<b>-83</b>
Workplace Jobs:	+507	+34	+2	+0
Of which in B-Class Premises:	+131	+9	-169	-9
Of which in Non B-Class Premises:	+376	+25	+171	+9
<b>Scenario Implications</b>				
Economic Implications	The South East Plan housing delivery scenario has the outcome that existing levels of employment would be maintained (i.e. no growth or decline) by 2031. In-migration and reduction in unemployment would temper the economic impacts of an ageing population and decline in the indigenous labour force.			
Social Implications	This scenario would not meet estimates of housing need and demand in the district, and would be unlikely to deliver improvements in affordability or accessibility of housing.			
Environmental Implications	Scenario would be unlikely to have insurmountable environmental implications, given its origins within the South East Plan process. Scenario would, however, potentially require additional greenfield sites to be identified for development.			
Spatial Implications	No inferred spatial split by the scenario parameters, however, the spatial and strategy making factors will be relevant in determining where development is directed.			

<b>Scenario D. East Kent Strategy</b>				
Basis for Scenario: An economic-led scenario 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.				
Development Requirements				
Housing Development Requirement:	622 dwellings per annum over the period 2011-2026 655 dwellings per annum over the period 2011-2031			
Employment Development Requirements:	Land requirements over period 2011-2031: <ul style="list-style-type: none"> <li>• 10.9 ha offices</li> <li>• -0.9 ha industrial</li> </ul> Gross floorspace requirements over period 2011-2031: <ul style="list-style-type: none"> <li>• 64,291 m<sup>2</sup> offices</li> <li>• -3,415 m<sup>2</sup> industrial</li> </ul>			
Community Infrastructure Development Requirements by 2031:	459 Primary School Places (1 to 3 new Primary Schools) Population decline in Secondary School age pupils 16 New GPs (3/4 New Surgeries) 136ha of New Open Space/Recreation Facilities			
Demographic Changes – PopGroup Demographic Forecast				
	<b>Change to 2026</b>	<b>Average p.a. to 2026</b>	<b>Change to 2031</b>	<b>Average p.a. to 2031</b>
Population:	+13,059	+871	+19,573	+979
Of which Natural Change:	-1,462	-97	-2,202	-110
Of which Net Migration:	+14,522	+968	+21,775	+1,089
Households:	+8,997	+600	+12,636	+632
Dwellings:	+9,323	+622	+13,094	+655
Indigenous Labour Force:	+1,195	+80	+2,153	+108
Workplace Jobs:	+2,693	+180	+3,593	+180
Of which in B-Class Premises:	+618	+41	+1,307	+65
Of which in Non B-Class Premises:	+2,075	+138	+2,286	+115
Scenario Implications				
Economic Implications	Moderate growth in jobs, reflecting Canterbury District's role within the wider East Kent economy. Higher growth rates projected for office-based sectors reflecting focus on higher order service economy.			
Social Implications	Although scale of housing growth would not meet identified need and demand, it would allow an increase in jobs/employment and would also increase supply above past trends. This may, at least reduce the prevalence of negative social outcomes such as overcrowding, concealed households and unfulfilled tenure/location aspirations			
Environmental Implications	Development requirements would necessitate identification of greenfield sites and development beyond existing boundaries. Job growth may lead to increased numbers of commuters, with some new jobs taken by in-commuters as currently.			
Spatial Implications	Economic-led growth in service sectors suggests development predominantly within Canterbury City, where those sectors are more prevalent. Other spatial and strategy making factors will be relevant in determining where development is directed.			

<b>Scenario E. Canterbury Futures “Preferred Economic Scenario”</b>				
Basis for Scenario: An economic-led scenario based upon the preferred scenario within the Canterbury Futures Study				
<b>Development Requirements</b>				
Housing Development Requirement:	741 dwellings per annum over the period 2011-2026 780 dwellings per annum over the period 2011-2031			
Employment Development Requirements:	Land requirements over period 2011-2031: <ul style="list-style-type: none"> <li>• 16.5 ha offices</li> <li>• -0.9 ha industrial</li> </ul> Gross floorspace requirements over period 2011-2031: <ul style="list-style-type: none"> <li>• 96,775 m<sup>2</sup> offices</li> <li>• -3,507 m<sup>2</sup> industrial</li> </ul>			
Community Infrastructure Development Requirements by 2031:	988 Primary School Places (3 to 6 new Primary Schools) 400 Secondary School Places (1 new school or extensions) 21 New GPs (4/5 New Surgeries) 178ha of New Open Space/Recreation Facilities			
<b>Demographic Changes – PopGroup Demographic Forecast</b>				
	<b>Change to 2026</b>	<b>Average p.a. to 2026</b>	<b>Change to 2031</b>	<b>Average p.a. to 2031</b>
Population:	+17,381	+1,159	+25,501	+1,275
Of which Natural Change:	-897	-60	-1,224	-61
Of which Net Migration:	+18,278	+1,219	+26,724	+1,336
Households:	+10,728	+715	+15,048	+752
Dwellings:	+11,117	+741	+15,593	+780
Indigenous Labour Force:	+3,561	+237	+5,305	+265
Workplace Jobs:	+4,916	+328	+6,556	+328
Of which in B-Class Premises:	+1,127	+75	+4,160	+208
Of which in Non B-Class Premises:	+3,789	+253	+2,396	+120
<b>Scenario Implications</b>				
Economic Implications	Preferred Economic Scenario from the Canterbury Futures Study, equivalent to delivering a reasonably high level of employment growth. Significantly higher growth projected for office-based sectors, and modest positive growth in manufacturing reverse recent declines.			
Social Implications	Scale of housing delivery would broadly meet estimates of need and demand as identified by the CLG Household Projections. Increase in housing delivery and employment opportunities would lead to improved social outcomes, minimising housing affordability pressures.			
Environmental Implications	Development requirements would necessitate identification of greenfield sites and development beyond existing boundaries. Job growth may lead to increased numbers of commuters, with some new jobs taken by in-commuters as currently.			
Spatial implications	Economic-led growth in service sectors suggests development predominantly within Canterbury City, where those sectors are more prevalent. Other spatial and strategy making factors will be relevant in determining where development is directed.			



### Scenario F. “Travel for Work” Scenario

Basis for Scenario: An economic-led scenario based upon the “open to commuters” scenario identified in the Canterbury Futures Study

#### Development Requirements

Housing Development Requirement:	1,162 dwellings per annum over the period 2011-2026 1,167 dwellings per annum over the period 2011-2031
Employment Development Requirements:	Land requirements over period 2011-2031: <ul style="list-style-type: none"> <li>• 9.5 ha offices</li> <li>• -1.7 ha industrial</li> </ul> Gross floorspace requirements over period 2011-2031: <ul style="list-style-type: none"> <li>• 55,943 m<sup>2</sup> offices</li> <li>• -6,883 m<sup>2</sup> industrial</li> </ul>
Community Infrastructure Development Requirements by 2031:	2,720 Primary School Places (7 to 11 new Primary Schools) 1,654 Secondary School Places (1/2 new Secondary Schools) 35 New GPs (6 to 8 New Surgeries) 303ha of New Open Space/Recreation Facilities

#### Demographic Changes – PopGroup Demographic Forecast

	Change to 2026	Average p.a. to 2026	Change to 2031	Average p.a. to 2031
Population:	+32,612	+2,174	+43,402	+2,170
Of which Natural Change:	+903	+60	+2,056	+103
Of which Net Migration:	+31,709	+2,114	+41,345	+2,067
Households:	+16,825	+1,122	+22,517	+1,126
Dwellings:	+17,435	+1,162	+23,334	+1,167
Indigenous Labour Force:	+11,969	+798	+14,759	+738
Workplace Jobs:	+3,204	+214	+4,283	+214
Of which in B-Class Premises:	+735	+49	+628	+31
Of which in Non B-Class Premises:	+2,469	+165	+3,655	+1,827

#### Scenario Implications

Economic Implications	Travel for Work scenario would see moderate job growth in Canterbury, but also more employees working outside of the District, but living in, and spending wages in, Canterbury District, supporting the local service economy. Projected growth in office and warehouse-based sectors.
Social Implications	Housing development would wholly meet need and demand indications, increasing supply and improving affordability and also delivering sufficient housing to tackle issues such as overcrowding and allowing choice within the market.
Environmental Implications	Development requirements would necessitate identification of greenfield sites and development beyond existing boundaries, which may be incongruous with the existing environment. Job growth combined with shifting commuting patterns may generate unsustainable patterns of movement, with more people commuting out of the district, increasing congestion and emissions.
Spatial Implications	Economic-led growth in service sectors suggests development predominantly within Canterbury City, where those sectors are more prevalent. Increased out-commuting may place further pressures on the key transport links within the Borough, particularly HS1 services from Canterbury City, inferring greater pressure on development in that area.

<b>Scenario G. Updated Economic Forecast</b>				
Basis for Scenario: An economic-led future utilising an updated and unconstrained baseline economic forecast for Canterbury from Experian				
<b>Development Requirements</b>				
Housing Development Requirement:	647 dwellings per annum over the period 2011-2026 679 dwellings per annum over the period 2011-2031			
Employment Development Requirements:	Land requirements over period 2011-2031: <ul style="list-style-type: none"> <li>• 9.6 ha offices</li> <li>• 17.2 ha industrial</li> </ul> Gross floorspace requirements over period 2011-2031: <ul style="list-style-type: none"> <li>• 56,756 m<sup>2</sup> offices</li> <li>• 68,931 m<sup>2</sup> industrial</li> </ul>			
Community Infrastructure Development Requirements by 2031:	617 Primary School Places (2/3 new Primary Schools) 15 Secondary School Places 17 New GPs (3/4 New Surgeries) 145ha of New Open Space/Recreation Facilities			
<b>Demographic Changes – PopGroup Demographic Forecast</b>				
	<b>Change to 2026</b>	<b>Average p.a. to 2026</b>	<b>Change to 2031</b>	<b>Average p.a. to 2031</b>
Population:	+13,830	+922	+20,780	+1,039
Of which Natural Change:	-1,298	-87	-1,946	-97
Of which Net Migration:	+15,129	+1,009	+22,726	+1,136
Households:	+9,364	+624	+13,109	+655
Dwellings:	+9,704	+647	+13,585	+679
Indigenous Labour Force:	+1,621	+108	+2,754	+138
Workplace Jobs:	+3,094	+206	+4,159	+208
Of which in B-Class Premises:	+800	+53	+895	+45
Of which in Non B-Class Premises:	+2,294	+153	+3,264	+163
<b>Scenario Implications</b>				
Economic Implications	Unconstrained estimate of economic growth in Canterbury district would see moderate employment growth of just over 200 jobs per annum, based on past trends and macro economic factors associated with different sectors in Canterbury. Office and warehousing growth projected to offset manufacturing losses.			
Social Implications	Whilst housing growth would not meet the needs and demand of demographic growth, it would represent an increase in the level of delivery. Notwithstanding, some negative social impacts may occur, including worsening affordability.			
Environmental Implications	Greenfield sites would likely be necessary to deliver development on this scale, with consequent impacts upon the environment of delivering these sites.			
Spatial Implications	Economic-led growth in service sectors suggests development predominantly within Canterbury City, where those sectors are more prevalent. Other spatial and strategy making factors will be relevant in determining where development is directed.			

<b>Scenario H. Zero Net Migration</b>				
Basis for Scenario: A demographic scenario whereby both net internal and international migration is equal				
<b>Development Requirements</b>				
Housing Development Requirement:	127 dwellings per annum over the period 2011-2026 80 dwellings per annum over the period 2011-2031			
Employment Development Requirements:	Land requirements over period 2011-2031: <ul style="list-style-type: none"> <li>• 6.3 ha offices</li> <li>• -25.6 ha industrial</li> </ul> Gross floorspace requirements over period 2011-2031: <ul style="list-style-type: none"> <li>• 37,259 m<sup>2</sup> offices</li> <li>• -102,225 m<sup>2</sup> industrial</li> </ul>			
Community Infrastructure Development Requirements by 2031:	Population decline leads to no additional quantitative requirement for additional community infrastructure (health, education or sports/recreation facilities). May be some spatial or qualitative deficiencies which may still need to be addressed.			
<b>Demographic Changes – PopGroup Demographic Forecast</b>				
	<b>Change to 2026</b>	<b>Average p.a. to 2026</b>	<b>Change to 2031</b>	<b>Average p.a. to 2031</b>
Population:	-4,083	-272	-6,979	-349
Of which Natural Change:	-4,083	-272	-6,979	-349
Of which Net Migration:	0	0	0	0
Households:	+1,840	+123	+1,536	+77
Dwellings:	+1,907	+127	+1,591	+80
Indigenous Labour Force:	-9,075	-605	-13,219	-661
Workplace Jobs:	-6,960	-464	-10,855	-543
Of which in B-Class Premises:	-1,799	-120	-2,947	-147
Of which in Non B-Class Premises:	-5,161	-344	-7,908	-395
<b>Scenario Implications</b>				
Economic Implications	Ageing population under zero net migration scenario leads to a decline in population and labour force, with existing jobs no longer being supported causing potential major harm to the local economy.			
Social Implications	Scale of housing delivery would not meet any estimates of future housing need and demand with the implication that displacement effects may occur (i.e. existing residents get forced out at the expense of wealthier households moving in) due to the impact of zero net migration. Undersupply will lead to negative social outcomes such as poor affordability and overcrowding.			
Environmental Implications	Minimal impact on environment with all development achievable within existing committed supply of land. No further development of greenfield land would be necessary, albeit more existing jobs may be filled by in-commuters if they are not to be lost.			
Spatial Implications	As per existing committed supply, although under this scenario even some currently allocated sites could be de-allocated, with the 80 dwellings per annum still met.			

<b>Scenario I. Past Trends Migration</b>				
Basis for Scenario: A demographic-led scenario based upon observed past average migration rates from ONS for the eight year period 2001/02 to 2008/09				
Development Requirements				
Housing Development Requirement:	1,140 dwellings per annum over the period 2011-2026 1,140 dwellings per annum over the period 2011-2031			
Employment Development Requirements:	Land requirements over period 2011-2031: <ul style="list-style-type: none"> <li>• 12.1 ha offices</li> <li>• 40.0 ha industrial</li> </ul> Gross floorspace requirements over period 2011-2031: <ul style="list-style-type: none"> <li>• 72,121 m<sup>2</sup> offices</li> <li>• 159,831 m<sup>2</sup> industrial</li> </ul>			
Community Infrastructure Development Requirements by 2031:	2,590 Primary School Places (7 to 11 new Primary Schools) 1,410 Secondary School Places (1/2 new Secondary Schools) 33 New GPs (6/7 New Surgeries) 283ha of New Open Space/Recreation Facilities			
Demographic Changes – PopGroup Demographic Forecast				
	Change to 2026	Average p.a. to 2026	Change to 2031	Average p.a. to 2031
Population:	+30,227	+2,015	+40,653	+2,033
Of which Natural Change:	+1,352	+90	+2,153	+108
Of which Net Migration:	+28,875	+1,925	+38,500	+1,925
Households:	+16,499	+1,100	+21,994	+1,100
Dwellings:	+17,098	+1,140	+22,791	+1,140
Indigenous Labour Force:	+11,055	+737	+14,030	+701
Workplace Jobs:	+11,961	+797	+14,756	+738
Of which in B-Class Premises:	+3,092	+206	+3,607	+180
Of which in Non B-Class Premises:	+8,869	+591	+11,149	+557
Scenario Implications				
Economic Implications	Demographic change would support substantial expansion in the labour market, supporting growth in the number of jobs across all sectors and increases in the expenditure available to support services in the district.			
Social Implications	Would largely meet the need and demand for development within area and would help tackle affordability and reduce negative social outcomes such as overcrowding, unfulfilled tenure aspirations and concealed households, among others.			
Environmental Implications	Substantial development outside of the existing urban boundaries would be necessary which may be incongruous with the current environmental quality of the district. Additional greenfield sites would need to be identified.			
Spatial Implications	Likely that any spatial split of need and demand of this scenario would broadly follow existing patterns of population with the majority of development in Canterbury, followed by Herne Bay and Whitstable.			

### Scenario J. Delivering Housing Need

Basis for Scenario: A housing-led scenario based upon an appreciation of the need to deliver affordable housing.

#### Development Requirements

Housing Development Requirement:	1,149 dwellings per annum over the period 2011-2026 1,149 dwellings per annum over the period 2011-2031
Employment Development Requirements:	Land requirements over period 2011-2031: <ul style="list-style-type: none"> <li>• 12.2 ha offices</li> <li>• 40.5 ha industrial</li> </ul> Gross floorspace requirements over period 2011-2031: <ul style="list-style-type: none"> <li>• 71,471 m<sup>2</sup> offices</li> <li>• 162,042 m<sup>2</sup> industrial</li> </ul>
Community Infrastructure Development Requirements by 2031:	2,781 Primary School Places (7 to 11 new Primary Schools) 2,055 Secondary School Places (1/2 new Secondary Schools) 35 New GPs (6 to 8 New Surgeries) 299ha of New Open Space/Recreation Facilities

#### Demographic Changes – PopGroup Demographic Forecast

	Change to 2026	Average p.a. to 2026	Change to 2031	Average p.a. to 2031
Population:	+31,953	+2,130	+42,840	+2,142
Of which Natural Change:	+1,509	+101	+2,396	+120
Of which Net Migration:	+30,444	+2,030	+40,444	+2,022
Households:	+16,630	+1,109	+22,174	+1,109
Dwellings:	+17,233	+1,149	+22,978	+1,149
Indigenous Labour Force:	+11,376	+758	+14,304	+715
Workplace Jobs:	+13,011	+867	+15,014	+751
Of which in B-Class Premises:	+3,363	+224	+3,673	+184
Of which in Non B-Class Premises:	+9,648	+643	+11,341	+567

#### Scenario Implications

Economic Implications	Demographic change would support substantial expansion in the labour market, supporting growth in the number of jobs across all sectors and increases in the expenditure available to support services in the district.
Social Implications	Would meet the need and demand for development within area and would help tackle affordability and reduce negative social outcomes such as overcrowding, unfulfilled tenure aspirations and concealed households, among others. Particularly it would tackle the current backlog of households on the housing waiting list and deliver affordable housing to meet needs.
Environmental Implications	Substantial development outside of the existing urban boundaries would be necessary which may be incongruous with the current environmental quality of the district. Additional greenfield sites would need to be identified.
Spatial Implications	Likely that any spatial split of need and demand of this scenario would broadly follow existing patterns of population with the majority of development in Canterbury, followed by Herne Bay and Whitstable.





**Population Estimates and Forecasts**

**Nathaniel Lichfield & Partners**

**Scenario B: Past Trends Completions**

617 dwellings per annum

**Components of Population Change**

**Canterbury City Council**

Year beginning July 1st .....																															
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Births</b>																															
Male		634	716	718	679	742	762	695	728	748	762	731	728	724	721	719	719	720	719	718	716	715	717	721	730	740	751	762	771	779	785
Female		634	616	665	643	673	669	653	753	705	719	689	686	683	680	678	679	679	677	675	675	676	681	688	698	708	719	728	735	741	
All Births		1,268	1,332	1,383	1,322	1,415	1,431	1,348	1,481	1,453	1,481	1,420	1,414	1,408	1,400	1,396	1,398	1,399	1,398	1,395	1,391	1,390	1,402	1,418	1,438	1,459	1,481	1,499	1,513	1,526	
TRR		1.39	1.43	1.49	1.45	1.53	1.52	1.46	1.60	1.54	1.59	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	
<b>Deaths</b>																															
Male		705	788	756	772	714	674	699	719	717	710	674	676	680	684	688	694	700	707	715	723	733	743	754	765	778	791	804	818	831	846
Female		925	882	919	891	896	893	863	843	823	783	744	749	754	757	760	762	765	768	772	776	780	785	791	800	809	819	832	846	861	878
SMR: males		115.7	123.9	121.4	122.9	112.0	104.4	106.6	107.8	106.6	100.6	93.6	90.9	88.4	88.0	83.7	81.6	79.6	77.8	76.1	74.5	73.0	71.6	70.3	69.1	68.0	66.9	65.9	65.1	64.3	63.6
SMR: females		115.8	110.4	115.8	114.0	114.7	115.7	113.1	111.2	108.4	101.4	94.6	92.3	90.1	88.0	85.8	83.6	81.6	79.7	77.9	76.0	74.2	72.6	71.1	69.6	68.2	66.8	65.6	64.5	63.5	62.7
SMR: male & female		115.8	116.3	118.3	117.9	114.5	110.5	110.1	109.6	107.1	101.1	91.5	91.6	89.3	87.0	84.8	82.6	80.7	78.8	77.0	75.3	73.6	72.1	70.7	69.3	68.1	66.8	65.8	64.8	63.9	63.1
Expectation of life		80.0	80.1	79.9	79.6	80.5	80.9	80.9	81.1	80.7	80.6	81.2	81.4	81.6	81.8	82.0	82.1	82.3	82.4	82.6	82.7	82.8	82.9	83.1	83.2	83.3	83.3	83.4	83.5	83.6	83.7
<b>Deaths input</b>																															
<b>In-migration from the UK</b>																															
Male		5,119	4,594	4,478	5,588	4,575	4,565	5,612	4,991	5,172	4,578	5,036	5,173	5,204	5,281	5,369	5,291	5,213	5,155	5,157	5,148	5,166	5,174	5,249	5,311	5,386	5,466	5,443	5,474	5,607	5,648
Female		5,850	5,251	4,909	6,297	5,548	5,282	6,105	6,052	5,660	5,256	5,775	5,924	5,947	6,026	6,132	6,040	5,945	5,865	5,843	5,829	5,851	5,859	5,953	6,027	6,123	6,224	6,216	6,249	6,398	6,445
All		10,969	9,845	9,387	11,885	10,124	9,847	11,717	11,043	10,831	9,833	10,811	11,097	11,151	11,308	11,502	11,331	11,158	11,020	11,000	10,977	11,017	11,033	11,202	11,338	11,509	11,690	11,659	11,722	12,006	12,093
SMiGr: males		73.1	63.9	62.0	76.9	60.6	59.7	73.6	64.2	64.6	56.9	61.5	62.8	62.8	63.5	64.2	62.9	61.7	60.9	61.0	60.9	61.2	61.2	62.0	62.5	63.0	63.6	62.9	62.8	64.0	64.0
SMiGr: females		74.2	64.9	60.7	78.6	67.6	63.4	73.9	72.9	66.2	62.0	67.9	69.1	68.9	69.5	70.2	68.4	66.9	65.8	65.5	65.2	65.8	65.9	66.7	67.1	67.6	68.0	67.1	66.7	67.8	67.8
<b>Migrants input</b>																															
<b>Out-migration to the UK</b>																															
Male		3,981	4,506	4,822	4,215	4,425	4,935	4,088	4,021	5,028	5,522	4,866	4,974	5,039	5,064	5,066	5,058	5,050	5,051	5,047	5,044	5,035	5,022	5,021	5,046	5,088	5,134	5,185	5,249	5,305	5,352
Female		4,556	5,149	5,391	5,603	5,252	5,718	5,495	4,980	5,340	6,244	5,780	5,922	5,977	5,972	5,949	5,928	5,918	5,922	5,923	5,901	5,883	5,823	5,808	5,833	5,890	5,961	6,036	6,124	6,218	6,291
All		8,531	9,655	10,413	9,818	9,676	10,653	10,183	8,981	10,369	11,767	10,646	10,896	11,016	11,036	11,016	10,986	10,966	10,972	10,970	10,945	10,898	10,845	10,828	10,879	10,978	11,095	11,221	11,372	11,623	11,643
SMiGr: males		56.8	62.6	66.7	58.0	58.6	64.5	61.5	51.7	62.8	68.5	59.4	60.4	60.8	60.9	60.6	60.1	59.8	59.7	59.7	59.7	59.6	59.4	59.3	59.4	59.5	59.7	59.9	60.2	60.5	60.7
SMiGr: females		57.7	63.6	69.2	70.0	64.0	68.6	66.5	59.7	69.5	73.7	68.0	69.1	69.2	69.8	68.1	67.2	66.6	66.4	66.4	66.3	66.0	65.5	65.1	64.9	65.0	65.1	65.1	65.4	65.9	66.1
<b>Migrants input</b>																															
<b>In-migration from Overseas</b>																															
Male		871	870	969	976	937	1,036	1,040	1,200	1,254	1,877	1,249	1,250	1,252	1,252	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250
Female		932	930	1,031	1,024	963	1,064	1,060	1,200	1,246	1,823	1,312	1,313	1,316	1,316	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315
All		1,803	1,800	2,000	2,000	1,900	2,100	2,100	2,400	2,500	3,700	2,561	2,563	2,568	2,568	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565
SMiGr: males		180.7	174.9	193.4	192.8	177.3	192.9	194.3	219.9	222.9	331.7	216.1	215.7	215.6	215.2	214.1	212.7	211.7	210.8	210.6	210.9	211.7	212.1	212.1	211.1	210.1	209.1	208.0	207.0	206.0	206.0
SMiGr: females		180.7	174.9	193.4	192.8	177.3	192.9	194.3	219.9	222.9	331.7	237.0	237.3	237.8	237.6	236.2	233.8	231.4	229.9	228.9	228.6	229.1	229.5	229.4	228.6	227.3	225.7	223.9	222.2	221.0	219.6
<b>Migrants input</b>																															
<b>Out-migration to Overseas</b>																															
Male		628	628	339	585	444	641	842	800	953	558	985	993	1,002	1,013	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023
Female		672	672	361	615	456	659	858	800	947	542	823	830	839	848	858	858	858	858	858	858	858	858	858	858	858	858	858	858	858	858
All		1,300	1,300	700	1,200	900	1,300	1,700	1,600	1,900	1,100	1,808	1,823	1,841	1,861	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881
SMiGr: males		130.3	128.3	67.7	115.7	84.0	119.4	157.3	146.6	169.4	98.6	170.5	174.0	172.6	174.1	175.3	173.3	172.6	172.4	172.6	172.6	172.6	172.6	172.6	172.6	172.6	172.6	172.6	172.6	172.6	172.6
SMiGr: females		130.3	128.3	67.7	115.7	84.0	119.4	157.3	146.6	169.4	98.6	148.6	150.0	151.6	153.1	154.1	152.5	151.0	150.0	149.4	149.2	149.5	149.7	149.7	149.1	148.3	147.3	146.1	145.0	144.2	143.2
<b>Migrants input</b>																															
<b>Migration - Net Flows</b>																															
UK		+2,438	+190	-1,026	+2,068	+447	+806	+1,534	+2,062	-137	-1,034	+166	+201	+135	+272	+486	+345	+192	+47	+30	+32	+119	+188	+374	+460	+530	+595	+437	+350	+482	+450
Overseas		+503	+500	+1,300	+800	+1,000	+800	+400	+800	+600	+2,600	+752	+740	+727	+707	+684	+684	+684	+684	+684	+684	+684	+684	+684	+684	+684	+684	+684	+684	+684	+684
<b>Summary of population change</b>																															
Natural change		-362	-318	-292	-341	-195	-136	-214	-81	-87	-12	+2	-11	-26	-41	-52	-58	-67	-77	-92	-108	-123	-134	-143	-147	-149	-151	-155	-164	-179	-198
Net migration		+2,941	+690	+274	+2,868	+1,447	+6	+1,934	+2,862	+463	+669	+918	+941	+862	+979	+1,170	+1,029	+876	+731	+714	+716	+802	+872	+1,058	+1,143	+1,214	+1,279	+1,321	+1,034	+1,166	+1,134
Net change		+2,579	+372	-18	+2,527	+1,252	+142	+1,720	+2,781	+376	+657	+921	+930	+843	+837	+977	+971	+809	+653	+622	+608	+679	+737	+915	+906	+1,065	+1,127	+966	+870	+987	+936
<b>Summary of Population estimates/forecasts</b>																															
Population at midyear																															
2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
0-4	6,884	6,846	6,887	6,826	6,916	6,993	7,071	7,175	7,243	7,292	7,301	7,302	7,401	7,372	7,361	7,393	7,282	7,261	7,241	7,226	7,219	7,211	7,205	7,210	7,206	7,288	7,358	7,440	7,520	7,631	7,725
5-14	9,386	9,439	9,485	9,420	9,407	9,241	9,157	9,063	8,965	8,868	8,923	9,043	9,071	9,175	9,216	9,385	9,438	9,443	9,533	9,486	9,457	9,378	9,347	9,323	9,306	9,290	9,281	9,281	9,307	9,355	
15-115	8,633	8,645	8,491	8,561	8,655	8,820	8,764</																								



Population Estimates and Forecasts

Nathaniel Lichfield & Partners

Scenario C: South East Plan  
510 dwellings per annum

Components of Population Change

Canterbury City Council

	Year beginning July 1st .....										2011 to 2030																			
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Births</b>																														
Male	634	716	718	679	742	762	695	728	748	762	731	724	717	710	704	702	699	696	691	687	684	683	685	691	699	709	719	727	734	740
Female	634	616	665	643	673	669	653	753	705	719	689	683	676	699	664	662	659	656	652	648	645	644	646	652	660	669	678	686	693	698
All Births	1,268	1,332	1,383	1,322	1,415	1,431	1,348	1,481	1,463	1,481	1,420	1,407	1,394	1,379	1,368	1,361	1,358	1,352	1,343	1,339	1,327	1,331	1,343	1,359	1,378	1,397	1,414	1,427	1,438	
TFR	1.39	1.43	1.49	1.45	1.53	1.52	1.46	1.60	1.54	1.59	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	
<b>Deaths</b>																														
Male	705	768	756	774	714	674	699	719	717	710	674	676	679	682	686	692	698	704	711	719	729	739	749	760	772	784	797	810	823	837
Female	925	882	891	891	896	893	863	843	823	783	744	748	752	755	757	759	762	764	767	771	775	779	786	794	802	813	825	838	854	870
All deaths	1,630	1,650	1,675	1,663	1,610	1,567	1,562	1,562	1,540	1,493	1,418	1,424	1,431	1,437	1,443	1,450	1,459	1,468	1,479	1,491	1,504	1,518	1,535	1,554	1,574	1,597	1,622	1,648	1,677	1,707
SMR: males	115.7	123.9	121.4	122.9	112.0	104.4	106.6	107.8	105.6	100.8	93.6	90.9	88.4	86.0	83.7	81.6	79.6	77.8	76.1	74.5	73.0	71.6	70.3	69.1	68.0	66.9	65.9	65.1	64.3	63.6
SMR: females	115.8	110.4	115.8	114.0	114.7	115.7	113.1	111.2	108.4	101.4	94.6	92.3	90.1	88.0	85.8	83.6	81.6	79.7	77.9	76.0	74.2	72.6	71.0	69.6	68.2	66.8	65.6	64.5	63.5	62.7
SMR: male & female	115.8	116.3	118.3	117.9	113.5	110.1	109.6	107.1	101.1	94.1	91.6	89.3	87.0	84.8	82.6	80.6	78.8	77.0	75.2	73.6	72.1	70.7	69.3	68.1	66.8	65.8	64.8	63.9	63.1	
Expectation of life	80.0	80.1	79.9	79.6	80.5	80.9	80.9	81.1	80.7	80.6	81.2	81.4	81.6	81.8	82.0	82.1	82.3	82.4	82.6	82.7	82.8	82.9	83.1	83.2	83.3	83.3	83.4	83.5	83.6	83.7
Deaths input																														
<b>In-migration from the UK</b>																														
Male	5,119	4,594	4,478	5,588	4,575	4,565	5,612	4,991	5,172	4,578	4,883	5,029	5,070	5,156	5,253	5,189	5,126	5,071	5,074	5,064	5,080	5,088	5,161	5,223	5,297	5,379	5,360	5,395	5,529	5,571
Female	5,850	5,251	4,909	6,297	5,548	5,282	6,105	6,052	5,660	5,256	5,599	5,760	5,794	5,883	6,000	5,924	5,846	5,769	5,750	5,734	5,754	5,762	5,853	5,928	6,022	6,124	6,122	6,158	6,309	6,358
All	10,969	9,845	9,387	11,885	10,124	9,847	11,717	11,043	10,831	9,833	10,482	10,788	10,864	11,040	11,252	11,112	10,971	10,840	10,824	10,799	10,834	10,850	11,014	11,151	11,319	11,503	11,482	11,553	11,839	11,929
SMIGr: males	73.1	63.9	62.0	76.9	60.6	59.7	73.6	64.2	64.6	56.8	59.7	61.3	61.6	62.6	63.6	62.6	61.7	61.0	61.2	61.3	61.6	61.7	62.6	63.2	63.8	64.5	63.9	64.0	65.2	65.4
SMIGr: females	74.2	64.9	60.7	78.6	67.6	63.4	73.8	72.9	66.2	62.0	65.9	67.5	67.7	68.7	69.8	68.4	67.2	66.2	66.1	66.1	66.5	66.7	67.6	68.1	68.6	69.2	68.3	68.1	69.3	69.3
Migrants input																														
<b>Out-migration to the UK</b>																														
Male	3,981	4,506	4,822	4,215	4,425	4,935	4,688	4,021	5,028	5,522	4,866	4,974	5,039	5,064	5,066	5,058	5,050	5,051	5,047	5,044	5,035	5,022	5,021	5,046	5,088	5,134	5,185	5,249	5,305	5,352
Female	4,550	5,149	5,591	5,603	5,252	5,718	5,495	4,960	5,940	6,244	5,780	5,922	5,977	5,972	5,949	5,928	5,916	5,922	5,923	5,901	5,863	5,823	5,808	5,833	5,890	5,961	6,036	6,124	6,218	6,291
All	8,531	9,655	10,413	9,818	9,676	10,653	10,183	8,981	10,989	11,767	10,646	10,896	11,016	11,036	11,016	10,986	10,966	10,972	10,970	10,945	10,886	10,845	10,828	10,879	10,978	11,095	11,221	11,372	11,523	11,643
SMIGr: males	56.8	62.6	66.7	58.0	58.6	64.5	61.5	51.7	62.8	68.9	59.4	60.6	61.3	61.5	61.4	61.1	60.8	60.8	60.9	61.0	61.0	60.9	61.0	61.3	61.5	61.8	62.2	62.6	62.8	
SMIGr: females	57.7	63.6	69.2	70.0	64.0	68.6	66.5	59.7	69.5	73.7	68.0	69.4	69.9	69.7	69.2	68.4	68.0	67.9	68.0	68.0	67.4	67.1	67.0	67.1	67.0	67.1	67.4	67.7	68.3	68.6
Migrants input																														
<b>In-migration from Overseas</b>																														
Male	871	870	969	976	937	1,036	1,040	1,200	1,254	1,877	1,249	1,250	1,252	1,252	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250
Female	932	930	1,031	1,024	963	1,064	1,060	1,200	1,246	1,823	1,319	1,313	1,313	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315
All	1,803	1,800	2,000	2,000	1,900	2,100	2,100	2,400	2,500	3,700	2,561	2,563	2,568	2,568	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565
SMIGr: males	180.7	174.9	193.4	192.8	177.3	192.9	194.3	219.9	222.9	331.7	216.1	216.5	217.3	217.7	217.3	216.0	216.0	216.5	216.3	217.1	217.7	218.5	218.8	218.0	217.1	216.3	215.4	214.6	213.6	
SMIGr: females	180.7	174.9	193.4	192.8	177.3	192.9	194.3	219.9	222.9	331.7	237.0	238.4	240.1	241.1	240.8	239.3	237.6	236.7	236.2	236.4	237.2	238.0	238.2	237.7	236.6	235.2	233.6	232.0	230.9	229.6
Migrants input																														
<b>Out-migration to Overseas</b>																														
Male	628	628	339	585	444	641	842	800	953	558	985	993	1,002	1,013	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023
Female	672	672	361	615	456	659	858	800	947	542	823	830	839	848	858	858	858	858	858	858	858	858	858	858	858	858	858	858	858	858
All	1,300	1,300	700	1,200	900	1,300	1,700	1,600	1,900	1,100	1,808	1,823	1,841	1,861	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881
SMIGr: males	130.3	126.3	67.7	115.7	84.0	119.4	157.3	146.6	169.4	98.6	170.5	172.0	173.9	176.0	177.9	177.3	176.8	176.5	177.1	177.7	178.2	178.9	179.0	178.4	177.8	177.0	176.3	175.7	174.9	
SMIGr: females	130.3	128.3	67.7	115.7	84.0	119.4	157.3	146.6	169.4	98.6	148.6	150.7	153.0	155.3	157.1	156.1	155.0	154.4	154.1	154.2	154.8	155.3	155.4	155.1	154.4	153.5	152.4	151.3	150.6	149.8
Migrants input																														
<b>Migration - Net Flows</b>																														
UK	+2,438	+190	-1,026	+2,068	+447	-806	+1,534	+2,062	-137	-1,934	-163	-108	-152	+4	+237	+126	+6	-132	-145	-146	-64	+5	+185	+273	+341	+408	+261	+181	+315	+286
Overseas	+503	+500	+1,300	+800	+1,000	+800	+800	+800	+600	+2,600	+752	+740	+727	+707	+684	+684	+684	+684	+684	+684	+684	+684	+684	+684	+684	+684	+684	+684	+684	+684
Natural change	-362	-318	-292	-341	-195	-136	214	-81	87	-12	+2	+17	-38	-58	-75	-87	-101	-117	-136	-156	-175	-191	-203	-211	-215	-219	-225	-235	-250	-268
Net migration	+2,941	+690	+274	+2,868	+1,447	+47	+6,193	+2,862	+463	+666	+589	+632	+675	+711	+920	+810	+689	+951	+538	+538	+619	+689	+869	+957	+1,025	+1,092	+944	+865	+999	+970
Net change	+2,579	+372	-18	+2,527	+1,252	-142	+1,720	+2,781	+376	+654	+589	+615	+538	+683	+845	+713	+588	+435	+403	+382	+444	+498	+666	+746	+810	+732	+630	+749	+702	

<b>Change 2011-26</b>	<b>Change 2011-31</b>
+265	+1,716
+10,448	+13,867
<b>Change 2011-26</b>	<b>Change 2011-31</b>
-1,777	-2,974
+10,712	+15,583
+8,936	+12,608

Summary of Population estimates/forecasts

	Population at mid-year										2011 to 2030																			
	2001	2002	2003	200																										

Population Estimates and Forecasts

Nathaniel Lichfield & Partners

Scenario D: East Kent Strategy

0.264% average employment growth per annum

Components of Population Change

Canterbury City Council

Table with columns for years from 2001 to 2030 and rows for Births, Deaths, Migration, and Special Populations. Includes sub-sections like 'In-migration from the UK', 'Out-migration to the UK', etc.

Summary table of changes between 2011-20 and 2011-31 for various categories like Migration, Population, and Households.

Population Estimates and Forecasts

Nathaniel Lichfield & Partners

Scenario E: Futures "Preferred Scenario"

0.472% employment growth per annum

Components of Population Change

Canterbury City Council

Table with columns for 'Year beginning July 1st' (2001-2010) and rows for Births, Deaths, In-migration, Out-migration, Migration - Net Flows, and Summary of Population Estimates/Forecasts.

Main data table with columns for years 2011-2030 and rows for Births, Deaths, In-migration, Out-migration, Migration - Net Flows, and Summary of Population Estimates/Forecasts.

Summary of changes for 2011-26 and 2011-31, including population change, migration, and net flows.

Summary of population estimates/forecasts for 2011-26 and 2011-31, including population at mid-year and indigenous labour force.

Summary of population estimates/forecasts for 2011-26 and 2011-31, including indigenous labour force and household numbers.

Population Estimates and Forecasts

Nathaniel Lichfield & Partners

Scenario F: "Travel to Work" Scenario

0.317% average employment growth per annum - with increasing rates of out-commuting

Components of Population Change

Canterbury City Council

	Year beginning July 1st .....																																	
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030				
<b>Births</b>											731	727	736	743	752	763	777	791	809	828	849	871	894	922	949	977	1,002	1,027	1,035	1,041				
Male	634	716	718	679	742	762	695	728	748	762	731	727	736	743	752	763	777	791	809	828	849	871	894	922	949	977	1,002	1,027	1,035	1,041				
Female	634	616	665	643	673	669	653	753	705	719	689	686	694	701	710	720	733	746	763	781	801	822	844	870	895	922	945	969	977	982				
All Births	1,268	1,332	1,383	1,322	1,415	1,431	1,348	1,481	1,453	1,481	1,420	1,412	1,430	1,445	1,462	1,483	1,510	1,537	1,571	1,609	1,650	1,693	1,738	1,844	1,898	1,947	1,995	2,012	2,024					
TFR	1.39	1.43	1.49	1.45	1.53	1.52	1.46	1.60	1.54	1.59	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52					
<b>Deaths</b>											674	676	682	688	694	701	709	718	728	739	753	766	779	794	809	825	842	858	873	889				
Male	705	768	756	772	714	674	699	719	717	710	674	676	682	688	694	701	709	718	728	739	753	766	779	794	809	825	842	858	873	889				
Female	925	882	919	891	896	893	883	843	820	783	744	748	756	761	766	770	775	780	787	795	802	810	819	831	842	851	858	870	887	903	921			
All deaths	1,630	1,650	1,675	1,663	1,610	1,567	1,582	1,562	1,537	1,493	1,418	1,425	1,438	1,449	1,460	1,470	1,484	1,498	1,515	1,534	1,554	1,576	1,598	1,625	1,651	1,680	1,712	1,745	1,777	1,810				
SMR: males	115.7	123.9	121.4	122.9	112.0	104.4	106.6	107.8	105.6	100.8	93.6	90.9	88.4	86.0	83.7	81.6	79.8	77.8	76.1	74.5	73.0	71.6	70.3	69.2	68.1	67.0	66.0	65.2	64.4	63.7				
SMR: females	115.8	110.4	115.8	114.0	114.7	115.7	113.1	111.2	108.4	101.4	94.6	92.3	90.1	88.0	85.8	83.6	81.6	79.7	77.9	76.0	74.3	72.6	71.1	69.6	68.2	66.9	65.8	64.6	63.6	62.7				
SMR: male & female	115.8	116.3	118.3	117.9	113.5	110.5	110.1	109.6	107.1	101.1	94.1	91.6	89.3	87.0	84.8	82.6	80.7	78.8	77.0	75.3	73.7	72.1	70.7	69.4	68.1	66.9	65.8	64.9	64.0	63.2				
Expectation of life	80.0	80.1	79.9	79.6	80.5	80.9	80.9	81.1	80.7	80.6	81.2	81.4	81.6	81.8	82.0	82.1	82.3	82.4	82.6	82.7	82.8	83.0	83.1	83.2	83.3	83.4	83.4	83.5	83.6	83.7				
Deaths input																																		
<b>In-migration from the UK</b>											4,999	5,697	5,644	5,688	5,713	5,778	5,729	5,868	5,928	5,924	5,872	5,843	5,942	5,926	6,036	6,033	6,134	5,610	5,759	5,924				
Male	5,119	4,594	4,478	5,588	4,575	4,565	5,612	4,991	5,172	4,578	4,999	5,697	5,644	5,688	5,713	5,778	5,729	5,868	5,928	5,924	5,872	5,843	5,942	5,926	6,036	6,033	6,134	5,610	5,759	5,924				
Female	5,850	5,251	4,909	6,297	5,548	5,282	6,105	6,052	5,860	5,256	5,732	6,525	6,450	6,490	6,526	6,597	6,534	6,677	6,717	6,708	6,651	6,617	6,739	6,725	6,862	6,870	7,006	6,404	6,571	6,761				
All	10,969	9,845	9,387	11,885	10,124	9,847	11,717	11,043	10,831	9,833	10,731	12,222	12,094	12,178	12,239	12,375	12,264	12,545	12,645	12,632	12,461	12,461	12,682	12,651	12,898	12,903	13,140	12,015	12,330	12,684				
SMIGr: males	73.1	63.9	62.0	76.9	60.6	59.7	73.6	64.2	64.6	56.8	61.1	69.2	67.4	67.0	66.3	66.2	64.7	65.5	66.3	64.4	62.9	61.8	62.1	61.0	61.2	60.3	60.4	54.4	55.6	56.9				
SMIGr: females	74.2	64.9	62.7	78.6	67.6	63.4	73.8	72.9	64.2	62.0	67.4	76.2	73.7	72.8	72.0	71.4	69.4	69.9	68.2	68.0	66.5	65.3	65.5	64.3	64.5	63.4	63.3	56.9	58.2	59.6				
Migrants input																																		
<b>Out-migration to the UK</b>											4,866	4,974	5,039	5,064	5,066	5,058	5,050	5,051	5,047	5,044	5,035	5,022	5,021	5,046	5,088	5,134	5,185	5,249	5,305	5,352				
Male	4,850	5,149	5,591	5,603	5,252	5,718	5,495	4,960	5,940	6,244	5,780	5,922	5,977	5,972	5,949	5,928	5,916	5,922	5,923	5,901	5,863	5,823	5,808	5,833	5,890	5,961	6,036	6,124	6,218	6,291				
Female	8,531	9,655	10,413	9,818	9,676	10,653	10,183	8,981	10,969	11,767	10,646	10,996	11,016	11,036	11,016	10,986	10,966	10,972	10,970	10,945	10,898	10,845	10,826	10,879	10,978	11,095	11,221	11,372	11,523	11,643				
SMIGr: males	56.8	62.6	66.7	58.0	58.6	64.5	61.5	51.7	62.8	68.5	59.4	60.5	60.2	59.6	58.8	58.0	57.0	56.3	55.6	54.8	53.9	53.1	52.4	51.9	51.6	51.3	51.1	50.9	51.2	51.4				
SMIGr: females	57.7	63.6	69.2	70.0	64.0	68.6	66.5	59.7	69.5	73.7	68.1	69.2	68.3	67.0	65.6	64.2	62.9	62.0	61.0	59.9	58.6	57.4	56.5	55.7	55.4	55.0	54.7	54.4	55.0	55.5				
Migrants input																																		
<b>In-migration from Overseas</b>											1,249	1,250	1,252	1,252	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250		
Male	871	870	969	976	937	1,036	1,040	1,200	1,254	1,877	1,249	1,250	1,252	1,252	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250				
Female	932	930	1,031	1,024	963	1,064	1,060	1,200	1,246	1,823	1,312	1,313	1,316	1,316	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315				
All	1,803	1,800	2,000	2,000	1,900	2,100	2,100	2,400	2,500	3,700	2,561	2,563	2,568	2,568	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565				
SMIGr: males	180.7	174.9	193.4	192.8	177.3	192.9	194.3	219.9	222.9	331.7	216.1	215.9	213.1	210.3	207.0	203.0	204.0	197.3	194.0	191.1	188.5	186.2	184.4	182.1	179.8	176.3	175.3	172.9	172.4	171.9				
SMIGr: females	180.7	174.9	193.4	192.8	177.3	192.9	194.3	219.9	222.9	331.7	237.0	237.5	234.3	230.7	226.1	221.2	215.7	211.1	206.2	201.8	198.2	195.2	192.3	189.1	186.2	183.1	180.4	177.4	176.9	176.5				
Migrants input																																		
<b>Out-migration to Overseas</b>											985	993	1,002	1,013	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023	1,023		
Male	628	628	339	585	444	641	842	800	953	558	823	830	839	848	858	858	858	858	858	858	858	858	858	858	858	858	858	858	858	858				
Female	672	672	361	615	456	659	858	800	947	542	1,808	1,823	1,841	1,861	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881				
All	1,300	1,300	700	1,200	900	1,300	1,700	1,600	1,900	1,100	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300				
SMIGr: males	130.3	126.3	67.7	115.7	84.0	119.4	157.3	146.6	169.4	98.6	120.5	121.6	120.5	120.5	120.5	120.5	120.5	120.5	120.5	120.5	120.5	120.5	120.5	120.5	120.5	120.5	120.5	120.5	120.5	120.5				
SMIGr: females	130.3	126.3	67.7	115.7	84.0	119.4	157.3	146.6	169.4	98.6	148.6	150.2	149.3	148.6	147.5	144.3	140.7	137.7	134.6	131.7	129.3	127.4	125.5	123.4	121.4	119.4	117.7	115.7	115.4	115.2				
Migrants input																																		
<b>Migration - Net Flows</b>											+85	+1,326	+1,078	+1,142	+1,223																			

Population Estimates and Forecasts

Nathaniel Lichfield & Partners

Scenario G: Updated Economic Forecasts  
0.304% average employment growth per annum

Components of Population Change

Canterbury City Council

	Year beginning July 1st .....										2011-2030																								
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030					
<b>Births</b>											731	719	718	711	705	702	704	706	710	715	719	724	733	745	754	767	780	794	807	819					
Male	634	716	718	679	742	762	695	728	748	762	689	679	677	671	665	662	664	666	670	675	679	683	692	703	711	723	736	749	761	773					
Female	1,268	1,332	1,383	1,322	1,415	1,431	1,348	1,481	1,453	1,481	1,420	1,398	1,395	1,383	1,370	1,365	1,368	1,371	1,381	1,390	1,398	1,407	1,425	1,446	1,465	1,490	1,516	1,543	1,568	1,591					
All Births	1.39	1.43	1.49	1.45	1.53	1.52	1.46	1.60	1.54	1.59	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52						
TRR																																			
<b>Deaths</b>											674	675	679	683	686	692	698	706	714	724	734	745	756	768	780	793	806	820	835	850					
Male	705	768	756	772	714	674	699	719	717	710	744	747	752	755	757	759	763	766	771	777	781	787	794	803	811	822	834	849	865	882					
Female	1,630	1,650	1,675	1,663	1,610	1,567	1,562	1,562	1,560	1,493	1,418	1,422	1,432	1,438	1,444	1,451	1,461	1,472	1,485	1,500	1,515	1,531	1,550	1,571	1,591	1,614	1,640	1,669	1,700	1,732					
All deaths	115.7	123.9	121.4	122.9	112.0	104.4	106.6	107.8	105.6	100.6	93.6	90.9	88.4	86.0	83.7	81.6	79.5	77.8	76.1	74.5	73.0	71.6	70.3	69.1	68.0	66.9	66.0	65.1	64.3	63.6					
SMR: males	115.8	110.4	115.8	114.0	114.7	115.7	113.1	111.2	108.4	101.4	94.6	92.3	90.1	88.0	85.8	83.6	81.6	79.7	77.9	76.0	74.2	72.6	71.1	69.6	68.2	66.8	65.6	64.5	63.6	62.7					
SMR: female	115.8	116.3	117.9	117.9	113.5	110.5	110.3	109.6	107.1	101.1	94.1	91.6	89.3	87.0	84.8	82.6	80.6	78.8	77.0	75.3	73.6	72.1	70.7	69.4	68.1	66.9	65.8	64.8	63.9	63.1					
Expectation of life	80.0	80.1	79.9	79.6	80.5	80.9	80.9	81.1	80.7	80.6	81.2	81.4	81.6	81.8	82.0	82.1	82.3	82.4	82.6	82.7	82.8	82.9	83.1	83.2	83.3	83.3	83.4	83.5	83.6	83.7					
Deaths input																																			
<b>In-migration from the UK</b>											4,688	5,271	5,107	5,102	5,247	5,385	5,315	5,439	5,438	5,310	5,259	5,325	5,334	5,201	5,413	5,482	5,580	5,663	5,810	5,973					
Male	5,850	5,251	4,909	6,297	5,548	5,282	6,105	6,052	5,660	5,256	5,375	6,037	5,837	5,822	5,993	6,148	6,061	6,189	6,162	6,012	5,956	6,030	6,049	5,903	6,153	6,241	6,373	6,464	6,630	6,817					
Female	10,969	9,845	9,387	11,885	10,124	9,847	11,717	11,043	10,831	9,833	10,063	11,307	10,945	10,924	11,240	11,532	11,376	11,628	11,600	11,321	11,214	11,354	11,382	11,104	11,566	11,723	11,953	12,128	12,440	12,790					
All	73.1	63.9	62.0	76.9	60.6	59.7	73.6	64.2	64.6	56.8	57.3	64.5	62.0	61.8	63.5	65.0	63.7	64.9	64.5	62.7	61.8	62.4	62.3	60.3	62.6	63.0	63.7	64.1	65.1	66.3					
SMiGr: males	74.2	64.9	60.7	78.6	67.6	63.4	73.8	72.9	66.2	62.0	63.2	71.2	68.1	67.8	69.7	70.9	69.2	70.2	69.3	67.1	66.4	67.0	66.7	64.6	67.0	67.3	67.9	67.9	68.8	69.9					
SMiGr: females																																			
Migrants input																																			
<b>Out-migration to the UK</b>											4,866	4,974	5,039	5,064	5,066	5,068	5,050	5,051	5,047	5,044	5,003	5,022	5,021	5,046	5,088	5,134	5,185	5,249	5,305	5,352					
Male	4,950	5,149	5,591	5,603	5,252	5,718	5,495	4,960	5,940	6,244	5,780	5,922	5,977	5,972	5,949	5,928	5,916	5,922	5,923	5,901	5,863	5,823	5,808	5,833	5,890	5,961	6,036	6,124	6,218	6,291					
Female	8,531	9,655	10,413	9,818	9,676	10,653	10,183	8,981	10,969	11,767	10,646	10,906	11,016	11,016	11,016	10,986	10,966	10,972	10,970	10,945	10,898	10,845	10,826	10,879	10,976	11,095	11,221	11,372	11,523	11,643					
All	56.8	62.6	66.7	58.0	58.6	64.5	61.5	51.7	62.8	68.5	59.4	60.9	61.2	61.4	61.3	61.0	60.5	60.2	59.9	59.5	59.2	58.9	58.6	58.5	58.8	59.0	59.2	59.4	59.5	59.4					
SMiGr: males	57.7	63.6	69.2	70.0	64.0	68.6	66.5	59.7	69.5	73.7	68.0	69.8	69.8	69.5	69.2	68.4	67.5	67.1	66.6	65.9	65.3	64.7	64.1	63.8	64.1	64.3	64.3	64.3	64.5	64.5					
SMiGr: females																																			
Migrants input																																			
<b>In-migration from Overseas</b>											871	870	969	976	937	1,036	1,040	1,200	1,254	1,877	1,249	1,250	1,252	1,252	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250		
Male	932	930	1,031	1,024	963	1,064	1,060	1,200	1,246	1,823	1,312	1,313	1,316	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315						
Female	1,803	1,800	2,000	2,000	1,900	2,100	2,100	2,400	2,500	3,700	2,561	2,563	2,568	2,568	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565					
All	180.7	174.9	193.4	192.8	177.3	192.9	194.3	219.9	222.9	331.7	216.1	217.6	217.1	217.3	217.1	214.8	214.8	214.8	214.8	214.8	214.8	214.8	214.8	214.8	214.8	214.8	214.8	214.8	214.8	214.8					
SMiGr: males	180.7	174.9	193.4	192.8	177.3	192.9	194.3	219.9	222.9	331.7	237.0	239.9	239.9	240.5	240.5	239.0	235.9	233.6	230.4	227.8	226.7	226.1	224.8	223.3	222.7	221.2	219.6	217.4	215.2	212.9					
SMiGr: females																																			
Migrants input																																			
<b>Out-migration to Overseas</b>											628	628	339	585	444	641	842	800	953	558	823	830	839	848	858	858	858	858	858	858	858	858	858		
Male	672	672	361	615	456	659	858	800	947	542	1,208	1,623	1,841	1,861	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881	1,881						
Female	1,300	1,300	700	1,200	900	1,300	1,700	1,600	1,900	1,100	1,705	1,729	1,737	1,757	1,777	1,777	1,777	1,777	1,777	1,777	1,777	1,777	1,777	1,777	1,777	1,777	1,777	1,777	1,777						
All	130.3	128.3	67.7	115.7	84.0	119.4	157.3	146.6	169.4	98.6	148.6	151.6	152.9	155.0	156.9	155.9	153.9	152.4	150.3	148.6	147.9	147.5	146.6	145.7	145.3	144.3	143.3	141.8	138.9						
SMiGr: males	130.3	128.3	67.7	115.7	84.0	119.4	157.3	146.6	169.4	98.6																									
SMiGr: females																																			
Migrants input																																			
<b>Migration - Net Flows</b>											583	+411	-71	-112	-224	-546	+410	+656	+631	+370	+316	+509	+654	+326	+588	+608	+731	+755	+916	+1,147					
UK	+2,438	+190	-1,026	+2,068	+447	+806	+1,534	+2,062	-137	-1,834	+752	+740	+727	+707	+684	+684	+684	+684	+684	+684	+684	+684	+684	+684	+684	+684	+684	+684	+684	+684					
Overseas	+503	+500	+1,300	+800	+1,000	+800	+400	+800	+600	+2,600																									
<b>Summary of population change</b>											+2	-24	-37	-56	-74	-86	-93	-100	-105	-110	-118	-124	-125	-124	-126	-124	-125	-126	-132	-141					
Natural change	+2,941	+690	+274	+2,868	+1,447	+6	+1,934	+2,862	+463	+666	+170	+1,151																							

Population Estimates and Forecasts

Nathaniel Lichfield & Partners

Scenario H: Zero Net Migration

Components of Population Change

Canterbury City Council

	Year beginning July 1st																																			
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030						
<b>Births</b>																																				
Male	634	716	718	679	742	762	695	728	748	762	731	712	694	678	658	640	623	608	593	580	569	559	552	548	545	544	543	543	542	541						
Female	634	616	665	643	673	669	653	753	705	719	689	672	665	637	621	604	588	573	560	547	537	528	521	517	514	513	512	512	512	511						
All Births	1,268	1,332	1,383	1,322	1,415	1,431	1,348	1,481	1,453	1,481	1,420	1,384	1,348	1,317	1,278	1,244	1,212	1,181	1,153	1,127	1,105	1,087	1,074	1,065	1,060	1,057	1,054	1,054	1,052							
TFR	1.39	1.43	1.49	1.45	1.53	1.52	1.46	1.60	1.54	1.59	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52						
<b>Births input</b>																																				
<b>Deaths</b>																																				
Male	705	768	756	772	714	674	699	719	717	710	674	676	678	681	685	689	694	700	707	714	723	732	742	752	763	774	785	797	809	821						
Female	925	882	919	891	896	893	863	843	823	783	744	748	753	756	759	760	763	765	768	772	776	781	787	795	802	811	822	835	849	864						
All deaths	1,630	1,650	1,675	1,663	1,610	1,567	1,562	1,562	1,540	1,493	1,418	1,424	1,431	1,438	1,443	1,448	1,456	1,464	1,475	1,486	1,499	1,513	1,528	1,546	1,564	1,581	1,607	1,632	1,658	1,686						
SMR: males	115.7	123.9	121.4	122.9	112.0	104.4	106.6	107.8	105.6	100.8	93.6	90.9	88.4	86.0	83.7	81.5	79.6	77.8	76.0	74.4	72.9	71.5	70.2	69.0	67.9	66.8	65.8	65.0	64.2	63.5						
SMR: females	115.8	110.4	115.8	114.0	114.7	115.7	113.1	111.2	108.4	101.4	94.6	92.3	90.1	88.0	85.8	83.6	81.6	79.7	77.8	76.0	74.2	72.6	71.0	69.5	68.1	66.8	65.5	64.4	63.5	62.8						
SMR: male & female	115.8	116.3	118.3	117.9	113.5	110.5	110.1	109.6	107.1	101.1	94.1	91.6	89.3	87.0	84.8	82.6	80.8	78.8	77.0	75.2	73.6	72.0	70.6	69.3	68.0	66.8	65.7	64.7	63.8	63.0						
Expectation of life	80.0	80.1	79.9	79.6	80.5	80.9	80.9	81.1	80.7	80.6	81.2	81.4	81.6	81.8	82.0	82.1	82.3	82.4	82.6	82.7	82.8	82.9	83.0	83.1	83.2	83.3	83.4	83.5	83.6	83.7						
<b>Deaths input</b>																																				
<b>In-migration from the UK</b>																																				
Male	5,119	4,594	4,478	5,568	4,575	4,565	5,612	4,991	5,172	4,578	5,102	5,160	5,201	5,215	5,218	5,224	5,220	5,223	5,218	5,209	5,209	5,225	5,254	5,290	5,341	5,403	5,468	5,518	5,557	5,591						
Female	5,850	5,251	4,909	6,297	5,548	5,282	6,105	6,052	5,660	5,256	5,951	6,022	6,053	6,046	6,042	6,041	6,032	6,030	6,014	5,993	5,979	5,985	6,015	6,057	6,125	6,210	6,302	6,366	6,423	6,472						
All	10,969	9,845	9,387	11,865	10,124	9,847	11,717	11,043	10,831	9,833	11,053	11,182	11,254	11,261	11,260	11,265	11,252	11,253	11,232	11,202	11,188	11,210	11,269	11,347	11,466	11,613	11,770	11,884	11,980	12,063						
SMigR: males	73.1	63.9	62.0	76.9	60.6	59.7	73.6	64.2	64.6	56.8	62.3	63.3	64.2	64.7	65.1	65.6	65.9	66.4	66.9	67.3	67.8	68.4	69.2	70.0	70.9	72.0	73.1	73.9	74.6	75.2						
SMigR: females	74.2	64.9	60.7	78.6	67.6	63.4	73.8	72.9	66.2	62.0	70.0	71.2	71.9	72.3	72.6	72.9	73.2	73.6	74.0	74.3	74.8	75.4	76.1	76.9	78.0	79.2	80.3	81.0	81.7	82.5						
<b>Migrants input</b>																																				
<b>Out-migration to the UK</b>																																				
Male	3,981	4,506	4,822	4,215	4,425	4,935	4,688	4,021	5,028	5,522	5,102	5,160	5,201	5,215	5,218	5,224	5,220	5,223	5,218	5,209	5,209	5,225	5,254	5,290	5,341	5,403	5,468	5,518	5,557	5,591						
Female	4,550	5,149	5,591	5,603	5,252	5,718	5,495	4,960	5,048	6,244	5,951	6,022	6,053	6,046	6,042	6,041	6,032	6,030	6,014	5,993	5,979	5,985	6,015	6,057	6,125	6,210	6,302	6,366	6,423	6,472						
All	8,531	9,655	10,413	9,818	9,676	10,653	10,183	8,981	10,096	11,767	11,053	11,182	11,254	11,261	11,260	11,265	11,252	11,253	11,232	11,202	11,188	11,210	11,269	11,347	11,466	11,613	11,770	11,884	11,980	12,063						
SMigR: males	56.8	62.6	66.7	58.0	58.6	64.5	61.5	51.7	62.8	68.5	62.3	63.3	64.2	64.7	65.1	65.6	65.9	66.4	66.9	67.3	67.8	68.4	69.2	70.0	70.9	72.0	73.1	73.9	74.6	75.2						
SMigR: females	57.7	63.6	69.2	70.0	64.0	68.6	66.5	59.7	69.5	73.7	70.0	71.2	71.9	72.3	72.6	72.9	73.2	73.6	74.0	74.3	74.8	75.4	76.1	76.9	78.0	79.2	80.3	81.0	81.7	82.5						
<b>Migrants input</b>																																				
<b>In-migration from Overseas</b>																																				
Male	871	870	969	978	937	1,036	1,040	1,200	1,254	1,877	1,117	1,122	1,127	1,132	1,137	1,137	1,137	1,137	1,137	1,137	1,137	1,137	1,137	1,137	1,137	1,137	1,137	1,137	1,137	1,137						
Female	932	930	1,031	1,024	963	1,064	1,200	1,246	1,820	1,068	1,072	1,077	1,082	1,086	1,086	1,086	1,086	1,086	1,086	1,086	1,086	1,086	1,086	1,086	1,086	1,086	1,086	1,086	1,086	1,086						
All	1,803	1,800	2,000	2,000	1,900	2,100	2,100	2,400	2,500	3,700	2,185	2,194	2,204	2,214	2,223	2,223	2,223	2,223	2,223	2,223	2,223	2,223	2,223	2,223	2,223	2,223	2,223	2,223	2,223	2,223						
SMigR: males	180.7	174.9	193.4	192.8	177.3	192.9	194.3	219.9	220.9	331.7	193.3	196.3	199.5	202.5	205.2	206.8	208.2	209.4	210.7	212.5	214.3	216.1	218.1	219.8	220.9	222.0	223.3	224.2	224.9	225.7						
SMigR: females	180.7	174.9	193.4	192.8	177.3	192.9	194.3	219.9	222.9	331.7	192.9	197.2	201.7	205.7	209.0	210.9	212.3	213.9	215.3	217.0	218.3	221.7	223.9	226.0	228.0	229.7	231.4	232.6	233.8	234.8						
<b>Migrants input</b>																																				
<b>Out-migration to Overseas</b>																																				
Male	628	628	339	585	444	641	842	800	953	558	1,117	1,122	1,127	1,132	1,137	1,137	1,137	1,137	1,137	1,137	1,137	1,137	1,137	1,137	1,137	1,137	1,137	1,137	1,137	1,137						
Female	672	672	361	615	456	659	858	800	947	542	1,088	1,072	1,077	1,082	1,086	1,086	1,086	1,086	1,086	1,086	1,086	1,086	1,086	1,086	1,086	1,086	1,086	1,086	1,086	1,086						
All	1,300	1,300	700	1,200	900	1,300	1,700	1,600	1,900	1,100	2,185	2,194	2,204	2,214	2,223	2,223	2,223	2,223	2,223	2,223	2,223	2,223	2,223	2,223	2,223	2,223	2,223	2,223	2,223	2,223						
SMigR: males	130.3	126.3	67.7	115.7	84.0	119.4	157.3	146.6	169.4	98.6	153.3	156.3	159.5	202.5	205.2	206.8	208.2	209.4	210.7	212.5	214.3	216.1	218.1	219.8	220.9	222.0	223.3	224.2	224.9	225.7						
SMigR: females	130.3	126.3	67.7	115.7	84.0	119.4	157.3	146.6	169.4	98.6	152.9	157.2	201.7	205.7	209.0	210.9	212.3	213.9	215.3	217.0	218.3	221.7	223.9	226.0	228.0	229.7	231.4	232.6	233.8	234.8						
<b>Migrants input</b>																																				
<b>Migration - Net Flows</b>																																				
UK	+2,438	+190	-1,026	+2,068	+447	-806	+1,534	+2,062	-137	-1,934	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Overseas	+503	+500	+1,300	+800	+1,000	+800	+400	+800	+600	-2,800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
<b>Summary of population change</b>																																				
Natural change	-362	-318	-292	-341	-195	-136	-214	-81	-87	-12	+2	-40	-83	-125	-165	-204	-245	-283	-322	-359	-394	-426	-455	-481	-505	-528	-552	-577	-604	-634						
Net migration	+2,941	+690	+274	+2,868	+1,447	+6	+1,934	+2,862	+463	+666	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
Net change	+2,579	+372	-18	+2,527	+1,252	-142	+1,720	+2,781	+376	+654	+2	-40	-83	-125	-165	-204	-245	-283	-322	-359	-394	-426	-455	-481	-505	-528	-552	-577	-604	-634						
<b>Summary of Population estimates/forecasts</b>																																				
Population at mid-year																																				
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031					
0-4	6,884	6,848	6,887	6,806	6,916	6,993	7,071	7,175	7,243	7,292	7,301	7,280	7,300	7,290	7,119	6,930	6,753	6,578	6,411	6,264	6,106	5,968	5,840	5,724	5,628	5,553	5,489	5,443	5,438	5,437						
5-10	9,386	9,439	9,485	9,420	9,407	9,241	9,157	9,063	9,059	8,868	8,923	9,028	9,034	9,118	9,132	9,263	9,285	9																		

Population Estimates and Forecasts

Nathaniel Lichfield & Partners

Scenario I: Past Trends Migration

Components of Population Change

Canterbury City Council

Table with columns for years 2001-2030 and rows for Births, Deaths, In-migration, Out-migration, Migration - Net Flows, and Summary of population change. Includes sub-sections for Migration to Overseas, Migration - Net Flows, and Summary of population change.

Summary table with columns 'Change 2011-26' and 'Change 2011-31' and rows for various population metrics.





## **Appendix 3      Community Infrastructure Assessment**

This appendix provides an assessment of the community infrastructure development requirements associated with each scenario.

### **Community Infrastructure Approach and Assumptions**

Community Infrastructure has been assessed for each scenario using a range of benchmark standards of provision (i.e. published ratios of typical community infrastructure per population) or using the outputs from the demographic modelling.

The community infrastructure assessment is intended to be a high level strategic assessment of district-wide requirements and covers only a small range of infrastructure types. This provides a signpost as to the level development associated with this supporting infrastructure, allowing consideration of these to be included within land and development requirements coming through any spatial strategy.

The key areas infrastructure areas assessed include:

- Education
- Health; and
- Open Space

The community infrastructure requirements are assessed based upon projected population change under each scenario, and do not take any account of the adequacy, in quantitative terms, of existing community infrastructure provision. Nor does it take into account the spatial distribution of infrastructure in meeting local needs. In this regard, the current provision is assumed to match the benchmark ratio adopted (e.g. currently at optimal infrastructure capacity).

### **Education**

The demographic projections under each scenario have been used as a proxy for additional need and demand for education places. This gives an estimate of the scale of additional school places which may need to be provided. This is split into 3 age groupings:

- Nursery School Age – Ages 3 to 4
- Primary School Age – Ages 5 to 10
- Secondary School Age (including Post-16) – Ages 11 to 18

### **Health**

The impact of the quantum of population change under each scenario has been appraised for the implications on the need and demand for additional health

services. This has been assessed using the following benchmark ratios to give an overall estimate of how much supporting community health infrastructure may be necessary to support change within the District. These are:

- GP provision - 1 GP per 1,237 population reflecting the current ratio of provision;<sup>25</sup>
- Dentist Provision - 1 Dentist per 2,000 population based upon typical dental patient lists;<sup>26</sup> and
- 2.7 Beds per 1,000 Population (1.8 beds acute, 0.9 beds non-acute) based on the infrastructure evidence for the South East Plan;<sup>27</sup>

## Open Space

For open space, the projection of population change has similarly been used, and the standards of open space from the Canterbury Development Contributions SPD have been used, as shown in the table below.<sup>28</sup>

Type of Open Space	Standard
Parks (Strategic urban parks/ Green Corridors)	0.3ha/1,000 popn = 3m <sup>2</sup> /person
Open Space for Sport (Playing pitches, courts and greens)	0.87ha/1,000 popn = 8.7m <sup>2</sup> /person
Amenity Greenspace (Informal Public Open Space, Kick about areas and associated landscaping)	1.3-1.7ha/1,000 popn = 13-17m <sup>2</sup> /person (Assumed 15m <sup>2</sup> /person)
Children's Play Areas (Equipped play spaces)	0.3ha/1,000 popn = 3m <sup>2</sup> /person
Semi-natural Areas (Woodland, tree copse)	4.0ha/1,000 popn = 40m <sup>2</sup> /person
<b>Total Open Space</b>	<b>6.97ha/1,000 popn = 69.7m<sup>2</sup>/person</b>

## Summary of Approach

Whilst the above has been used for the purposes of demonstrating the development requirements of community infrastructure at a strategic scale across the district, it does not take into account any existing capacity or existing deficiencies (either quantitative or qualitative). In particular it does not take account of any spatial aspects to provision of such facilities (i.e. where in the District they may be provided) and therefore they should not be considered

<sup>25</sup> Health Impact Assessment (HIA) of Canterbury Core Strategy 2010, NHS Eastern and Coastal Kent, June 2010

<sup>26</sup> Standards of Dental Provision, University of Bath, School of Health (2004)

<sup>27</sup> Costing the Infrastructure Needs of the South East, Roger Tym (2004)

<sup>28</sup> Development Contributions SPD, Canterbury City Council, (January 2007)

as a proxy for either a full Infrastructure Delivery Plan for the District nor considered an evidence base for future negotiations of s106 or setting of CIL charges. It does, however, provide an overview of what land requirements may need to be budgeted for within the development strategy for the District.

## Assessment

### Education

Change in cohorts of school age children has been used as a proxy for the future need and demand for education places across the District. The tables below show the change for Nursery, Primary and Secondary school age children for the periods 2011-2026 and 2011-2031.

	Nursery School Age Children (Ages 3-4)				
	2011	2026	Change	2031	Change
Scenario A: Existing Supply	2,888	2,323	-565	2,323	-565
Scenario B: Past Trends Completions	2,888	2,936	48	3,092	204
Scenario C: South East Plan	2,888	2,795	-93	2,916	28
Scenario D: East Kent Strategy	2,888	2,918	30	3,140	252
Scenario E: Futures "Preferred Scenario"	2,888	3,071	183	3,345	457
Scenario F: "Travel for Work" Scenario	2,888	3,597	709	4,044	1,156
Scenario G: Updated Economic Forecasts	2,888	2,965	77	3,186	298
Scenario H: Zero Net Migration	2,888	2,296	-592	2,212	-676
Scenario I: Past Trends Migration	2,888	3,598	710	3,884	996
Scenario J: Housing Need Scenario	2,888	3,636	748	3,968	1,080

	Primary School Age Children (Ages 5-10)				
	2011	2026	Change	2031	Change
Scenario A: Existing Supply	8,923	7,870	-1,053	7,298	-1,625
Scenario B: Past Trends Completions	8,923	9,295	372	9,355	432
Scenario C: South East Plan	8,923	8,968	45	8,883	-40
Scenario D: East Kent Strategy	8,923	9,167	244	9,382	459
Scenario E: Futures "Preferred Scenario"	8,923	9,508	585	9,911	988
Scenario F: "Travel for Work" Scenario	8,923	10,625	1,702	11,643	2,720
Scenario G: Updated Economic Forecasts	8,923	9,251	328	9,540	617
Scenario H: Zero Net Migration	8,923	7,913	-1,010	7,181	-1,742
Scenario I: Past Trends Migration	8,923	10,700	1,777	11,513	2,590
Scenario J: Housing Need Scenario	8,923	10,919	1,996	11,704	2,781

	Secondary School Age Children inc. Post 16 (Ages 11-18)				
	2011	2026	Change	2031	Change
Scenario A: Existing Supply	15,200	14,214	-986	13,303	-1,897
Scenario B: Past Trends Completions	15,200	15,212	12	15,151	-49
Scenario C: South East Plan	15,200	14,983	-217	14,727	-473
Scenario D: East Kent Strategy	15,200	15,224	24	15,140	-60
Scenario E: Futures "Preferred Scenario"	15,200	15,475	275	15,600	400
Scenario F: "Travel for Work" Scenario	15,200	16,317	1,117	16,854	1,654
Scenario G: Updated Economic Forecasts	15,200	15,232	32	15,215	15
Scenario H: Zero Net Migration	15,200	14,638	-562	13,554	-1,646
Scenario I: Past Trends Migration	15,200	15,882	682	16,610	1,410
Scenario J: Housing Need Scenario	15,200	16,342	1,142	17,255	2,055

The above analysis illustrates that under several scenarios the number of school age children is set to decline, with the inference that existing school capacity across the district will be sufficient to meet the demands associated with the population change in these scenarios. However, under the majority of scenarios, particularly those involving higher levels of overall population growth associated with higher levels of overall housing development, would generate a need for additional education facilities to accommodate a growth in the number of pupils.

## Health

Applying the benchmark ratios to population change results in the need to provide the following additional health services:

Health Service Type:	GPs		Dentists			
	Benchmark:		1 GP per 1,237 popn		1 Dentist per 2,000 popn	
	Pop Change to 2026	Pop Change to 2031	GPs to 2026	GPs to 2031	Dentists to 2026	Dentists to 2031
Scenario A: Existing Supply	-4,055	-4,476	-3	-4	-2	-2
Scenario B: Past Trends Completions	12,798	17,684	10	14	6	9
Scenario C: South East Plan	8,936	12,608	7	10	4	6
Scenario D: East Kent Strategy	13,059	19,573	11	16	7	10
Scenario E: Futures "Preferred Scenario"	17,381	25,501	14	21	9	13
Scenario F: "Travel for Work" Scenario	32,612	43,402	26	35	16	22
Scenario G: Updated Economic Forecasts	13,830	20,780	11	17	7	10
Scenario H: Zero Net Migration	-4,083	-6,979	-3	-6	-2	-3
Scenario I: Past Trends Migration	30,227	40,653	24	33	15	20
Scenario J: Housing Need Scenario	31,953	42,840	26	35	16	21

Health Service Type:			Hospital Beds	
Benchmark:			2.7 Beds per 1,000 Popn (1.8 beds acute, 0.9 beds non-acute)	
	Pop Change to 2026	Pop Change to 2031	Hospital Beds to 2026	Hospital Beds to 2031
Scenario A: Existing Supply	-4,055	-4,476	-11	-12
Scenario B: Past Trends Completions	12,798	17,684	35	48
Scenario C: South East Plan	8,936	12,608	24	34
Scenario D: East Kent Strategy	13,059	19,573	35	53
Scenario E: Futures "Preferred Scenario"	17,381	25,501	47	69
Scenario F: "Travel for Work" Scenario	32,612	43,402	88	117
Scenario G: Updated Economic Forecasts	13,830	20,780	37	56
Scenario H: Zero Net Migration	-4,083	-6,979	-11	-19
Scenario I: Past Trends Migration	30,227	40,653	82	110
Scenario J: Housing Need Scenario	31,953	42,840	86	116

The change in population under each scenario, except Scenario A 'Existing Supply' and Scenario H 'Zero Net Migration', is positive and therefore infers a requirement for additional capacity within health facilities.

### Open Space

Applying the standards of open space from the Canterbury Development Contributions SPD to the overall change in population under each scenario infers a requirement for additional open space as illustrated below.

Open Space Type:			Parks (Strategic urban parks/ Green Corridors)		Open Space for Sport (Playing pitches, courts and greens)	
Benchmark:			0.3ha/1,000 popn = 3m <sup>2</sup> /person		0.87ha/1,000 popn = 8.7m <sup>2</sup> /person	
	Pop Change to 2026	Pop Change to 2031	Hectares to 2026	Hectares to 2031	Hectares to 2026	Hectares to 2031
Scenario A: Existing Supply	-4,055	-4,476	-1.2	-1.3	-3.5	-3.9
Scenario B: Past Trends Completions	12,798	17,684	3.8	5.3	11.1	15.4
Scenario C: South East Plan	8,936	12,608	2.7	3.8	7.8	11.0
Scenario D: East Kent Strategy	13,059	19,573	3.9	5.9	11.4	17.0
Scenario E: Futures "Preferred Scenario"	17,381	25,501	5.2	7.7	15.1	22.2
Scenario F: "Travel for Work" Scenario	32,612	43,402	9.8	13.0	28.4	37.8
Scenario G: Updated Economic Forecasts	13,830	20,780	4.1	6.2	12.0	18.1
Scenario H: Zero Net Migration	-4,083	-6,979	-1.2	-2.1	-3.6	-6.1
Scenario I: Past Trends Migration	30,227	40,653	9.1	12.2	26.3	35.4
Scenario J: Housing Need Scenario	31,953	42,840	9.6	12.9	27.8	37.3

Open Space Type:			Amenity Greenspace (Informal Public Open Space, Kick about areas and associated landscaping)		Children's Play Areas (Equipped play spaces)	
			Benchmark:		Benchmark:	
			1.5ha/1,000 popn = 15m <sup>2</sup> /person		0.3ha/1,000 popn = 3m <sup>2</sup> /person	
	Pop Change to 2026	Pop Change to 2031	Hectares to 2026	Hectares to 2031	Hectares to 2026	Hectares to 2031
Scenario A: Existing Supply	-4,055	-4,476	-6.1	-6.7	-1.2	-1.3
Scenario B: Past Trends Completions	12,798	17,684	19.2	26.5	3.8	5.3
Scenario C: South East Plan	8,936	12,608	13.4	18.9	2.7	3.8
Scenario D: East Kent Strategy	13,059	19,573	19.6	29.4	3.9	5.9
Scenario E: Futures "Preferred Scenario"	17,381	25,501	26.1	38.3	5.2	7.7
Scenario F: "Travel for Work" Scenario	32,612	43,402	48.9	65.1	9.8	13.0
Scenario G: Updated Economic Forecasts	13,830	20,780	20.7	31.2	4.1	6.2
Scenario H: Zero Net Migration	-4,083	-6,979	-6.1	-10.5	-1.2	-2.1
Scenario I: Past Trends Migration	30,227	40,653	45.3	61.0	9.1	12.2
Scenario J: Housing Need Scenario	31,953	42,840	47.9	64.3	9.6	12.9

Open Space Type:			Semi-natural Areas (Woodland, tree copse)		Total Open Space	
			Benchmark:		Benchmark:	
			4.0ha/1,000 popn = 40m <sup>2</sup> /person		6.97ha/1,000 popn = 69.7m <sup>2</sup> /person	
	Pop Change to 2026	Pop Change to 2031	Hectares to 2026	Hectares to 2031	Hectares to 2026	Hectares to 2031
Scenario A: Existing Supply	-4,055	-4,476	-16.2	-17.9	-28.3	-31.2
Scenario B: Past Trends Completions	12,798	17,684	51.2	70.7	89.2	123.3
Scenario C: South East Plan	8,936	12,608	35.7	50.4	62.3	87.9
Scenario D: East Kent Strategy	13,059	19,573	52.2	78.3	91.0	136.4
Scenario E: Futures "Preferred Scenario"	17,381	25,501	69.5	102.0	121.1	177.7
Scenario F: "Travel for Work" Scenario	32,612	43,402	130.4	173.6	227.3	302.5
Scenario G: Updated Economic Forecasts	13,830	20,780	55.3	83.1	96.4	144.8
Scenario H: Zero Net Migration	-4,083	-6,979	-16.3	-27.9	-28.5	-48.6
Scenario I: Past Trends Migration	30,227	40,653	120.9	162.6	210.7	283.4
Scenario J: Housing Need Scenario	31,953	42,840	127.8	171.4	222.7	298.6

Excepting Scenarios A and H which infer population decline, the open space implications of population growth varies from a total of 87.9ha by 2031 under the South East Plan level of housing delivery to a total of 300.2ha by 2031

under a 'travel for work' scenario, providing more housing for out-commuters from the District. The land take associated with such delivery of green infrastructure could potentially be significant and merits consideration alongside requirements for development such as housing and employment.







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